THE GOVERNMENT OF HUNGARY

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THE GOVERNMENT'S

Decree

on the issue, introduction and implementation of the National Core Curriculum

On the basis of the authorization granted by Section 94 (4) *b)* of Act CXC of 2011 on National Public Education and acting within its scope of competence defined by Article 15 (1) of the Fundamental Law, the Government orders that:

1. General provisions

Section 1 (1) The Decree shall cover – regardless of maintainers –

a) the schools referred to in Sections 7 (1) b)-e) and g) of Act CXC of 2011 on National Public Education (hereinafter referred to as: "Act on National Public Education") (hereinafter referred to as: "school"),

b) students,

c) teachers,

d) parents and other persons who legally represent students (hereinafter referred to as: "parents").

(2) The provisions of the National Core Curriculum (hereinafter referred to as: "NCC"), published as *the Annex* of the present decree, defines the valid values, the concept of general knowledge, the definition of knowledge and learning with regard to Sections 5 (1) b)-c) of the Act on National Public Education.

(3) The NCC, defining and providing for the framework of the content required for the preparation of the local curricula of schools, specifies

a) the theoretical, content-related and methodological basis of the pedagogical tasks of school education,

b) the main fields and content of the subject areas to be taught,

c) the phases of education defined in Sections 5 (1) b)-c) of the Act on National Public Education, and the development tasks of students with special educational needs,

thus creating the unity of the content of public education.

Section 2 The implementation of the principles, goals, development tasks and general competences defined by the NCC shall be ensured by the framework curricula, that is, curricula prepared taking into consideration the characteristics of the phases of pedagogical work and which form another level of content regulation.

2. The structure of the National Core Curriculum and its subject areas

Section 3 (1) School education shall be a uniform pedagogical process within which the NCC defines the pedagogical content of school education broken down by subject areas.

(2) The development tasks and general competences shall be associated with the individual phases of education.

(3) In grades 1 and 2 of basic school, content regulation shall enable and encourage the pedagogical management of individual differences in terms of development, which are significant in this age group. The teaching and learning processes defined by performance requirements shall become gradually stronger in grades 3 and 4, and shall become dominant by the end of grade 4. The process of motivation and the way of organizing learning– resulting from the tasks and goals of the NCC – shall focus on the requirements reflected in, among other things, the NCC's development tasks.

(4) The primary task of education in grades 5-8 shall be to continue the development of key competences, abilities and knowledge contents that are required for successful learning and good school performance. The basic task of education in grades 7-8 – taking into account the changing knowledge content of growing complexity – shall be the further development and expansion of the existing competences, laying the foundation of lifelong learning and development, and placing emphasis on career choice and career guidance.

(5) The task of secondary education shall be to enrich and consolidate the basic general knowledge acquired at school. This phase shall be characterized by the introduction of the competences required for career choice, for pursuing further studies, for working as an employee and for the acquisition of the qualifications related to the specialized fields taught at vocational secondary schools.

(6) Adapting to the demands of the economy and vocational training, vocational school education – besides consolidating the basic general knowledge acquired at school – shall prepare students for the chosen qualifications and help combat the disadvantages resulting from social differences with the performance of the development tasks of vocational schools (as defined by the NCC) and with learning organization methods that adapt to the individual needs of students who require individual treatment.

(7) In the course of participating in education organized within the framework of Public Education Bridge Programmes, students shall acquire a body of basic general knowledge and enrich their existing knowledge. The process shall be based on learning linked to real life situations and personal experience, on individual pedagogical practice and individual progress plan adopted to each student's needs and on assessments based on this progress plan. The process shall be characterized by the introduction of competences needed for career choice, for further studies and for the preparation for vocational training. Schools participating in the Public Education Bridge Programmes, shall rely on the educational programme issued by the minister responsible for education when preparing their own local curricula. The educational programme shall be built around the development tasks, competences and requirements defined by the NCC for grades 5-6 of the basic education phase.

(8) The requirements related to subject areas represented by the NCC shall have a similar structure: they shall be organized into sections "Principles and goals", "Development tasks" and "General competences" which are in harmony with the phases of education defined in Section (3).

Section 4 The NCC shall define:

a) the development fields, educational goals, and the tasks and values of the NCC,

b) the principles of some specific content-related and pedagogical tasks of school education, and the principles of the interrelation of the pedagogical activities performed in cooperation by schools and other institutions of education in order to develop students;

c) the key competences,

d) the percentage rate of the individual subject areas in the phases of school education defined by the NCC;

e) the content of subject areas.

3. Regulations on the preparation, publication and implementation of framework curricula

Section 5 (1) Framework curricula shall define:

a) the objectives of education,
b) the subject system,
c) the topics and content of subjects,
d) the requirements of subjects (broken down by grades or two-grade periods),
e) the tasks related to the development of cross-curricular knowledge and ability fields,
f) and the obligatory and recommended time frame available for achieving compliance with the requirements

on the basis of school types and phases of education.

(2) Framework curricula shall comply with the following criteria:

a) the system of values embodied in them shall reflect the common values defined in the NCC,
b) they shall ensure preparation for compliance with the requirements of examinations which close a given pedagogical phase,
c) they shall represent a coherent and rational paradigm for the specific discipline and methodology, as well as coherent and rational concept of general knowledge;
d) they shall facilitate differentiated learning and the development of student groups with special educational needs;
e) they shall define the development tasks assigned to the prioritized and the other subject areas;
f) they shall be open for further development and adaptive use.

(3) The general and vocational framework curricula of vocational training schools shall be prepared in a manner that ensures that they, when applied together, guarantee the processing of the pedagogical content of school education as defined by the NCC.

(4) With regard to secondary education, six- or eight-grade secondary grammar schools shall organize the development tasks and general competences related to the subject area "Man and society" and "Man and nature" into six or eight grades, on the basis of the six- or eight-grade framework curriculum used for the preparation of their local curricula. The framework curricula of six- or eight-grade secondary grammar schools – by derogation from the four-year schedule of the secondary educational phase defined by the NCC – may define development tasks and general competences broken down to six or eight grades.

4. Educational programme

Section 6 (1) The educational programme – worked out on the basis of a given pedagogical concept – is a system of seven components which, as a minimum, shall cover a single subject, or one or more subject areas or pedagogical phases. It shall facilitate the organization and planning of education and allow the achievement of the educational goals and the processing of content elements defined by the NCC and the given framework curriculum.

(2) The parts of the educational programme shall be as follows:

a) the pedagogical concept: a document which specifies the reasons, objectives, location and ways of implementation of the pedagogical system; it summarizes and defines the pedagogical principles which serve as a basis for the given programme;
b) a learning-teaching programme: a pedagogical plan which, in the spirit of the concept, gives details of the goals, requirements and content of the system, the time frame and recommended methods and tools of the learning process and the available

methods of organization, and makes references to the methods and tools of assessment;

c) a description of the units of teaching and learning and details of the programme elements;

d) the tools – information media and tasks – which allow the implementation of planned activities and, in close formal and content-related cooperation with each other, support the achievement of the objectives;

e) the tools of assessment which fall in line with those described in Sections a)-d) and promote the control and assessment of students' performance and development and allow the acquired body of knowledge to be measured;

f) programmes of in-service training (developed in a targeted way) where teachers are prepared for the implementation of the concrete programme

g) support, counselling, professional forums, the maintenance of the programme.

(3) Educational programmes may be used in any field of primary and secondary education, in any pedagogical phase.

(4) The minister responsible for education shall issue educational programmes for certain study groups, especially for students who need special attention (specifically, students who participate in the Bridge Programme, students with special educational needs and students belonging to a national minority).

(5) In case the issuer of the educational programme is not the minister responsible for education, the approval of the programme may be initiated by submitting an application to the central office (defined by the NCC) which acts on behalf of the minister responsible for education with regard to tasks related to public education.

(6) The minister responsible for education shall publish the educational programme – issued by the minister responsible for education – on the webpage of the ministry headed by him or her.

5. Provisions on the organization of classroom activities

Section 7 (1) The classroom activities referred to in Section 27 (1) of the Act on National Education may be organized in ways differing from conventional classroom organization methods – especially in the framework of project education, forest school, museum activities, library activities or activities related to lectures on art or to exhibitions – provided that it is guaranteed that the prescribed study material is disseminated, the requirements are complied with, the classes are free of charge and the provisions on the limitations regarding students' workload are observed.

(2) If school education is organized in the framework of classes that integrate students of various grades, classroom activities shall be embedded in the local curricula taking into consideration the characteristics of non-integrated education and defining the ratio of integrated and non-integrated classes.

(3) If a school organizes advanced-level education,

a) minimum five classes per week shall be offered in foreign languages, mathematics, Hungarian language and literature and the language and literature of national minorities,

b) at least four classes per week shall be offered in all other subjects

for the grades and study groups participating in advanced-level education.

(4) If a school organizes advanced-level education, in the grades and study groups participating in advanced-level education of a set of subjects, the requirements specified in Section (3) shall be applied with regard to at least one subject involved, in least grades 11-12.

6. Provisions on the limitation of the weekly and daily workload on students

Section 8 (1) Unless required otherwise by the present Decree, the number of the obligatory and optional classes of a student per day shall not be more than

a) six classes in grades 1-3,

b) seven classes in grade 4,

c) seven classes in grades 5-8,

d) eight classes in grade 9-12.

(2) In CLIL (Content and Language Integrated Learning) school education or in schools which provide education for national minorities, the number of classes defined in Section (1) may be increased by one.

(3) Unless specified otherwise in the present Decree, the sum of a student's obligatory and optional classes per academic week may be higher than the number of classes in the time frame defined for the given grade in Columns B and D in Annex 6 of the Act on National public education

a) with maximum two classes in grades 1-4,

b) with maximum three classes in grades 5-6,

c) with maximum four in grades 7-13,

d) in CLIL schools or in schools which provide education for national minorities

da) with maximum four classes in grades 1-8,

db) with maximum five classes in grades 9-13.

Section 9 (1) In the course of the implementation of the provisions of Section 8 on the daily and weekly workload on students, the following classes shall not be taken into consideration:

a) the subject "Religion" taught in denominational schools,

b) other activities organized with the use of those classes which make up the difference between the number of the student's number of obligatory classes and the approved weekly time frame of study groups,

c) in sports schools defined in Section 7 (6) of the Act on National Public Education, the extra classes of physical education above the number of normal everyday classes of physical education and the activities of sports clubs organized within the framework of everyday physical education,

d) activities organized on the basis of the provisions of Sections 27 (5)-(8) of the Act on National Public Education,

e) the habilitation and rehabilitation class activities organized for health and pedagogical purposes on the basis of Column E of Annex 6 of the Act on National Public Education.

(2) On those school days when assessment activities defined in the school year schedule are performed, the students involved shall not be obliged to take part in other classroom activities with the exception of art and physical education classes.

7. Closing provisions

Section 10 (1) This decree shall enter into force on 1 September 2013. Its provisions shall be implemented for the first time in the academic year 2013/2014, on the first, fifth and ninth grades of school education. Subsequently, they shall be introduced in an ascending system.

(2) Government Decree 243/2003. (XII. 17.) on the issue, introduction and implementation of the National Core Curriculum shall be repealed on 31 August 2017.

Done at: Budapest, 16 May 2012

(Viktor Orbán)
Prime Minister

(Annex to Government Decree …/2012. (.. ..)

NATIONAL CORE CURRICULUM

PART I

C ONTENT REGULATION AND LEVELS OF REGULATION OF EDUCATIONAL ACTIVITY AT SCHOOLS

I. 1. THE TASKS AND VALUES OF PUBLIC EDUCATION

In consideration of the tasks defined in the *Fundamental Law*[1] of Hungary and in order to achieve the objectives referred to in the Act on National Public Education[2], in conformity with legal principles and regulations, the National Core Curriculum (hereinafter referred to as: "NCC") defines the primary tasks of public education thus: *to disseminate and preserve national general knowledge and the culture of Hungary's national minorities, disseminate universal culture and deepen students' ethical sense as well as their intellectual and emotional openness.* It is also intended to develop the abilities, skills, knowledge and attitudes required for learning and for work, to encourage individual and group performance, to lay the groundwork for the efforts to achieve the public good and to strengthen the sense of community and patriotism.

Another aim is – in cooperation with the family – to educate individuals who are committed to truth and fairness, the good and the beautiful, and to develop the intellectual, emotional, social and physical abilities that are required for the evolution of a harmonious personality. Thus it helps the members of the future generation

- become responsible citizens;
- develop patriotic feelings;
- develop objective self-knowledge and reliable ethical judgement;
- find their place in the family, in small and large communities and in the world of work;
- make efforts to establish meaningful and stable relationships;
- be able to make responsible decisions about their own lives and that of those in their care;
- become able to gain information, form opinions and act independently;
- get to know and understand natural, social and cultural phenomena and processes;
- value the preservation of diversity of culture and the living nature and act accordingly.

[1] Hungary's Fundamental Law (25 April 2011). The Parliament adopted the Fundamental Law of Hungary on its session of 18 April 2011.

[2] Act CXC of 2011 on National Public Education. The Parliament adopted the Act on its session of 19 December 2011.

The process of education must always fall in line with Hungary's *Fundamental Law*, the order of the rule of law, the principle of respect for life and human dignity, the freedom of conscience and religion and with the international agreements on the protection of the Earth, mankind, nature and culture.

The NCC attributes an important role to Hungarian national tradition and the development of the sense of national identity, including the cultivation of the sense of identity of national minorities in Hungary. Consequently, the main content characteristics of the knowledge content related to the national minorities – in harmony with regional and local features – must be reflected at each level of content regulation and in each phase of education in adequate proportion. The NCC prioritizes knowledge about Hungary and its wider region (the Carpathian Basin) – especially about the life of Hungarians living in the neighbouring countries – yet also lays emphasis on those content elements which underline that Hungary belongs to Europe. The NCC pays attention to global and comprehensive issues, emphasizing our shared responsibility for sustainability.

Cooperation *with parents*, pedagogical assistance in the education of children, the acceptance and utilization of parents' opinions and proposals are indispensable preconditions of efficient institutional education. Therefore, schools must create forums that allow for a mutual exchange of experience and efficient cooperation between parents and teachers.

The NCC is intended to encourage students and teachers to perform better, to ensure that *the acquired knowledge conserves its value and meets contemporary requirements*; thus, it aims at creating a balance between the valuable traditions of general knowledge on the one hand, and the new development goals and contents on the other hand.

In order for the citizens of a country to understand each other, there must be a body of knowledge which is assumed to be shared by all grown-up citizens. This is a "common language" which serves as a medium for *inter-generational dialogue* in the spirit of mutual understanding and respect.

Pursuant to the provisions of Section 5 § (4) of Act CXC of 2011 on National Public Education, the NCC provides for "the uniform contents of school education and the interoperability of schools, determines the general knowledge contents to be acquired and lays down mandatory provisions regarding the organization of education, particularly the restrictions on the weekly and daily workload of students." The NCC – allowing room for the professional autonomy of schools – defines the general basis of public education with regard to world view, principle and content; in other words, it defines the contents of basic general knowledge all Hungarian schools are obliged to disseminate.

I.1.1. Development fields – educational goals

Development fields – educational goals determine the pedagogical process as a whole, thus reflecting shared values. To achieve these goals, the pedagogical process must include – besides gaining knowledge, practice and activity – emotionally effective examples.

These fields – in harmony with the abilities and skills which serve as a basis for key competences, with the body of knowledge acquired in the course of education and with the attitudes that help the acquisition of knowledge – help combine traditional values and the new social requirements of the early 21st century.

The educational goals are reflected in the various levels of content regulation and are implemented in the process of public education as follows:

- they are incorporated into the development requirements and content elements of the individual subject areas and subjects;
- they may become subfields of subjects or become separate subjects of the local curricula of schools;

- they thematize teachers' work in the first four grades of basic schools and, in upper grades, themes discussed in homeroom classes;
- they provide topics and developmental situations for non-classroom school activities and programmes.

The conscious compliance with the educational goals at the institutional level, as well as the performance – and ensuring the performance – of the tasks attributed to these goals is a definitive indicator of the institution's general level of pedagogy and of high-quality pedagogical work, and a main criterion for professional control.

Ethics

A basic goal of public education is to develop students' ethical sense, to deepen their awareness of the responsibility for their actions and the consequences of such actions, to enrich their sense of justice, to promote their inclusion into communities, and to prepare them for independent thinking and for an independent and responsible way of life. Ethical education must be life-like: it must prepare students for the value conflicts they will inevitably face and help them find answers for problems related to ethics and ways of life. Ethical education offers an opportunity for understanding and discussing the principal issues related to man and the world, approaching these issues in various ways. The life of the school community and the example of teachers encourage the formation and development of indispensable skills, such as awareness of responsibility, appreciation of work, temperance, empathy, helpfulness, respect and moral behaviour, patience, understanding, acceptance and action against corruption. The formation of attitudes that promote learning – from self-control and imagination to the encouragement of intellectual interest – affects students' life as adults and helps them perform well on the labour market.

Sense of national identity; patriotic education

The goal is to introduce students into the values and traditions of Hungary's national and folk culture. Students must study the activity of remarkable Hungarian historical personalities, scientists, inventors, artists, writers, poets and sportsmen. They must acquire a body of knowledge and practice those individual and community activities that serve as a basis for understanding and appreciating their home, homeland and its peoples. They must develop a sense of belonging to a community and a patriotic feeling, and understand that, if required, each citizen is obliged to participate in the protection of Hungary. Europe is the larger home of the Hungarian people. Students, while maintaining their sense of national identity, must learn about Europe's history and diverse culture. They get to know the outstanding achievements of and difficulties encountered by universal human civilization and those forms of international cooperation that handle these difficulties.

Education for democratic citizenship

The operation of the democratic state and of a public life based on the rule of law is based on citizens' participation, which in turn enhances cohesion and the sense of national identity and creates a harmony between individual objectives and the public good. The active participation of citizens is characterized by observance of the law, compliance with the rules of societal co-existence, respect for human dignity and human rights, non-violence and fairness. Schools offer an opportunity for students to learn about their main rights and obligations as citizens;

within this framework, it offers defence education. Participation in public affairs requires the development of creative and independent critical thinking, analytical skills and debating skills. The procedures of teaching and learning organization which are built on the active participation of students efficiently promote the development of responsibility, independent action, reliability and mutual tolerance.

The development of self-knowledge and community skills

Community skills are based on self-knowledge: an ability which stems from an awareness of individual experience and existing knowledge and which develops and can be developed. Students' favourable intellectual development, the optimal formation of their skills, the expression of their knowledge and competences and the proper cultivation of all knowledge fields must be promoted. Students must be encouraged to become able to express their emotions authentically, to develop empathy and to become able to accept others. In order to encourage students participating in the educational process to rely on their acquired skills and knowledge and thus enrich their self-image, support must be given throughout the process of teaching and learning so that students become aware of the fact that they can shape their individual development, fate and career. Well-funded self-knowledge contributes to highly civilized individual and community life, to understanding and respecting each other and to the formation of loving relationships.

Family life education

The family plays a key role in the formation of the ethical sense, loving relationships, self-knowledge and physical and mental health of children and young people. The changes of the individual's immediate and wider environment, the shifts within the value system and the malfunctioning of some families call for the integration of family life education into the field of public education. Therefore, disseminating patterns of harmonious family life and promoting the appreciation of family communities is among the principal tasks of public education institutions. Preparation for family life helps children and young persons establish responsible partner relationships and disseminates knowledge about handling the conflicts that may emerge in family life. School education must also address issues of sexual culture.

Physical and mental health education

Health education helps students experience the joy of a healthy physical and mental state. Teachers must encourage students to follow a healthy diet, do regular exercise and use methods of stress management. Students must be able to maintain their mental balance, control their social behaviour and handle conflicts. It is a task of schools – in cooperation with families – to prepare students for independence, disease prevention, compliance with traffic rules, personal hygiene, the recognition of dangerous situations and materials, and the handling of unexpected events. Teachers must motivate students to prevent taking up habits which lead to addictions and they must offer them assistance in this field.

Responsibility, volunteering

The NCC encourages education which promotes the development and enrichment of personality: it aims to establish a sensitivity towards disadvantaged persons and persons with disabilities and to develop in students a helpful attitude through learning about the special needs and life conditions of these people in the course of a learning process based on direct experience. Helpful attitude requires and, at the same time, develops several abilities which are indispensable for becoming a conscious and responsible citizen (empathy, cooperation, problem solving, volunteering).

Sustainability and environmental awareness

The future generation must know and appreciate the rich diversity of life in nature and culture. Students must learn to use resources with awareness, economically and responsibly and take their capacity of renewal into consideration. The objective is to encourage students to internalize an attitude which is based on the knowledge and appreciation of nature and the environment, on the protection of values and on the promotion of sustainability. Institutions must prepare students for practicing their citizen's obligations and rights related to the environment. Effort must be made to help students understand those economic and social processes that may result in changes or crises and encourage them to participate in the preservation and enrichment of the values and diversity of their immediate and wider environment.

Career guidance

In harmony with students' age characteristics and opportunities, schools must offer a comprehensive picture of the labour market. To achieve this objective, schools must ensure conditions and activities which enable students to test their abilities, deepen their knowledge in the fields that interest them, find their profession, choose a career that suits them and become able to make the required efforts.

For this reason, behavioural types related to helping others, cooperation, leadership and competition and the management of such behavioural types must be developed.

Economic and financial education

Future generations must acquire a practical body of knowledge about world economy, national economy and the economic and financial institutions and processes that affect the life of enterprises and households. The objective is to make students realize their own responsibility in the field of value-added work, the rational management of resources, financial matters and consumption. They must be able to consider the direct and indirect consequences and risks of their decisions. They must clearly see the links between their short- and long-term goals on the one hand and the resources on the other hand, as well as the correlation between and interdependence of individual and community interests. To achieve this goal, public education institutions educate students about the financial rules which form a part of a basic knowledge of the financial system, about bank transactions and consumers' rights.

Media literacy

The objective is to help students become responsible participants in a mediatized global public discourse and understand the language of both new and conventional media. Through the development of an analytical and critical attitude and through focus on activity, media literacy education prepares students for participation in democracy and for the organization and conscious shaping of everyday life which is influenced, among others, by the media. Students learn about the operation and modes of operation and influence mechanisms of the media, the interrelationships between the media and society, the differentiation between real and virtual, public and intimate communication as well as the legal and ethical significance of these differences and the above mentioned features of the media.

Learning to learn

Teaching students to learn is a basic task of schools. Every teacher is entrusted to encourage interest in the subject he or she teaches and to orient students in the acquisition, structure and access to the study material. Teachers must impart information about the implementation of methods of observation and planned experiments, about the use of libraries and other information sources, about methods of mobilizing knowledge and experience, about tailor-made learning methods, about the ways of cooperating in groups and about the methods used for studying and the retrieving texts, definitions or formulae in their exact forms. With the comprehensive overview and evaluation of the possible versions, teachers must disseminate a body of knowledge which students can rely on in new situations as well. The teaching of learning invariably entails the development of students' physical and intellectual performance – in harmony with the possibilities – and the assessment of the quality of their knowledge.

I.1.2. Unity and differentiation; principles of methodology

The NCC implements content regulation in a way which ensures that the varied and differentiated activities of schools, teachers and students are based on a unified and shared foundation that encourages performance and, with learning as a tool, serves the improvement of life chances. Thus it gives an opportunity for taking into consideration the values of school maintainers, the interests of parents and students, the professional efforts of teachers and the local features of the school's environment.

The fast development of sciences, the new forms of needs and the new challenges of the world (among them, numerous factors that endanger children's physical and psychological health) pose unusual challenges for schools, for teacher training and in-service teacher training. New knowledge contents have emerged which are difficult to categorize into the conventional system of sciences or fall into the scope of more than one discipline. Consequently, there is an increased demand, on the one hand, for the merging of certain conventional subjects and/or teaching them in a cross-curricular manner and, on the other hand, for the introduction of new subjects/groups of subjects. With regard to pedagogy, it should be noted that the cross-curricular and subject-merging curricular approach takes into account, among others, students' experience and fields of interest. The NCC ensures the implementation of this approach inasmuch as it does not define a unified subject system which binds all schools but delegates the task of the creation of such a system to the scope of framework curricula or local curricula.

The NCC encourages teaching based of personality development by defining tasks that are required for the development of the abilities of children, adolescents and young people. It

is based on a pedagogical activity that focuses on the development of students' knowledge and abilities, on the acquisition and enrichment of skills and on offering adequate conditions for personality development, while takes into consideration the fact that platforms of education include – besides schools – several other forums of life.

A prerequisite of the realization of the development fields and key competences is the pedagogical process which serves the objectives specified above. To implement differentiated teaching and learning, it is recommended that the aspects below be taken into consideration:

- preference must be given to organizational solutions that promote the establishment and development of the *inner motivations* and self-regulatory mechanisms of learning;
- learning must be organized in a manner that ensures the *active* participation of students, focuses on their activity, independence, initiatives, problem solving strategies and creativity;
- the educational process must promote the mobilization of the *knowledge and opinions students already have*, and offer an opportunity to correct mistakes, if any, and to reorganize knowledge;
- in the various organizational forms of school education (in the course of class work, group work, pair work, or the partially or completely individual education of students), the techniques and forms of *cooperative* learning must be implemented;
- *differentiation* that suits students' needs must be a principle and task of education with regard to the definition and performance of tasks, the help offered by the teacher, checking and assessment;
- in order to develop *students'* individual abilities, techniques of learning organization which are in harmony with the nature of the given tasks must be applied;
- with regard to the performance of educational tasks, special solutions of learning organization must be applied in case of students who *require special treatment*, have special educational needs, learning problems or other problems or behavioural disorders;
- the situations of teaching and learning, the methods of learning organization and the assessment procedures must fall in line with the development needs of *talented students* and must, in general, promote the discovery and development of their talents;
- with various learning organization solutions, organizational forms that serve cooperation and *equal chances for learning* must be established in the field of cooperation between schools and in the field of work at and outside of schools.

The principles of assisting successful learning

Every school-age student has the right guaranteed by law to receive education that suits his or her needs. To enforce this right, schools – in cooperation with school maintainers, school operators, families, guardians, and professional and non-governmental organizations – must guarantee the conditions of education in harmony with the principles below:

- the discovery and development of abilities, laying the groundwork for skills, knowledge, knowledge contents and attitudes in grades 1-4;
- a continuous development in accordance with individual needs; the expansion and consolidation of knowledge in the later phases of school education;
- the timely recognition of obstacles of successful socialization and their treatment with pedagogical tools;

- discovering individual learning problems and promoting their solution throughout the process of school education and in all its fields;
- the avoidance of gaps in learning and the prevention of students from lagging behind the others; the discovery of students' personality and sociocultural background; the use of pedagogical methods that enhance the efficiency of learning;
- the discovery and development of students' talents and performance – compared to their earlier performance and to the performance of their peers – in class and during other school activities; the support of extracurricular activities;
- the use of motivating and efficient learning organization methods (including games, e.g. chess, logic games);
- the use of learning requirements and methods of checking and assessment defined on a unified basis;
- the acceptance of students with special educational needs, with disabilities, with learning or behavioural disorders; the creation of the conditions for their inclusion based on mutual adaptation; the recognition of their progress in the light of their individual abilities; the discovery and development of their abilities that play a key role in learning.

Compensatory skills development

Compensatory skills development helps counteract the effects of failure at school and social disadvantages, develops students' individual abilities and talents and enhances their chances for learning and entering higher education with pedagogical work aimed at personality development and with community development. Preparation promoting the development of abilities may be organized within an integrated framework. In this case, multiply disadvantaged students and other students participate in the preparation process together; the methods applied include the development of skills and behavioural types that reject all forms of social exclusion and accept and help the social inclusion of persons who – for any reason – are in a disadvantaged situation as well as the development of abilities that serve as a basis for this.

I.2. THE NCC, FRAMEWORK CURRICULA AND LOCAL REGULATION

The implementation of the principles, goals, development tasks and general knowledge contents defined in the NCC manifest in documents – *framework curricula* – prepared in several versions on the basis of the characteristics of the given phase of education.

The next level of content regulation is that of framework curricula issued and approved by the minister responsible for education. This means that the framework curricula play a key role in the implementation of the goals and tasks of the NCC. With regard to the various school types and educational phases, the framework curricula define the goals of education, the subject system, the topics and content of each subject, the requirements of each subject (broken down by grade or by two-grade period), the tasks related to the development of cross-curricular fields of knowledge and ability, and define the time frame available or recommended for the performance of requirements. Some subject areas may have development goals or content elements which manifest in framework curricula not as separate subjects but as parts of another subject/other subjects and, in the course of the implementation of the framework curricula, may become parts of anothersubject area. The professional autonomy of the institutions is guaranteed by the free use of the time frame that is not regulated with obligatory content by the framework curricula, by freedom in the field of methodology, by the fact that they can choose between the approved individual curricula and by the possibility of having individual curricula approved.

On the basis of the NCC, the framework curricula define the development criteria to be met in the course of learning and teaching as well as the extensiveness and structure of the knowledge expected to be acquired, and serve as a basis for the definition of output criteria. Along with the National Core Curriculum, the general curricula and educational programmes – which reflect the norms of the NCC or, in case of vocational training, the requirements of the given professional field – provide guidance to textbook writers and editors, authors of auxiliary educational material and tools, experts who work out the requirements of state examinations and the tools of national measurement and assessment, and, above all, school staffs.

Framework curricula meet the requirements below:

- the system of values embodied in them reflect the common values defined in the NCC;
- they reflect the development fields, educational goals and key competences defined in the NCC (see: Section II. 1) and general knowledge contents, and they can be used for the development, monitoring and assessment of these contents;
- they ensure preparation for the requirements of examinations which close a given phase of education or school type;
- the facilitate differentiated learning, the education of students who require special attention and the development of student groups with special educational needs;
- during their use, the rights of students and children are enforced and equal opportunities for learning are guaranteed;
- they offer implementable instructions with regard to the performance of development tasks of priority subject areas and the individual subject areas and of the general knowledge contents;
- they are open for further development and for implementation that is in harmony with the objectives.

A basic requirement for local curricula is that they be in harmony with the selected framework curriculum on the basis of which they were created and offer teaching and learning contents and activities for the free time frame (whose average rate is 10%) in accordance with the profile of the given school.

I.2.1. Special rules on certain tasks and institutions of the public education system

Ethics

Pursuant to the provisions of the Act on National Public Education, the teaching of the subject "Ethics" takes place in the framework of obligatory classes in grades 1-8 of basic school. In grades 1-4, with regard to the content of the subject "Ethics", those development requirements and general competences of the subject area "Hungarian language and literature", "Man and society", "Way of life and practical skills" and "Arts" must be relied on which convey topics for discussion, behavioural patterns and habits that are suitable for children in the given age group. In grades 5-8, with regard to the subject "Ethics", the general competences "Ethics" of the subject area "Man and society" must be relied on.

Rules on religious and ethical education

While the content and the requirements of the educational field of religious and ethical education is regulated by the National Core Curriculum, the Act on National Public Education contains different provisions regarding the framework of the religious education which may be selected by students within religious and ethical education: with regard to curricular religious education, it delegates the tasks of organization, content definition and supervision to the competence of the given church and of the legal person acting on behalf of the given church, with regard to all institution types (kindergarten, school, dormitory).

All-day school

Pursuant to the provisions of the Act on National Public Education, basic schools may function as all-day schools. All-day school is a form of school organization where classroom activities and other activities are organized evenly distributed over the morning and the afternoon periods, until 4.00 p.m., on the basis of the institution's approved pedagogical programme. This form of learning organization allows for specific activities related to talent development and offers special help for students lagging behind, thus supporting efficient pedagogical procedures aimed at ability development. Activities outside of the framework of obligatory classes may give allow for art education, physical exercise, study circle activities, other activities matching the school's profile or independent study.

Pursuant to the Act on National Public Education, all basic schools organize optional activities until 4.00 p.m. (if required by the parents, until 5.00 p.m.), providing a gradual transition towards the widespread rollout of the system of all-day schooling.

Science education

Promoting the harmony between the individual, communities and nature is a priority task of the educational system. Experimentation, observation and the differentiated development and application of scientific thinking and the practical acquisition of technological knowledge that can be applied in everyday life are key content elements of the NCC. The objective is to incorporate the body of knowledge and methods of natural sciences into students' thinking and activity repertoire so that they can rely on them in the course of the interpretation and solution of everyday problems. Subject programmes with high class numbers ensure the encouragement of deeper scientific interest and talent development.

Everyday physical education

With the exceptions defined in the Act on National Public Education, schools organize daily physical education within the framework of the five physical education classes per week. Out of the five classes per week, no more than two classes per week may be dedicated to sport activities defined in the general knowledge area "Physical education and sports" (swimming, folk dance, community and other sports, outdoor sports, hiking, excursion) or, – as allowed by the school's opportunities and available equipment–, to other sports activities (traditional Hungarian historical sports, games focusing on agility and on dexterity, team games). On the application of the student, this may be decreased by two classes – if he or she – can certify that he or she does sports in sports organizations or sport clubs.

Everyday art education

A prioritized task of education in grades 1-4 is everyday art education, which may be provided in the afternoon time frame to ensure the development of students' art activity (performed either independently or in small groups).

In grades 5-12, the conditions of and opportunities for classroom and non-classroom art education must be provided.

Teaching foreign languages

Students start to learn their first foreign language in grade 4 of the basic school at the latest. If it is possible to employ a teacher who is qualified for teaching foreign languages in grades 1-3 and if the pedagogical programme of the school makes it possible, teaching of the first foreign language may start in grades 1-3. When choosing the first foreign language – English or German – schools must take into consideration that students must be given the opportunity to continue studying the same language in the upper grades. The teaching of the second foreign language may start in grade 7. Secondary schools must offer an opportunity for continuing the study of the first foreign langue and its acquisition at least at level B2 by the time of the secondary school leaving examination. In secondary schools, the second foreign language can be chosen without restrictions.

Advanced-level education

The advanced-level (formerly called "specialized") organization form is a special form of talent development. In basic schools and secondary schools which opt for this type of education, the acquisition of the development requirements and knowledge of one or more defined subjects is performed in the framework of higher requirements (defined by the framework curricula) and a high number of classes. This organization form attributes special importance to the development of natural sciences, foreign languages and arts.

The connection of kindergarten education with school education

The set of development tasks of the NCC is closely tied to the objectives of the *National core programme for kindergarten education,* which orients development efforts in early childhood.

Education in vocational secondary schools

Vocational secondary schools have four secondary school grades where the groundwork for general knowledge is laid and theoretical and practical vocational education is performed. Vocational secondary schools prepare students for the secondary school leaving examination, for pursuing further studies in vocational higher education and for vocational employment. The class plans in this type of training ensures preparation for the secondary school leaving examination and, at the same time, the acquisition of vocational knowledge. In vocational secondary schools, students may pass a vocational secondary school leaving examination that qualifies them for being employed in the sectors defined by the Government Decree on the National Qualifications Register.

Education in vocational schools

Vocational schools organize education on the basis of vocational school framework curricula. Such curricula must provide a time frame defined in the Vocational Education Acts for compliance with the requirements of the NCC. The framework curricula, on the one hand, are based on the priority development fields and educational goals defined in the NCC and on key competences, and, on the other hand, – taking into account all general and vocational subjects of the vocational school – implement the principles, goals and development requirements of the subject areas. The framework curricula of vocational schools are issued by the minister responsible for vocational and adult education with the assent of the minister responsible for education.

The connection between dormitory education and school education

As specified in the *National Core Programme for Dormitories*, dormitory education is connected to school curriculum regulation primarily through the priority development tasks of the NCC. Dormitory education must contribute to the educational activities of the schools involved.

The János Arany Programmes

The objective of the János Arany Talent Development Programme is to ensure that dormitories and secondary schools – in the framework of a coordinated talent development programme – prepare disadvantaged students for entering secondary education and performing successfully, and then give them a chance for further studies in higher education.

The objective of the János Arany Dormitory Programme is – within the framework of the coordinated pedagogical activity of dormitories and secondary schools – to develop key competences and thus prepare disadvantaged students for entering secondary education and help them finish their studies successfully, continue their studies or enter the labour market.

The objective of the János Arany Dormitory and Vocational School Programme is to efficiently counteract early school-leaving and to ensure that dormitories and vocational schools – in an inclusive pedagogical environment and with differentiated learning organization and career orientation – give a chance to multiply disadvantaged students to acquire marketable qualifications.

The principles of the education of students with special educational needs

The unified development tasks defined by the NCC must be taken into consideration in the case of students with special educational needs. The process of education must be organized in harmony with students' abilities, limitations and special needs, primarily in conformity with the principles below:

- if required, longer time bands and frames must be defined for the performance of tasks;
- if required, special contents and requirements which are in harmony with the given disabilities must be defined and complied with;
- if required, alternative communication methods and tools that are most suitable for the student must be included in the process of education (for deaf students, the acquisition and application of the Hungarian sign language);
- schools must give students individual support with positive discrimination, above all, with the assessment of their individual progress defined on the basis of the previous performance level of the given student. Information on the tasks related to students with each specific disability is available in the *Curricular directive on the school education of students with special educational needs* and the *examination rules*.

The principles of education for national minorities

The objective of the education of national minorities is to strengthen students' identity as members of a national minority community. Schools achieve this through disseminating the minority language and culture, in accordance with the following principles:

- due to the fixed number of classes devoted to the language and the history, traditions and culture of the national minority, the time frame for optional use in local curricula (that is, the time frame other than that of obligatory and optional classroom activities) is generally smaller than the average; schools must remedy this shortcoming with the stronger integration of the subject areas and the deliberate structuring of key development tasks at the level of local curricular regulation;
- when allocating classes, the teaching of one foreign language must be ensured;
- schools' educational and teaching activities must guarantee the development of skills and abilities in line with the general requirements in every subject area;
- further details concerning special requirements are contained in the *Guidelines for the education of national minorities.*

PART II

COMPETENCE DEVELOPMENT, THE DISSEMINATION OF GENERAL KNOWLEDGE, KNOWLEDGE ACQUISITION

II.1. KEY COMPETENCES[3]

In the European Union, key competences cover the knowledge and skills – as well as abilities and attitudes that form a basis of them – which capacitate all EU citizens to quickly and efficiently adapt to the ever-changing modern world and to actively participate in influencing the direction and the content of these changes. In a knowledge-based society, the learning ability of the individual is considered as valuable, since human ability evolves in the course of lifelong learning.

The knowledge and skills (as well as the abilities and attitudes in their background) of various competence fields may be applied in several learning situations and contexts for the achievement of various goals and the for solution of various problems and tasks; therefore, such knowledge and skills belong to more than one subject areas. Many of the competences partially overlap and intertwine; moreover, elements that are necessary for one competence support the formation and development of competences required for another area. A similar interdependency exists between the goals related to the enrichment of abilities and the development of learning on the one hand, and the individual subject areas on the other hand. There are several areas of development which form part of all competences that are to be established in all subject areas. They include critical thinking, creativity, initiative, problem solving, cooperation, risk assessment, decision-making, emotion management, social skills and tolerance

Communication in the mother tongue

Communication in the mother tongue is the ability to express, interpret, preserve and convey concepts, thoughts, feelings, facts and opinions in both oral and written form (listening, speaking, reading and writing), and to interact linguistically in an appropriate, conscious and creative way in a full range of societal and cultural contexts: in family and community life, in work and leisure, and in the formation of community life.

Required abilities, skills, knowledge and attitudes

Communication in the mother tongue is the process and result of the acquisition of the mother tongue, which is intrinsically related to the development of the individual's cognitive abilities. Communication in the mother tongue requires the knowledge of vocabulary, functional grammar and the functions of language. This body of knowledge includes an awareness of the main types of verbal and written interaction, a range of literary and non-literary texts, the main features of different styles and registers of language, and the variability of language and communication in different contexts.

Individuals have the skills to communicate both orally and in writing in a variety of communicative situations and to monitor and adapt their own communication to the requirements of

[3] Recommendation of the European Parliament and of the Council of 18 December 2006on key competences for lifelong learning (2006/962/EC)

the situation. Individuals can create and express their reality and interpretations of reality and, through language use, get to know other's interpretations of reality and compare, coordinate or contrast them with their own. They are able acquire and enrich their existing knowledge and create new knowledge through language use. They are able to use and differentiate between various text types and to seek, collect, process and convey information. They are able to use various aids and formulate and express their own oral and written arguments in a way that is adequate to the situation, ethical and convincing.

A positive attitude entails a conscious, open and self-critical behaviour which is sensitive towards social relationships, efforts to engage in constructive dialogue, the respect for aesthetic quality, the desire to get to know others and the responsibility for one's mother tongue. This requires the individual to be aware of the complex relationship between the mother tongue and national culture, between language and reality and between communication and social life, of the nature of language that undergoes and creates changes, of the effect of language on others and of the significance of a socially responsible language use.

Communication in foreign languages

Communication in foreign languages – similarly to communication in the mother tongue – is based on fundamental linguistic abilities: the ability to understand, express and interpret concepts, thoughts, feelings, facts and opinions in the foreign language in various forms of activity. They include the understanding of written and spoken texts, the creation of texts as well as oral and written interaction. These activities are performed in the various fields of life – such as education and training, work, family life, community life, leisure – according to individual needs. Communication in a foreign language demands other abilities and skills, such as mediation between the mother tongue and the foreign language and intercultural understanding. An individual's level of proficiency will vary between different languages and linguistic activities (listening, speaking, reading, writing, mediating skills), and according to the individual's social and cultural background, needs and interests.

Required abilities, skills, knowledge and attitudes

In the field of foreign languages, the communicative competence is conditional upon the knowledge of vocabulary, grammar, text creation and social and intercultural skills. For the purpose of lifelong learning, language learners must acquire the strategies of independent learning and the use of its aids.

A positive attitude involves the appreciation of cultural diversity, and an interest and curiosity in languages and intercultural communication.

Mathematical competence

The creation of mathematical competence is conditional upon the development of core abilities, such as mathematical thinking, abstraction and logical inference. The components of this competence also entail those skills which the individual uses when solving everyday problems with the use of mathematical knowledge and methods.

In the development of mathematical competence – similarly to that of other competences – knowledge and skills-level activities both play a significant role.

Required abilities, skills, knowledge and attitudes

Mathematics knowledge includes the practical knowledge of numbers, measures and structures, basic operations and fundamental mathematical notions, symbols and correlations which can be used at the skills level.

Having acquired mathematical competence, the individual has the skills to apply basic mathematical principles and laws in the context of everyday situations, and thus can solve problems in

everyday life, at home and work more efficiently. This competence enables the individual to recognize laws in nature, to follow logical argumentations and to understand laws defined in the language of mathematics.

A positive attitude in the field of mathematics rests on the respect for the fact that the order of the world can be known, understood and described.

Competence in science and technology

Competence in science refers to the body of knowledge and skills which, if of an adequate level, make it possible for the individual to describe and explain the phenomena and processes of the natural world, and – under certain conditions – to make predictions about their consequences. It helps the individual to get to know and understand the natural and man-made environment and to control his or her acts accordingly. Technical competence is the creative use of this body of knowledge for the purpose of meeting human needs and demands. Scientific and technological competence entails the awareness of the conditions of sustainability – that is, of a society that operates in harmony with nature in the long run – and the acceptance of individual and community responsibility for shaping society.

Required abilities, skills, knowledge and attitudes

With regard to natural sciences, the essential knowledge comprises the basic principles of the natural world, fundamental scientific concepts and methods, the technological processes as well as the impact of human activities on the natural world. These competences enable individuals to better understand the role scientific theories play in the development of social processes and the advances, limitations and risks of scientific applications and technology in societies at large.

Having acquired competences in science and technology, individuals are able to activate their scientific and technological knowledge to solve problems at work and in everyday situations: to get acquainted with and operate new technologies, tools and equipment, to utilize scientific achievements in everyday life in order to achieve individual and community goals, and to make decisions that demand scientific or technological literacy. This includes a critical approach to pseudoscientific, anti-scientific and anti-technological assertions, as well as to assertions that give priority to technology and production over human considerations and the sustainability of nature.

Competence in science and technology creates a critical and curious attitude. Individuals who have acquired this attitude are keen to learn about and understand natural phenomena, technological achievements and solutions, are open towards related ethical issues and respect safety and sustainability.

Digital competence

Digital competence involves the confident, critical and ethical use of the contents made available by Information Society Technology (Information and Communications Technology, hereinafter referred to as: "ICT") in the field of relationships, work, communication and leisure. This is based on the following skills and activities: recognizing (identifying), retrieving, evaluating, storing, creating, presenting and exchanging information; the creation and sharing of digital content; communication and cooperation via the Internet.

Required abilities, skills, knowledge and attitudes

Digital competence refers to a sound understanding and knowledge of the nature, role and opportunities of ICT in personal and social life, in learning and work, and to the application of this body of knowledge. It includes major computer applications – word processing, spreadsheets,

databases, information storage and management, opportunities offered by the Internet and communication via electronic media (e-mail, network devices) – in the context of leisure activities, information sharing, cooperative networking, learning, arts and research. Individuals must understand how ICT can support creativity and innovation, be aware of problems associated with the authenticity and reliability of information, and be familiar with the basic techniques used for filtering information, with the dangers and ethical principles of the interactive use of ICT and with the legal framework of copyright and software ownership rights which pertain to users.

The required skills include the ability to search, collect and process information and to use it critically and systematically, and to distinguish between real and virtual relationships. They also entail the use of tools that promote the creation, presentation and interpretation of complex information, access to Internet-based services, conducting research with these tools and the use of ICT in critical thinking, creativity and innovation.

The use of ICT requires a critical and reflective attitude in order to guarantee the responsible use of available information and interactive media. Digital competence is also encouraged by active participation in cultural and social communities and networks for cultural, social and/or professional purposes.

Social and civic competence

Personal, value-oriented, interpersonal, intercultural, social and civic competences are prerequisites for a harmonious life and community integration. A commitment to and activity for the public good comprises all forms of behaviour that the individual should master in order to participate in an increasingly diverse social and working life efficiently and constructively, and, furthermore, if need be, to resolve conflicts. Civic competence enables individuals to apply their knowledge of social processes, structures and democracy in order to actively participate in public affairs.

Required abilities, skills, knowledge and attitudes

Civic competence is based on the knowledge of the concept of democracy and of citizenship and civil rights as defined in the Charter of Fundamental Rights of the European Union and in international declarations and as implemented at the local, regional, national, European and international levels. This competence incorporates an awareness of current events, the major events and trends in national, European and world history as well as the goals, values and policies of social and political movements. It extends to knowledge of European integration and of the EU's structures, main objectives and values, as well as an awareness of the significance of diversity in Europe and the sense of cultural identity.

The development of civic competence is based on abilities and skills such as efficient cooperation in public matters, interest in problems that concern the local and broader community and solidarity shown while resolving these problems. This competence also includes a critical and constructive analysis of community activities and decisions made at various levels – from local to national and European level – as well as participation in decision-making, primarily through voting.

Positive attitudes are based on full respect for human rights, including respect for equality, democracy, and the cultural diversity of religious and ethnic groups. This further implies a sense of belonging to the locality, the country, the EU and Europe in general, an openness to participating in all levels of democratic decision-making as well as a demonstration of responsibility and acceptance of, and respect for, the common values that underlie community cohesion. Constructive participation also entails a supportive attitude towards civic activities, social diversity, social cohesion and sustainable development, as well as respect for others' values and privacy.

Personal and social wellbeing requires knowledge of one's own physical and mental health and the application of such knowledge. Being conscious of the norms and understanding the generally accepted rules of behaviour and codes of conduct are essential for harmonious relationships and active and successful social participation. It is important to be aware of the basic concepts concerning individuals, groups, work organisations, gender equality, non-discrimination, society and culture.

Being aware of the multi-cultural and socio-economic dimensions of European societies and understanding the interaction between national cultural identity and European identity are also desirable components of this competence.

The core abilities of this competence include the ability to communicate efficiently in different spheres of life, to consider and to understand various viewpoints, to invoke trust in negotiating partners and to show empathy.

As regards attitudes, cooperation, assertiveness, self-confidence and integrity are the most important factors, and so is interest in social and economic development and intercultural communication. An ambition to overcome personal prejudices and to reach compromise is a further relevant element of this attitude, which also entails coping with stress and frustration and an openness for change.

Sense of initiative and entrepreneurship

The sense of initiative and entrepreneurship helps individuals get to know their broader environment and, having acquired this knowledge, be able to grasp the opportunities that lie ahead. This competence comprises knowledge, creativity, propensity to induce changes and risk-taking as well as developing and implementing plans in order to achieve objectives. It serves as a basis for more specific knowledge, skills and behaviours which are needed for everyday life in the society and at the workplace.

Required abilities, skills, knowledge and attitudes

Necessary knowledge, on the one hand, involves recognizing and analyzing the opportunities and challenges for personal, professional and/or business activities and, on the other hand, a broader understanding of how the economy works and self-confident orientation in the world of money. Individuals must also be conversant with the financial and legal conditions of businesses.

Skills and abilities such as planning, organization, management, the task delegation, analysis, communication, judgement, the evaluation of experiences, risk assessment and risk-taking, individual and team work and ethical behaviour are part of this competence.

A positive attitude is characterized by independence, creativity and innovation, and motivation and determination to achieve goals in personal or social life or in the field of work.

Aesthetic and artistic awareness and expression

Aesthetic and artistic awareness and expression involves aesthetic comprehension, the appreciation of the creative expression of ideas, notions, experiences and emotions and its reception either through the language of traditional arts or through the media in particular, through literature, music, dance, drama, puppet play, visual arts, the culture of objects, buildings and spaces, as well as the modern forms of artistic expression, photography and motion picture.

Required abilities, skills, knowledge and attitudes

Aesthetic and artistic awareness and expression presupposes an awareness of local, national, European and universal cultural heritage, and the competent and empathetic appreciation of major works of art also with regard to popular contemporary culture and forms of expression. This also entails an understanding of the need to preserve the cultural and linguistic diversity of Europe (European countries, nations and minorities), the development of public taste and the role aesthetic experience plays in our everyday life.

Abilities and skills such as artistic self-expression, sense of art, the interpretation and analysis of works of art and performances, the comparison of one's points of view with the opinion of others

and the recognition and exploitation of the economic opportunities in cultural activities are all part of this competence.

Positive attitudes are rooted in the love of art, an openness to the diverse forms of artistic expression and an inclination to develop one's aesthetic sense. Openness, interest and sensitivity enhance creativity and its supporting skills, which, in turn, enables citizens to enrich their self-knowledge, human relationships and general ability of orientation through artistic self-expression and participation cultural life.

Efficient and independent learning

Efficient and independent learning is the ability to pursue and persist in learning, organize one's own learning both individually and in groups, including effective management of time and information, to recognise one's own needs and opportunities and know the process of learning. This, on the one hand, requires the acquisition, processing and internalization of new knowledge, and seeking and applying guidance, on the other. Efficient and independent learning urges the learner to apply his or her knowledge and skills in a variety of contexts – home, work, learning and training processes – drawing on his or her prior learning and life experience. Motivation and self-confidence are essential elements of this competence.

Required abilities, skills, knowledge and attitudes

Learning that can be utilized in life and serves career or work goals requires adequate knowledge of one's own abilities, the necessary competences, knowledge, knowledge and qualifications. Efficient and independent learning requires individuals to be aware of and understand their learning strategies, the strengths and weaknesses of their skills and expertise and to be able to find those education and training opportunities, guidance and support which are available to them.

Efficient and independent learning presupposes core skills, such as writing, reading, numeracy, and the use of ICT tools. The acquisition, processing and internalization of new knowledge take place on the basis of these skills. Efficient and independent learning also requires the creation of one's own learning strategy, continuous motivation, focusing of one's attention and a critical deliberation of the motive and aim of learning. Individuals must be able to collaborate with others, share their knowledge with others, evaluate their own work objectively and, if necessary, ask for advice, information or support.

A positive attitude presupposes an inner motivation for learning, the ongoing maintenance of which is conditional upon the use of prior learning and life experience, search for new learning opportunities and the wide use of what one has learned in all spheres of life.

II.2. SUBJECT AREAS

II.2.1. The structure of the subject areas of the NCC

The NCC defines values and the concept of general knowledge, knowledge and learning for the primary and secondary levels of education. As more and more emphasis is laid on the role of formal, informal and non-formal systems, institutions and organizations that disseminate knowledge and culture, obligatory school education will eventually become unable to offer a "closed", final body of knowledge. For this reason, the formation of motifs and learning abilities, skills and attitudes required for lifelong learning becomes indispensable.

The twelve grades of education make up a unified process which is divided into three phases of education. The development tasks defined in the NCC belong to the individual phases of education. These phases are as follows:

the phase of primary education:
- grades 1-4;
- grades 5-8;

the phase of secondary education:
- grades 9-12

Note: Six- and eight-grade secondary grammar schools fall into the category of institutions of secondary education, regardless the phases of education they impart.

The phase of *kindergarten education* ends when the child reaches school age. Its system of development tasks is defined by the *National core programme for kindergarten education*, the key document on the development of young children. The NCC draws on the National core programme for kindergarten education.

In the first two years of the lower four grades (grades 1-4), regulation provides for the possibility of managing the individual differences, which may be significant at that age. The teaching and learning processes defined by performance requirements become gradually stronger in grades 3 and 4 to become essential by the end of grade 4. The process of motivating and learning organization focuses on the requirements reflected in, among others, the NCC's development tasks. The NCC regards the first four grades as a separate phase of education.

The primary task of education *in grades 5-8* is to continue the development of key competences, abilities and knowledge contents that are required for successful learning and good school performance. Given the changing knowledge contents of growing complexity, the basic task of education in grades 7-8 is the further development – that is, the consolidation, strengthening and enrichment – of existing competences and the improvement of their efficiency and diversity. The NCC regards the second four grades as the second separate phase of education.

The function of the phase of *secondary education* is the further development of the abilities established in the previous educational phase and the deepening and extension of abilities and knowledge contents. This phase is characterized by the introduction of competences that are necessary for employees and – depending on school type – skills and knowledge pertaining to career choice or required for the qualification.

Students enter the secondary school after finishing their basic school studies (in case of an eight- or six-grade secondary grammar school, after finishing grade 4 and grade 6, respectively) and pursue secondary studies until the end of the school age period or until the end of the phase of secondary education. The task of secondary schools is to prepare students for integration into adult society through offering the general knowledge content required for this purpose. In addition, they must offer career orientation and prepare students for entering into higher education or the labour market. In terms of the type of training, secondary schools fall into the categories of vocational schools, vocational secondary schools or secondary grammar schools. Each school progresses with its educational activity on the basis of various programmes, as defined by the qualification they offer, by the sector or by the specialization.

The requirements pertaining to the subject areas subject area and referred to in the NCC are of the same structure. Section *Principles and goals* is followed by *Development tasks* and, finally – in harmony with the above mentioned phases of education – by *General competences*.

II.2.2. Recommendation on the percentage rates of the NCC subject areas

Subject areas	1-4	5-6	7-8	9-10	11-12*
Hungarian language and literature	27-40	15-22	10-15	10-15	10
Foreign languages	2-6	10-18	10-15	12-20	13
Mathematics	13-20	13-18	10-15	10-15	10
Man and society	4-8	6-10	10-15	8-15	10
Man and nature	4-8	6-10	15-20	15-20	10
The Earth – our environment	–	2-4	4-8	5-8	–
Arts	14-20	10-16	8-15	8-15	6
IT studies	2-5	4-8	4-8	4-8	4
Way of life and practical skills	4-8	4-10	4-10	4-8	–
Physical education and sports	20-25	20-25	15-20	14-20	15

* Minimum percentage rate.

In vocational secondary schools and vocational schools, the time frame defined in the Vocational Education Act shall be guaranteed for the processing of the pedagogical content of school education defined in the National Core Curriculum.

II.2.3. Recommendation on the percentage rates of the NCC subject areas in schools for national minorities

Subject areas	1-4	5-6	7-8	9-10	11-12
Language and literature of the national minority	18-22	14-20	12-18	12-15	12-17
Hungarian language and literature	20-35	14-20	10-15	10-15	10
Foreign languages	–	8-16	8-16	11-20	8
Mathematics	13-20	13-18	9-13	8-13	9
Man and society	4-8	4-8	9-13	8-13	10
Man and nature	4-8	6-9	12-18	13-18	8
The Earth – our environment	–	2-8	3-8	4-8	–
Arts	10-17	8-14	5-10	6-10	2
IT studies	2-5	3-8	4-10	4-10	5
Way of life and practical skills	3-6	3-8	3-8	2-7	–
Physical education and sports	16-25	15-20	15-20	12-15	12

II.3. THE MATERIAL OF THE SUBJECT AREAS

II.3.1. HUNGARIAN LANGUAGE AND LITERATURE

A) PRINCIPLES AND GOALS

The basis of individual, community and social communication is the comprehensive knowledge and adequate mastery of the Hungarian language. Language forms, preserves and conveys culture; it is the medium, prerequisite and primary tool of human communication, thinking, learning and self-knowledge. The mother tongue plays a key role in the formation of the sense of national and cultural identity, of awareness and expressive ability and of ethical, aesthetic, historical and critical thinking. The mastery of the mother tongue as a system and skills related to the mother tongue promote active participation in the communities of the society and play a decisive role in the creation, discussion and sharing of the values of the society as well as in their creative dissemination. The adequate knowledge of one's mother tongue promotes the acquisition of foreign languages.

Education in the mother tongue affects and supports the acquisition of the other subject areas; consequently, the development of the mother tongue competence is a task for all subject areas. Literature as a linguistic art is a main medium and shaping factor of culture: it is the most comprehensive and efficient tool of the development of text comprehension and text creation skills (in the lower grades, composition skills) and of the skills that serve as a basis for these, of aesthetic and emotional education and the teaching of a set of behavioural rules. For this reason, it plays a key role in the formation and development of linguistic, cultural and social competences and determines the entire process of learning.

A principal task of mother tongue education is to make students understand language as a changing system and to develop language competence so that – at a level defined by their age characteristics – they have a mastery of the tools of oral and written communication and become capable of performing the functional analysis of these tools and of applying them in practice. Thus, it promotes and serves as a basis for the independent knowledge acquisition and – as a closely related factor – differentiated thinking and the ability of and desire for lifelong learning.

It is the individual's continuously developing ability of understanding and creating texts that makes it possible for him or her – either alone or in cooperation with others – to become able to identify and consciously use the codes, connections and factors of verbal and non-verbal communication as well as to understand, analyze and critically deal with various texts. Having acquired these skills, students become able to recognize and reflect on the meanings that arise from secondary or abstract expression and to use such tools when creating a text. In the course of individual text creation, students are able to comply with the ethical, aesthetic and cultural requirements which are in harmony with the communicative situation and the characteristics of the audience and arise from the intention of the creator of the text, from readers' needs and from the norms of text genres.

Mother tongue education and literary education form an organic unity, yet they develop different ability fields. Through an active dialogue with works of literature, a connection is established between the past, the present and the future. The principal works of literature make the reader face the fundamental questions of life, thus ensuring the continuity and continuous renewal of culture. They help the individual understand and experience human and social problems, get to know other cultures, and define and respect the differences between "me" and "the other". Works of literature develop memory and the ability to process

and preserve experience, and contribute to the evolution of the desire to accept and, at the same time, shape traditions.

Tasks of literary education entail – besides those mentioned above – to encourage and strengthen the love of reading, evoke the love of literature as art and as a special form of human communication and – through direct experience – introduce students into its forms of communication and expression. The knowledge gained this way creates an opportunity for the development of self-knowledge, the knowledge of others and critical thinking as students learn about the concept of multi-faceted tradition and about linguistic and artistic conventions.

The subject area "Hungarian language and literature" has several links to the contents and goals of the subject area "Arts", "Man and society", "Living foreign languages" and "IT studies".

B) DEVELOPMENT TASKS

The structure of development tasks

1. Speech skills; the comprehension, interpretation and creation of oral texts
2. Reading; the comprehension of written texts
3. Writing; text creation
4. The development of learning ability
5. General mother tongue skills; knowledge of the mother tongue
6. Literary culture; the interpretation of works of literature
7. The development of judgement and the sense of ethics, aesthetics and history

The arrows in the tables (►►) mean that the activity in question continues in higher grades, with the additions indicated for the next phase of education.

1. Speech skills; the comprehension, interpretation and creation of oral texts

<table>
<tr><th rowspan="2">Grades 1-4</th><th colspan="2">Grades 5-8</th><th rowspan="2">Grades 9-12</th></tr>
<tr><th>Grades 5-6</th><th>Grades 7-8</th></tr>
<tr><td>The development of proper sound production, speech breathing and articulation; efforts made to produce understandable and expressive speech. Exercises of pronunciation and sentence and text phonetics with the use of texts.</td><td colspan="3">Efforts made to produce well-formed, linguistically high-quality speech and proper articulation.
Using pronunciation tools that reflect the content of the text and the speaker's intention. Observing and using the communicative opportunities offered by the use of pause, change of stress, speech rate, pitch and intonation.
Identifying and interpreting the components of the communicative process.</td></tr>
<tr><td>Exercises and role-play related to self-knowledge.</td><td>The harmonization of word usage, pronunciation and body language in various communicative situations.</td><td colspan="2">Experiencing the opportunities offered by and limitations of body language and gestures.
Knowledge and conscious use of the body language, space and facial gestures in various communicative situations; decoding them in everyday communicative situations and mass communication.</td></tr>
</table>

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Participation in group discussions and debates.			
Listening to same-age or adult interlocutors. Understanding the message and the emotional content of short oral texts.	Giving a short oral summary of oral texts. The observation of the presence and verbal behaviour of the speaker.	Emphatic cooperation with the interlocutor. Argumentation: looking for arguments; the formulation of opinion and points of view, ►►	Efforts made to decode the message of oral texts. ►►its further development.
Recalling and relating the content of everyday experience, reading, visual or audio experience and the experience of seeing videos or films.	Efforts made to adapt to the audience and the communicative situation for the purpose of the expression of fine details.	Using and assessing communicative techniques of various text genres►►	►► in everyday communicative situations and in mass communication.
Formulating one's own opinion, ►►	►►defending it with arguments. Listening to and understanding others' opinions in situations involving more than one persons.	Rephrasing one's own opinion from a given aspect. Short reproduction of others' opinion in situations involving more than one person.	Defending and correcting one's own opinion. Cooperation in group discussions and debates. Methods of solving communication problems and conflicts. Recognition of manipulative intention(s), incorrect inferences and unfounded judgements.
Faithful and expressive presentation of learnt texts. Acting out known texts with dramatic tools. Experimenting with dramatic forms (e.g. puppet show, shadow play, pantomime, poem recital, situation exercise, ►►		►► improvisation, performance in students' theatres.	

2. Reading; the comprehension of written texts

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Learning the symbols of the writing system. Establishing reliable reading skills: with loud and with silent reading. Learning about the basics of text comprehension techniques.	Loud and silent reading of texts. Meaningful and expressive reading which is capable of conveying the thoughts and the emotional and mood-related contents of the texts. Observation and reproduction of the intonation of various sentence types during loud reading. Continuous practice of reading strategies and reading types that support text comprehension (e.g. preparation for reading, the mobilization of existing knowledge, creation of meaning, anticipation, inference, interpretation, assessment, questions, reflecting on the text, giving a summary).		

<table>
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<tr><th>Grades 5-6</th><th>Grades 7-8</th></tr>
<tr><td colspan="2">Global, interpretative and reflective reading that serves the lookup of information and is in harmony with students' age characteristics.
Giving evidence of text comprehension with exercises. Enrichment of active vocabulary on the basis of the read texts ►►</td><td>►► with independent work and cooperative methods.</td><td>Learning about texts that use language in ways which are different from that of today (e.g. old texts, texts with archaisms); the practice of their comprehension with aids.
Continuous enrichment of vocabulary with regard to all linguistic layers; preparation for the tasks related to lifelong learning.</td></tr>
<tr><td>Reading short pieces of literary and non-literary works independently; identifying keywords; giving a summary of structural units.</td><td colspan="3">Independent reading and comprehension of printed and electronic literary texts, popular science texts and journalistic texts; independent use of the basic techniques of text analysis (definition of topic, highlighting the gist, looking for data, cause-and-effect relationships, answering questions, preparing drafts, summarizing).
Examining and interpreting the structure and layers of meaning of texts of various genres and functions.</td></tr>
<tr><td>Recognizing relatively simple images and figures in literary texts (simile, repetition, climax).</td><td colspan="3">Observing the connection between and interplay of text and image. Interpreting figures and illustrations.
Practicing reading habits that are in harmony with the genres of information communication technologies (ICT); recognizing and eliminating typical related mistakes and dangers.</td></tr>
<tr><td colspan="2">Supporting creative processes (imagination, the creation of inner images, creation of meaning).</td><td colspan="2">Practicing the recognition of various styles in texts of various functions; using them in verbal and written communication. Verbal and non-verbal elements of visual communication.</td></tr>
<tr><td>Identification of the genre characteristics of texts (e.g. nursery rhymes, songs, cumulative tales, fairy tales, short stories, explanations).</td><td>Detecting the genre differences of texts (e.g. tales and documents, lyric poems and short stories).</td><td>Observing the differences between literary and non-literary genres.
The difference between informative texts (e.g. news and commentaries) and texts that convey the author's opinion.</td><td>Using text comprehension procedures and approaches that are in harmony with the nature of the genres of the given works.
Recognizing and interpreting the connection between and differences of texts.</td></tr>
<tr><td colspan="4">Mobilizing and sharing previously acquired knowledge and personal experience relating to the texts.
Recalling the story of the texts read; understanding the acts, characters, and explicit and implicit opinions of the persons in the story.
Recognizing and interpreting the values, ethical questions, motivations and behavioural patterns conveyed in literary and non-literary texts.</td></tr>
<tr><td>Phrasing one's own opinion in one or two sentences about the life situation, acts, characteristics and behaviour of persons depicted in the texts.</td><td>Phrasing one's own opinion in a few sentences (in speaking or writing) about the acts, emotions and thoughts of persons depicted in the texts and about life situations that appear in these texts.</td><td>Comparing different opinions; observing differences and similarities; formulating opinions in speech and writing.</td><td>Comparison of different read opinions; observation, interpretation and criticism of differences and similarities in various genres.</td></tr>
</table>

3. Writing; text creation

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Gradual formation and development of writing skills (handwriting), taking into consideration the individual characteristics of students.	Improvement of writing skills: the practice of legible, aesthetic and organized handwriting which is in harmony with the needs related to the learning process.	Legible, aesthetic handwriting which is in harmony with the given phase of learning. Acquisition of the basics of note-taking.	Legible, aesthetic and efficient individual way of writing. Establishment of an independent note-taking technique that is suitable for highlighting the gist of a text.
Creating sentences with connecting short sentences. Writing compositions (e.g. short narrative texts, short descriptions, characterizations of two or three lines).	Creating short texts and phrasing personal or literary experience in various types and genres of text.	Practicing narratives and characterizations of various perspectives; preparing presentations and opinions.	Text creation in all major fields of social (community) life in paper-based and electronic genres.
Pronunciation exercises, writing words whose orthography and pronunciation are similar or different; syllable practice; analysis of word forms.	Conscious application of the basic knowledge of standard language use and orthography.	Understanding the role of orthography in conveying meaning; its application. Norm-based use of existing knowledge of language and orthography.	Conscious use of the experience gained about the different stylistic value of linguistic elements in compositions and text creation.
Expressing thoughts, emotions and opinions in compositions.	Writing short compositions from various points of view. Self-expression and creativity in various genres (re-writing texts from various points of view with the modification of style and register; practicing press genres).		
Learning about and applying the basics of material collection and systematization.	Collecting and organizing the material of short reports with the use of various printed (and electronic) sources; phrasing it in writing under teacher's guidance, in groups or independently.		Preparation for the writing of texts that require independent work and the collection of a large amount of material.

4. The development of learning ability

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Laying the groundwork for and practicing the steps of independent work (library visit, book loan; using a children's encyclopedia). Thinking about one's own thinking processes. Sharing one's experience.		Application of methods of independent work, information collection and knowledge acquisition: using manuals, dictionaries, encyclopedias; looking for unknown expressions in monolingual dictionaries; extending the body of acquired knowledge using various information	Practicing the efficient collection, selection, systematization, use of and critical approach to and verbal and non-verbal information. Expanding the knowledge of searching for information; information related to museums. Using techniques of

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
		sources. Using online encyclopedias and search engines.	collecting data on the Internet; using hypertexts and links.
Exercises with books and children's magazines (selection, categorization, thematic orientation).		The basics of the indication of sources.	Formal and ethical rules of quotation. Knowledge of the techniques of source criticism.
Preparing drafts under teacher's guidance. Independent expansion of drafts and compression of texts on the basis of given criteria.	Using drafts for the purpose of understanding and formulating texts of various topics and genres.	Independent preparation of drafts with various methods (cluster charts, mind maps, etc.) on the basis of short texts. ►►	►► mind maps, tables of viewpoints, tables for contrasting two aspects, etc. The creation of texts of various genres on the basis of drafts.
Learning about various types of media.	Types of media, e.g. visual, audiovisual, electronic: the characteristics, communicative functions and culture of the Internet. Analysis of the visual environment of texts; the interpretation of figures and illustrations in context.		Managing and understanding verbal and non-verbal information at the same time (e.g. the interpretation of illustration, typography and arrangement in context; uploading, sharing and tagging content).
Looking for keywords; text compression; completing incomplete drafts, tables and figures on the basis of texts.		Preparing drafts under teacher's guidance. Practice of compression, highlighting the gist and summarizing, ►►	►►independent note-taking. Independent use of summary (e.g. highlighting the gist, following the chronological order; systematizing data; differentiating between various positions).
Retrieval of information and data under teacher's guidance. Interpreting texts; recognizing simple cause-and-effect relations; conclusions.		Establishing a critical approach to information (comparison of information about the same topic yet from different sources under teacher's guidance, in groups).	Preparing for the recognition, evaluation and criticism of the value and importance of information.
Concentration and memory exercises combined with rhythm, movement and speech exercises; techniques of text learning. Activation of textual memory; exact observation, identification and recall of texts.			Accurate and interpretative recall and the independent, active reproduction of texts in harmony with the given objectives. Applying texts in new situations.

5. General mother tongue skills; knowledge of the mother tongue

Grades 1-4	Grades 5-8	Grades 9-12

	Grades 5-6	Grades 7-8	
Recognizing linguistic and grammatical phenomena on the basis of practical experience (sounds, letters, syllables, words, word stems, affixes, sentences, texts).	Detecting simple systemic links between linguistic elements (e.g. sounds, words, word elements).	Observing structural and semantic links between linguistic units (e.g. characteristics of words of the same lexical category and their relationship with they way words operate in sentences). Observing the role of linguistic units in texts (in communication).	The independent application of grammatical knowledge in the course of dealing with phenomena of language and language use. A multi-faceted approach to language (language as a system of signs, language and thinking, language and action, language and creativity, language types).
Observing the structure and changing units of language with sentence and text construction methods.			
Interpreting and using word meanings, phrases and idioms in oral and written compositions.	The mastery of mapping the relations between the meanings of words (e.g. the recognition of words with one meaning and polysemic words; the collection of synonyms).	Creative exercises related to the meaning of words; learning about the meaning of linguistic units smaller or bigger than words and about the meaning resulting from linguistic structure and form.	Mapping of the meanings and meaning relations that arise from the meanings of the linguistic units and structures of the text or are created with non-verbal tools of communication. Independent use of basic semantic and pragmatic concepts in the critical approach of various text types.
Recognizing different language use in texts of various genres and registers.	Experiencing and recognizing the layered nature of language and language use with concrete examples of language variations (especially in the field of vocabulary).		Interpreting language use as a social phenomenon (sociolinguistics).
Learning about and using some basic rules of orthography (marking the beginning and end of sentences; writing proper names; the rules of the division of simple words).	Learning about and using other basic rules of orthography. Recognizing of the fact that the orthographical system is determined by grammar; expanding existing knowledge. Checking under teacher's guidance and independently. Using manuals of orthography.		Independent solution of problems of standard language use (orally and in writing). Efforts made at writing with proper orthography with the independent use of manuals.
Observing linguistic constancy and change.			
	Examination of texts created in previous centuries; recognition of the differences of the present and previous states of the language in harmony with the abilities of the given age group.	Observing linguistic constancy and change on the basis of examples (old texts, parts of texts) with a comparison with the present state, mainly at the level of vocabulary and learnt grammatical phenomena.	Orientation in the major periods of the history of the language community and the linguistic system. Familiarization with the origins of the Hungarian language and with the major procedures demonstrating relations within a language family. Detecting contemporary linguistic changes.

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Recognizing the differences between one's mother tongue and foreign languages; phrasing such differences independently.	Comparing knowledge of the mother tongue and foreign languages; naming the individual phenomena with growing accuracy.		Comparison of characteristic features of the mother tongue and a foreign language relying on general linguistic knowledge.

6. Literary culture; the interpretation of works of literature

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Experiencing the joy of reading. Relating content; the explanation of the connection between title and text; giving titles.		The recognition of and developing a conscious awareness of the fact that analytical-interpretative reading intensifies the acquisition of experience and knowledge. The recognition of and developing a conscious awareness of the fact that reading literature is a source of emotional, intellectual, ethical and aesthetic experience.	
Learning about lyrical works of various rhythmic and musical properties: reading lyrical works of classical and contemporary Hungarian and world literature in groups and alone.		Identifying types of tools of music and rhythm; detecting their effects on mood and their functions.	Interpreting various types of lyrical ways of expression; comparing some works which employ ways of expression characteristic of a certain era.
Recognizing some key poetic images and figures; observing their roles and effects on moods.		The identification of images and figures and the characteristics of vocabulary and syntax. Understanding their meaning-creating role in lyrical texts.	Recognizing the complex nature of poetic language use; interpreting the function of grammatical tools.
Familiarizing with lyric genres.		Familiarizing with lyrical and non-lyrical poem genres; understanding their characteristics as well as content- and form-related features.	Presenting the role of genre conventions as conveyors of meaning.
Recognition and simple characterization of stanzas (the number, length and syllable number of lines). Understanding the connections between the stanza and bigger structural units.		Learning about the key elements of composition (e.g. thematic structure, structure of space and time, logical structure, the communicative situation and its change).	Recognizing and interpreting the organizing principles of poems in poems written in various eras.

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Identifying the thought or emotion which serves as a focus of a lyrical work. Recognizing the topic, mood and register of a lyrical work.		Familiarizing with the communicative situation of lyrical works and with some major types of the relation between addressor and addressee.	Phrasing the relations between topic, register, communicative situation and genre in some characteristic examples.
Reading short epic works and works of folk poetry.		Reading and understanding narrative works independently. Exercises of creative rewriting of narratives and stories.	The analysis and interpretation of epic works of various types, length and genres from classical and contemporary, Hungarian and world literature.
Using learnt narrative forms in relating stories in everyday situations, in creative writing and in written compositions.			
Identifying the protagonists of stories. Identifying the internal and external features of characters.		Identifying the major tools of characterization.	Recognizing the role of the connection between words and actions in characterization; irony.
Identifying the time and place of a story. Identifying the beginning and end of a plot, the sequence and correlations of plot elements.	Identifying the explicit factors of time and space. Detecting climaxes, turning points and subplots.	Identification and analysis of markers of time and space. Detecting the differences of the chronology the short story and the plot. Identifying references to later parts and delays in short stories.	Interpreting markers of time and space or their absence. Interpreting the difference between the structure of the short story and the chronological order of the plot. Presenting the connection between meaning and time structure in epic works of various types.
Defining the narrator and the point of view of the narrator in a story.		Evaluating the narrator's point of view and the communicative situation.	Interpreting the function of points of views and their changes.
Reading and performing folk plays and dramatized works (e.g. parts of tales).	Dramatized presentation of parts of short stories and epic poems and of everyday situations. Experiencing the difference between purely narrative and dramatic parts of works.	Reading and understanding dramatized forms, dialogues and dramatic works in groups and alone. Identifying the similarities of and differences between the epic and dramatic way of plot presentation. Interpreting and presenting situations and instructions.	Characteristics of dramatic narrative. The connection between theatre and drama.
Learning about the differences of oral and written poetry, of folk poetry and poetry on the basis of examples.		The new oral poetry of advertisements and pop music.	New phenomena of the interaction of electronic mass communication and literature.

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Recognizing and discussing basic human situations and literary topics. Some major topics and formal traditions in Hungarian and world literature.			
Identifying motifs and recurring linguistic and structural characteristics in tales.		Familiarizing with some style eras and with the connections between a given style era and a literary work.	Identifying the links between topics, life situations, motifs and formal characteristics in works of various worldviews; dealing with them in various contexts of interpretation. Historical and contemporary interpretations.
Recognizing and formulating the immediate (literal) meaning of a literary work.	Efforts made at the enrichment and generalization of the immediate meaning relying on personal experience and on other literary, non-literary, verbal, audio and visual texts.		In the course of meaning attribution, looking for connections with the major traditions and codes of European and Hungarian literature.

7. The development of judgement and the sense of ethics, aesthetics and history

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Discussions about the contents and use of the concept of the beautiful and the ugly.		Complex linguistic tools of expressing positive opinion; understanding the differences in taste.	Understanding the fact that taste is dependent on context (e.g. embeddedness at the cultural, historical, community, family and individual levels). Desire for and ability of the independent development of taste.
Discussions about the content of the concept of the good and the bad. The good and the bad, justice and fairness: the recognition of judgement as an act in everyday situations and in the context of works of art. The ability of representing and experiencing another person's opinion. Representing everyday conflicts in dramatic plays (e.g. puppet show).		The desire and ability for orientation in ethical issues. Understanding the conflict between truth and point of view, between personal truth and community truth on the basis of various texts. Development of empathy by trying out various dramatic forms (e.g. situation exercises).	The desire for understanding the background of social, community and individual conflicts, for moral thinking and for judgement. Learning methods of conflict management.

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Experiencing the joy of art through intense interest, play, adventure, humour, imagination, rhythm and music.		The increasingly comprehensive and frequent experience of the independent reception of a work of art; understanding the effect with group discussion or with independent text creation.	Comparing works of various genres and of various branches of art; the effect of a work of art as experience depending on genre and medium.
	Experiencing the various ways of life and thinking of various cultures. Observing cultural diversity as a community-creating force.		Observing art as a culture-creating factor. The drive of getting to know other cultures.

C) GENERAL COMPETENCES

Grades 1-4

1. Speech skills; the comprehension, interpretation and creation of oral texts

1.1. Hearing of speech, listening comprehension, speech development.

- proper speech breathing, sound production, articulation and proper pronunciation;
- knowledge of the vocabulary of everyday life and textbooks;
- tools of sentence phonetics and text phonetics;
- the communication schemes and linguistic features of oral texts;
- using words and creating sentences that are in harmony with a given situation.

1.2. The faithful reproduction of texts to be learned by heart.

2. Reading; the comprehension of written texts

2.1. Preparing for reading

- attention, observation, logical schemes, pace, rhythm, memory, emotion, imagination;
- special subskills: hearing of speech sounds; sound differentiation; sound analysis; sign function; relational vocabulary; body scheme; orientation in two dimensions and three dimensions.

2.2. The sign system of reading

- sounds and letters, syllables, words, phrases, sentences, texts.

2.3. Understanding written texts

- operations of text analysis: orientation in the text, reading in parts, re-reading, retrieval of data, highlighting information;
- evidence of understanding: inference, highlighting the gist, drafts, meaning attribution, the presentation of contents, the summary and evaluation of data and thoughts;
- acting out and visual representation of text content.

3. Writing; text creation

3.1. The sign system of writing

- handwritten lower-case and capital letters; the connection of letters; words; phrases; sentences; texts;
- punctuation marks.

3.2. Text creation (written composition)
- connecting sentences; text samples; points of view, choice of topic; material collection; giving titles, material organization: editing; style; organized writing;
- narratives, descriptions, characterizations, letters: everyday informative texts (game rules, instructions of use, notifications, invitations, advertisements, SMS, e-mails).

4. The development of learning ability

4.1. The use of books and libraries
- textbooks and other books: encyclopedias, monolingual dictionaries, children's encyclopedias, children's magazines; electronic information storage devices; loaning.

4.2. Characteristics of popular science texts
- topic, information content, vocabulary, structure.

4.3. Operations related to text comprehension and thinking
- procedures that support learning: the writing of drafts, explanatory drawings, key words, thesis sentences, simple data requests;
- text learning techniques;
- formulating questions and answers; systematization; comparison.

4.4. Faithful presentation of literary works and excerpts

Full works:
- Nursery rhymes, lyrics of folk songs, Attila József: *Altató, Betlehemi királyok, Mama*; Ágnes Nemes Nagy: *Nyári rajz*; Sándor Petőfi: *Anyám tyúkja, Füstbe ment terv*; one poem by Károly Tamkó Sirató, three poems by Sándor Weöres;
- some works of contemporary Hungarian lyric literature.

Excerpts:
- Ferenc Kölcsey: *Hymnus*, Sándor Petőfi: *Nemzeti dal*; Mihály Vörösmarty: *Szózat*
- excerpts from prosaic works.

5. General mother tongue skills; knowledge of the mother tongue

5.1. Linguistic and behavioural patterns of basic communicative situations
- initiating and closing contact; maintaining contact; talking; debate;
- following linguistic norms in speech and writing.

5.2. Meaning of words; vocabulary
- synonyms, polysemic words, homophones, idioms, proverbs, sayings.

5.3. Sounds, letters, syllables, words, word stems, affixes

5.4. Lexical categories
- verbs, nouns, adjectives, numerals, articles, postpositions, personal pronouns, interrogative pronouns, demonstrative pronouns.

5.5. Sentence modality

5.6. Basic rules of standard language use and orthography; punctuation marks.

6. Literary culture; the interpretation of works of literature

6.1. Authors and works

Folk poetry:

- nursery rhymes, folk songs, folk games, riddles, Hungarian folk tales, tales of national minorities of Hungary and of other peoples, types of tales; legends.

Children's poems, tales, short stories by classical Hungarian authors; fantasy novels and children's novels of simple structure:

- authors: László Arany, Elek Benedek, István Fekete, Gyula Illyés, Attila József, István Kormos, Ervin Lázár, Ferenc Móra, Zsigmond Móricz, László Nagy, Ágnes Nemes Nagy, Sándor Petőfi, Miklós Radnóti, Lőrinc Szabó, Károly Tamkó Sirató, Albert Wass, Sándor Weöres.

Children's poems, tales, short stories by classical European authors; fantasy novels and children's novels of simple structure.

Children's poems, tales, short stories by contemporary Hungarian authors; fantasy novels and children's novels of simple structure.

6.2. Characteristics of epic works

- structure, setting, elements of the plot, the beginning and end of the plot, turning points, characters (protagonists and other characters).

6.3. Characteristics of lyrical works

- poetic language (rhythm, rhyme, stanza, refrain), simple images and figures (contrast, simile, repetition), text image (calligram, typography).

6.4. Characteristics of puppet plays and dramatic plays

- situation, role, dialogue.

7. The development of judgement and the sense of ethics, aesthetics and history

7.1. Playfulness, musicality, the experience of rhythm.

7.2. Heroes, emotions, ethical choices

- basic ethical concepts that can be experienced directly in real situations; behavioural patterns that are easy to observe; emotions; ethical choices that are in harmony with the students' age and their evaluation;
- presenting of one's own opinion; talk; discussion.

Grades 5-8

1. Speech skills; the comprehension, interpretation and creation of oral texts

1.1. Hearing of speech, listening comprehension

1.2. Understandable, properly articulated and coherent speech

- adequate speech breathing, proper sound production; the suprasegmental factors of speech are in harmony with the speaker's intention;
- linguistic patterns of everyday communicative situations;
- verbal and non-verbal codes, everyday communicative situations, convincing communication.

1.3. Interpretative presentation of texts to be learned by heart.

2. Reading; the comprehension of written texts

2.1. Text comprehension

- text comprehension methods of literary, interpretative, critical and creative reading;
- units of comprehension: words, phrases, sentences, paragraphs, texts;
- characteristics of printed and electronic texts;

- strategies of the comprehension of frequent text types (literary texts, popular science texts, texts from textbooks, media texts);
- the connection between figures, pictures and illustrations and the text.

3. Writing; text creation

3.1. Fluent writing technique; legible, easy-to-overview and organized writing which reflects the message

3.2. Text creation

- narratives, descriptions, characterizations, short argumentative texts and other everyday written and electronic texts (invitations, e-mails, SMS, web 2.0), free writing;
- communicative goals; norms of structure, standard language use and orthography.

4. The development of learning ability

4.1. The proper use of libraries; the safe use of the Internet

4.2. Procedures that support the process of learning

- taking notes; looking for data; collecting material from printed and electronic sources, monolingual dictionaries;
- preparing drafts with various techniques: explanatory drawings, key words, thesis sentences;
- the independent creation of (oral and written) texts on the basis of notes and drafts;
- characteristics of popular science texts: explanations, definitions, descriptions, data, information, mind maps, figures, icons, graphs, tables; the comprehension of such texts.

4.3. Operations related to text comprehension and thinking

- asking questions, answering, trains of thoughts, explanations, conclusions, correlations, creative procedures.

4.4. Faithful presentation of literary works and excerpts

Full works:

- one work by Endre Ady, Attila József, Dezső Kosztolányi; one ballad by János Arany, Mihály Csokonai Vitéz: *A Reményhez*; Janus Pannonius: *Pannónia dicsérete*; Ferenc Kölcsey : *Hymnus, Huszt*; Sándor Petőfi: *Az Alföld, Nemzeti dal*; Miklós Radnóti: *Nem tudhatom*; Mihály Vörösmarty: *Szózat*; one poem by Sándor Weöres;
- some poems by contemporary Hungarian authors.

Excerpts:

- János Arany: *Családi kör, Rege a csodaszarvasról, Toldi*, Sándor Petőfi: *János vitéz*, one excerpt from a drama, one folk ballad, excerpts from works of prose.

5. General mother tongue skills; knowledge of the mother tongue

5.1. Communication

- the goals and factors of the process of communication, situations of verbal communication (asking questions, asking favours; argument, argumentation; communication in small communities, presentation, debate);
- linguistic patterns and behavioural rules of everyday communicative situations: the oral and written forms of establishing and maintaining connection; forms of linguistic behaviour.

5.2. Linguistic diversity, linguistic tolerance

- language variations, dialects;
- the languages and language use of national minorities in Hungary.

5.3. Simple systemic connections between linguistic units

- the system of Hungarian speech sounds; consonants, vowels, basic phonological laws. The sound of speech (stress, intonation, melody, pause, tempo);
- word elements;
- lexical categories; the meaning and morphological behaviour of words and their communicative function; phrases;
- the connection between the form and meaning of words; idioms;
- the change of vocabulary; old and new words and phrases;
- sentences, structure, modality;
- norms of the written language; basic rules of Hungarian orthography;

6. Literary culture; the interpretation of works of literature

6.1. Literary forms and genres

- epic, lyrics, drama;
- ballads, short stories, epic poems, tales, myths, legends, novels; songs, epigrams, elegies, genre works, hymns, odes, rhapsodies; comedies, tragedies.

6.2. Poetic characteristics of literary texts

- composition, structure, effect;
- narrator, point of view, narrative, plot, episode, setting, character, description, dialogue, characterization;
- structure, plot elements, turning points, characters;
- musicality, rhythm, metres, rhymes;
- drama plays: situation, monologue, dialogue, scene, conflict.

6.3. Functions and effects of modes of artistic expression and stylistic tools

- repetition, climax, parallel, contrast;
- literal and metaphorical meaning; simile, prosopopoeia, metaphor, metonymy, allegory, literary synesthesia, symbol.

6.4. Theme, motif, recurring motif, archetype

- nature, seasons and times of the day, homeland, family, parents, children and adults, tests, adventure, heroism, ars poetica.

6.5. Methods of analyzing and interpreting works of literature.

6.6. Authors and works

Epic works*:*

- Hungarian folk tales, folk ballads, tales, tales of national minorities of Hungary and of other peoples; legends, mythological stories, stories from the Bible; János Arany: *A walesi bárdok, Rege a csodaszarvasról, Toldi*; Mihály Fazekas: *Lúdas Matyi*; Géza Gárdonyi: *Egri csillagok*; Mór Jókai: *A kőszívű ember fiai* or another novel; Frigyes Karinthy: *Tanár úr kérem* (excerpts); one short story by Dezső Kosztolányi; one short story by Kálmán Mikszáth; Ferenc Molnár: *A Pál utcai fiúk*; one work by Zsigmond Móricz, Sándor Petőfi: *János vitéz*;
- and one or two novels for young people from the 20th century and one or two excerpts from novels (e.g.: from the works by István Fekete, Magda Szabó, Áron Tamási);
- contemporary prosaic works and excerpts from Hungarian and world literature.

Lyrical works:

- from works by Endre Ady, János Arany, Mihály Csokonai Vitéz, Janus Pannonius, Attila József, Dezső Kosztolányi, Ferenc Kölcsey, Sándor Petőfi, Miklós Radnóti, Lőrinc Szabó, Mihály Vörösmarty, Sándor Weöres;
- works of contemporary lyrical art.

The world of drama and theatre*:*

- one drama.

7. The development of judgement and the sense of ethics, aesthetics and history

7.1. Heroes, behavioural patterns, emotions, ethical choices

- feelings, emotions, love, compassion, helpfulness, hear, trust, gratitude;
- sharing literary experience; the justification of independent choice of reading.

7.2. References to and connections with music and fine arts

7.3. Connections to regional and local culture

- memorials related to literature.

7.4. Style exercise, dramatic improvisation and play

- dialogue texts, scenes, drama play.

7. 5. Entertaining literature, film adaptations

Grades 9-12

1. Speech skills; the comprehension, interpretation and creation of oral texts

1.1. Hearing of speech, listening comprehension, speech

- listening comprehension: communicative intentions (giving information, maintaining contact, conversation, persuasion, manipulation);
- easy-to-understand, properly articulated and coherent speech; verbal and non-verbal codes; cultural and behavioural features;
- communicative and rhetoric features of spoken texts.

1.2. The interpretative presentation of monologue texts (presentation, rhetoric speech) and texts to be learned by heart

2. Reading; the comprehension of written texts

2.1. Strategies of text comprehension

- ways and strategies of reading and of the reception of texts (interpretative, critical, creative reading) applied on various printed and electronic, continuous and fragmented texts and on other visual types of communication;
- the connection between figures, pictures and illustrations and the text.

2.2. Procedures of text analysis

- linguistic, structural and language use-related features of text types of various communicative purposes; functions related to communication and reading, rhetorical procedures; logical connections, elements of coherence;
- procedures of analysis that are in harmony with the nature of the genre of literary works;
- the rhetoric and stylistic elements of texts.

3. Writing; text creation

3.1. Text creation

- fluent, legible, properly organized and easy-to-overview writing which is in harmony with the message;
- communicative and genre-related features of texts (narrative, description, characterization, short argumentation, essay, rhetoric speech, debate, curriculum vitae, application, motivation letter, electronic genres), free writing;
- using the existing knowledge of grammar, standard language use, discourse analysis, rhetoric and styles.

3.2. Orthography

- using the existing knowledge of lexical categories, syntax and basic language history.

4. The development of learning ability

4.1. The proper use of libraries; the conscious and safe use of the Internet

4.2. Procedures that support the process of learning

- data search, the collection of material from printed and electronic sources; monolingual dictionaries, thesauruses; selection, evaluation, systematization;
- methods of draft preparation;
- methods of quoting and making references;
- techniques of independent note-taking;
- creating (oral and written) texts on the basis of notes and drafts, independently;

4.3 Faithful presentation of literary works and excerpts

Full works:

- twenty works of lyrical poetry, including those of Endre Ady, János Arany, Mihály Babits, Attila József, Dezső Kosztolányi and Sándor Petőfi.

Excerpts:

- widely known stanzas and lines from lyrical works; excerpts from epic works;
- excerpts from dramas.

4.4. Problem-solving thinking and text comprehension

- the logical procedures of induction and deduction, systematization, inference, analysis and synthesis.

5. General mother tongue skills; knowledge of the mother tongue

5.1. Communication

- interpersonal communication, situation, the speaker's intention, interlocutors, topic;
- characteristics of group, public and mass communication;
- visual (non-verbal) communication.

5.2. The linguistic system

- units of the language; the systemic (phonological, morphological, lexicographic, syntactic and semantic) connections between these units;
- vocabulary, phraseology;
- characteristics of the Hungarian language and acquired foreign language(s).

5.3. The world of texts

- text organizing (grammatical, semantic, pragmatic) forces;
- text types, text structures;
- intertextuality and computer-based texts.

5.4. The basics of rhetoric

- types of live speech, public speech, argumentative text genres, argumentation, thesis, statement, argument types, refutation and evidence.

5.5. Style and meaning
- style elements and tools in standard and artistic texts;
- styles, style variants.

5.6. Linguistic change
- languages related to the Hungarian language; the history of the Hungarian language; major eras of language history and major old extant texts;
- modern Hungarian language;
- norms of the written and spoken language; basic Hungarian orthography;
- language variations, dialects;
- the use of the Hungarian language beyond Hungary's borders;
- the use of national minority languages; national minority cultures;
- language planning, language policy, language cultivation;
- the Hungarian language among the world's languages.

5.7. The concept of language
- a multi-faceted approach to language; language as a system of signs, language and thinking, language and action, language and creativity.

6. Literary culture; the interpretation of works of literature

6.1. Constant and changing features of literary genres
- anecdote, ballad, short story, narrative poem, epic poem, legend, letter, myth, diary, parody, parable, novel, sociography, utopia; song, elegy, eclogue, epigram, epistle, ode, rhapsody, hymn, psalm; dramatic poem, comedy, tragedy; treatise, essay.

6.2. Poetic characteristics of literary texts
- narrator, point of view, narrative, plot, episode, setting, character, description, dialogue, characterization, hero type;
- situation, lyrical self, the poet's attitude, role, types of poems;
- situation, action, diction, conflict, monologue, dialogue, prologue, epilogue, delay, scene;
- functions of modes of artistic expression and stylistic tools; figures and tropes;
- musicality, rhythm: metres, free verse, simultaneous metres.

6.3. Orientation in the cultural history and the history of literature
- eras, style eras, stylistic trends (antiquity, Middle Ages, Renaissance, Baroque, Enlightenment, Romanticism, Realism, Modernity, Postmodernity);
- some specific eras and movements in Hungarian literature: national Romanticism of the Reform Era, "Nyugat" as a literary journal and as a movement, national conservative literature, the movement of "authors from the people".
- The literature of the Carpathian Basin and the emigration.

6.4. Authors and works

Hungarian literature

works of folk poetry

epic works
- one or two ballads by János Arany, *Toldi estéje*; Mihály Babits: *Jónás könyve; Halotti beszéd és könyörgés*; Mór Jókai: *Az arany ember* or another novel; one novel and one short story by Dezső Kosztolányi; one short story by Gyula Krúdy, Kelemen Mikes: an excerpt from *Törökországi levelek*; one novel and

one short story by Kálmán Mikszáth, one novel and one short story by Zsigmond Móricz, one epic work by Sándor Petőfi, Miklós Zrínyi: an excerpt from*Szigeti veszedelem*;

- prosaic works from the 20th century (e.g. Nándor Gion, Frigyes Karinthy, Sándor Márai, Miklós Mészöly, László Németh, József Nyirő, Géza Ottlik, István Örkény, Magda Szabó, Ferenc Sánta, András Sütő);
- contemporary prosaic works.

Lyrical works

- Endre Ady: *A Sion-hegy alatt, Góg és Magóg fia vagyok én…*, *Kocsi-út az éjszakában* and four or five other works by him, János Arany: *Epilogus, Letészem a lantot* and two or three other works by him, Mihály Babits: *Esti kérdés*, *Ősz és tavasz között* and one or two other works by him, Bálint Balassi: *Egy katonaének* and one or two other works by him, Dániel Berzsenyi: *A közelítő tél, A magyarokhoz I*. and another work by him, Mihály Csokonai Vitéz: *A tihanyi Ekhóhoz* and another work by him, one work by Gyula Illyés, one work by Janus Pannonius, Attila József: *Külvárosi éj, Óda, Tudod, hogy nincs bocsánat* and four or five works by him, one work by Gyula Juhász, one epigram by Ferenc Kazinczy, Dezső Kosztolányi: *Hajnali részegség, Halotti beszéd* and one or two other works by him, Ferenc Kölcsey: *Hymnus* and another work by him, *Ómagyar Mária-siralom*; Sándor Petőfi: *A puszta, télen, A XIX. század költői, Európa csendes, ujra csendes,, Szeptember végén* and three or four other works by him, János Pilinszky: *Harmadnapon* and another work by him, Miklós Radnóti: *Hetedik ecloga* and two other works by him, one or two works by Lőrinc Szabó, one or two works by Árpád Tóth, one work by János Vajda, Mihály Vörösmarty: *Előszó, Szózat* and one or two other work by him, one or two works by Sándor Weöres;
- other lyrical works of the 20th-century Hungarian literature (e.g. from works by Lajos Áprily, Jenő Dsida, László Nagy, Ágnes Nemes Nagy, Ottó Orbán, István Sinka, Domokos Szilágyi);
- contemporary lyrical works.

drama

- József Katona: *Bánk bán*; Imre Madách: *Az ember tragédiája*; Mihály Vörösmarty: *Csongor és Tünde;*
- one drama from the 20th century; contemporary theatre and drama.

treatises, essays

- three excerpts (e.g. from works by Endre Ady, János Arany, Mihály Babits, György Bessenyei, Gyula Illyés, Dezső Kosztolányi, Ferenc Kölcsey, Sándor Márai, Ágnes Nemes Nagy, László Németh, Péter Pázmány, Dezső Szabó, Antal Szerb; contemporary essays).

World literature

epic works

- some mythological stories and stories from the Old and New Testament;

some works and excerpts, for example:

- one short story by Boccaccio, Cervantes: *Don Quijote,* Dante: *Isteni színjáték*; Homer: *Iliad, Odyssey*; from the literature of the 18th and 19th centuries: from the works of Balzac, Emily Brontë, Chekhov, Dickens, Dostoyevsky, Flaubert, Goethe, Gogol, E.T.A. Hoffmann, Victor Hugo, Pushkin, Stendhal, Swift, Leo

Tolstoy, Voltaire; from the literature of the 20th century: e.g.: from works by Bulgakov, Camus, Faulkner, Hemingway, Hrabal, Kafka, Thomas Mann, Orwell, I. B. Singer, Solzhenitsyn; from works by contemporary authors.

some lyrical works from the various eras of world literature, for example:

- from medieval hymns, from works by Horace, Petrarch, Virgil, Villon; and from works by Apollinaire, Baudelaire, T. S. Eliot, Goethe, Keats, Poe, Rilke, Rimbaud, Shelley; Walt Whitman; and contemporary lyrical works.

theatre and drama

- Sophocles: *Antigone;* one drama by Shakespeare, one comedy by Molière; one drama from the second half of the 19th century; one drama by Chekhov; one or two works from the 20th century or from the contemporary era.

7. The development of judgement and the sense of ethics, aesthetics and history

7.1. Literature and cultural tradition

- local aspects, monuments related to literature, national identity.

7.2. Topoi, motifs

- the constant and changing range of meaning of some basic situations in human life, of some motifs, metaphors, topoi and archetypes (life and death, initiation, road, family, man and woman, love, children, homeland, law, crime and punishment, microcosm and macrocosm, ars poetica).

7.3. Registers, aesthetic qualities

- the beautiful, the ugly, the majestic, humour, the grotesque, irony, the absurd, the tragic, the comic; catharsis.

7.4. Interpretation, analysis, assessment

- the changing notion of literariness;
- various procedures of the analysis and interpretation of epic, lyrical and dramatic works; meaning, interpretation, evaluation (experience, effect, ethical dilemmas, world view).

7.5. Literary life

- literary awards (e.g. the novel "Sorstalanság" by Nobel prize winner Imre Kertész);
- the life of literature (e.g. cults; virtual space, digital literature, digital message conveying, audiobooks);
- ways of reception; book festivals, bestsellers.

II.3.2. FOREIGN LANGUAGES[4]

A) LIVING FOREIGN LANGUAGES

PRINCIPLES AND GOALS

The objectives of the subject area "Living foreign languages" is defined by contemporary communicative needs, in conformity with the recommendations of the Council of Europe.

Competence in living foreign languages is vital for

- safe orientation in the world;
- making responsible and independent decisions;
- being successful in the labour market;
- participating in international communication;
- understanding and appreciating the values of one's own culture and other cultures.

In basic schools, learning one foreign language is obligatory from grade 4 onwards; the teaching of the second foreign language may start in grade 7. In secondary grammar schools, all students must learn two foreign languages. In vocational secondary schools, the learning of one foreign language is obligatory; however, provided that the necessary conditions are met, the teaching of two foreign languages is recommended. In vocational schools, students are obliged to study one foreign language. The choice of the language to be learnt is free, depending on the opportunities offered by the given school.

The system of goals of language learning is as follows:

- The development of communicative competence: students must be able to perform tasks related to language use they may face in any field of life, such as in private life, public life, the world of education or in the labour market.
- The development of the general knowledge of the target language and intercultural competence: students must be able to interpret the differences between and similarities of their own culture and other cultures, and become more open and sensitive to other cultures. It is important to establish a positive attitude to and motivation for learning foreign languages and, in general, getting to know other languages and cultures.
- The utilization of the opportunities related to education and subject integration: students must be able to deal with interesting and important issues of other subject areas – referred to in the curriculum – in a foreign language.
- The skill-level establishment and development of the use of ICT applications: in the course of their foreign language studies students must gain experience and mastery of the use of communication and information technologies – this contributes to their becoming independent language learners.

[4] The teaching of the languages of national minorities as national minority languages is regulated by a separate piece of legislation The content of the subject of Hungarian as a foreign language – due to its special situation – is regulated separately by the framework curricula. This subject was incorporated into public education to ensure that migrant students and students speaking a mother tongue other than Hungarian may enter the system of Hungarian public education at any time and, once they have entered, may perform successfully. Furthermore, the formulation of goals, tasks and contents may serve as a sample to be used for the language teaching of Hungarian students who live abroad as members of a national minority and have Hungarian as their language of origin. Hungarian as a foreign language is embedded into the subject area "Living foreign languages" and, at the same time, may be adapted flexibly to the specific situation and language competence of students. In addition, it offers knowledge that helps the inclusion of students, which in turn, promotes their healthy personality development and their successful and conflict-free life in Hungarian society.

– The establishment of language learning strategies: language learners must be able to maintain and improve their foreign language competence and, in addition, to study other foreign languages efficiently and successfully.

In the context of the objectives of teaching and learning living foreign languages, emphasis must be placed on the formation of communicative competence: a competence that consists of several elements, such as linguistic, sociolinguistic and textual competence.

Linguistic competence entails the body of lexical, grammatical, semantic, phonological, morphological and orthographical knowledge, as well as the skills and core abilities needed for the application of this knowledge. It is activated through the comprehension of read and heard texts, through speech skills, interaction and the development of writing skills.[5]

Sociolinguistic competence denotes the knowledge of those social customs and rules which strongly influence the success of communication to which – due to their being different from those of the mother tongue – language learners must pay conscious attention (for example, customs of politeness, forms of address, linguistic rituals, body language, humour, styles, dialects).

In the course of the development of textual competence, students learn about the structure of texts, the elements that ensure coherence in written and spoken language, the rules of interaction and the characteristic linguistic elements of texts of various types.

Language cannot be separated from the culture where it has evolved and exists; therefore, language learning must always be combined with familiarization with the culture of everyday life, and students must be enabled to have access to target language culture in a wider sense. In the course of learning and teaching, special significance is attributed to the formation and development of intercultural awareness; that is, language learners must be able to recognize and understand the characteristics of and differences between their own culture and other cultures and to know and employ the strategies of establishing contact with representatives of other cultures.

In harmony with the principles of teaching and learning living foreign languages and the goals defined in the NCC, it is important to promote cross-curricular integration. Learning foreign languages may enrich, among others, those elements of the linguistic, cultural, sociocultural, historical and intercultural knowledge of students which can be used in the field of other subjects as well. At the same time, efforts must be made to introduce students into other subject areas in the course of foreign language classes.

Learning foreign languages must offer further opportunities for the acquisition of the methods of efficient learning: the mobilization of previously acquired knowledge, the creation of tailor-made methods, cooperative group learning, the establishment of the desire for self-cultivation and the recognition of the importance of lifelong learning.

Information and communications technology (ICT) provides unprecedented opportunities for language learners and teachers to establish immediate relationship with the target language and target language community. ICT may enhance the efficiency of language learning considerably, offering direct access to the target-language culture; in other words, it allows the search for and use of authentic target language models. ICT is an excellent tool of modern language teaching, differentiation and independent language learning.

Language learning strategies are of special importance with regard to the success of the language learning process. During the language learning process, students must be given clear and unambiguous information about the objectives, process and methods of learning. They must be given the opportunity to formulate their own communicative needs, to ask for or propose topics, activities or procedures. They must have the opportunity to perform tasks

[5] It may also extend to mediation skills (translation and interpretation).

independently, and they must learn the use of sources (dictionaries, manuals, grammar textbooks, practice materials, electronic sources, etc.) that may help them in independent work. They must gradually acquire those strategies that promote communication and the interpretation of texts. Teachers must assess students' work on a regular basis; at the same time, students must learn self-assessment methods.

Students must be given the opportunity to participate in linguistic activities which are in harmony with their age characteristics, interests and communicative needs and are similar to tasks of real life. While working, students must use – if possible – authentic or adapted (or simplified authentic) texts. They must be given the opportunity to engage in communicative interactions in varied forms (pair work, group work, etc.) and to experience authentic target language use. During the classes, communication and activities must be performed in the target language. All student must be offered attention and support that meets their competence level and learning style so that they may become independent language users.

DEVELOPMENT TASKS, LANGUAGE LEVELS

In the case of foreign languages, several subjects are dealt with, since this subject area consists of several foreign languages. The NCC defines minimum levels which are obligatory for all students; in addition, it specifies requirements for students who participate in advanced-level education. Due to the special characteristics of the subject, the NCC specifies the elements of general competences in terms of the language levels and competences used in international practice and defined in the Common European Framework of Reference (CEFR).[6] A detailed list of linguistic elements of each language (grammatical structures, communicative intentions, topics, etc.) is contained in the framework curricula.

The NCC regards foreign languages as a unified field, and – where relevant – it differentiates between the first and second foreign language. With regard to the minimum requirements obligatory for all students, the NCC defines three phases: taking the beginning of obligatory foreign language learning as a staring point, it specifies grade 4, grades 5-8 and grades 9-12.

By the end of the period of primary education ends, students are obliged to acquire the second level (A2) of the six-level European framework.

Minimum levels

The table below summarizes the required minimum levels; for details, see the section below the table. For the other levels and the detailed description of the levels referred to in this document, see the CEFR. The institutions – in harmony with their profiles defined in their foreign language teaching programmes, with their specific objectives and their opportunities – may in all cases opt for higher levels than those defined.

	Grade 4, minimum level	**Grade 6, minimum level**	**Grade 8, minimum level**	**Grade 12, minimum level**

[6] Common European Framework of Reference. Language learning, language teaching, assessment. Council for Cultural Cooperation, Committee for Education, Modern Languages Division, Strasbourg. Pedagógus-továbbképzési Módszertani és Információs Központ Kht., 2002. (For a detailed description, see below).

First foreign language	Cannot be defined in terms of CEFR	A1	A2	B1
Second foreign language	–	–	–	A2

Levels to be acquired with advanced-level training

With the advance-level training in grades 9-12 (for instance, if, due to student demand, preparation for advanced-level [B2] secondary school leaving examination is compulsory), the level to be acquired by the end of grade 10 and by the end of studies is B1-B2 and B2 (intermediate level), respectively In the case of certain study programmes, advanced-level (C1) skills can also be acquired As for the second foreign language, students may arrive at B1-B2 level by the end of the last study phase. Aiming at the levels defined in the table below depends on the opportunities and objectives of the given institution and its students.

	Grade 4	**Grade 6**	**Grade 8**	**Grade 10**	**Grade 12**
First foreign language	Cannot be defined in terms of CEFR	A1	A2-B1	B1-B2	B2-C1
Second foreign language	–	–	A1	A2	B1-B2

***

The description of levels (on the basis of the CEFR)

A1, minimum level

At this level, students can understand and use familiar everyday expressions and very basic phrases aimed at the satisfaction of needs of a concrete type. They can introduce themselves and others and ask and answer questions about personal details such as where they live and about people or things they know. They can interact in a simple way provided the other person talks slowly and clearly and is prepared to help.

Reading	They can understand familiar words and simple sentences, for example on notices and posters or in catalogues.
Listening	They can recognize familiar words and phrases concerning themselves, their families or immediate surroundings.
Speaking	They can participate in simple conversations provided the other person speaks at a slower rate and articulates well. They can ask and answer simple questions about familiar topics or situations. They can describe their place of residence and the persons they know with simple expressions
Interaction	They can ask and answer simple questions about personal details. They can engage in easy communication but need repetitions, rephrasing and modifications.
Writing	They can fill in simple forms or send short greetings.
Accuracy	They can use some simple learned grammatical structures and

	sentence types in a limited way. They have mastered a basic vocabulary of words and phrases that relate to certain concrete situations.

A2, elementary

At this level, students can understand sentences and frequently used expressions related to areas of most immediate relevance (e.g. very basic personal and family information, shopping, local geography, school, employment). They can communicate in simple and routine tasks requiring a simple and direct exchange of information on familiar and routine matters. They can describe in simple terms aspects of their background, immediate environment and matters in areas of immediate need.

Reading	They can understand the gist of short and simple texts, including stories. They can find the required information.
Listening	They can understand the most frequent phrases and vocabulary provided that they are familiar with the topic. They can catch the main point in short, clear, simple messages, announcements and other frequent texts.
Speaking	With preparation, they can enter into a conversation about everyday topics which requires immediate information exchange about a known activity. They can make themselves understood in social exchange. They can give a short description for example of their family, place of residence and studies.
Interaction	They can ask questions and react to simple statements. They can inform the others when they are following the communication yet rarely do understand enough to keep the conversation going themselves.
Writing	They can write short notes, messages and personal letters.
Accuracy	They can use some simple structures correctly yet regularly make basic mistakes. They have mastered a vocabulary that is adequate for meeting basic communicative needs.

B1, threshold level

At this level, students can understand the main points of clear standard texts on familiar matters regularly encountered in work, school and leisure. They can deal with most situations likely to arise while travelling in an area where the language is spoken. They can produce simple coherent texts on familiar topics that or topics of personal interest. They can describe experiences and events, feelings, hopes and ambitions and briefly give reasons and explanations for opinions and plans.

Reading	They can understand the main point and information of texts dealing with everyday and frequently occurring topics. They can understand texts about events, feelings and opinions.
Listening	They can understand the gist of standard speech/conversation about frequently occurring and familiar topics. They can understand the main point of radio or television programmes on current affairs or topics of personal or study-related interest when

	the delivery is relatively slow and clear.
Speaking	They can participate – without preparation – in situations likely to arise whilst travelling in an area where the language is spoken and in conversations about familiar or everyday topics. They can describe their experience and ambition with simple, coherent phrases. They can briefly give reasons and explanations for their opinion. They can narrate a story and formulate an opinion about it.
Interaction	They can initiate, maintain and close simple communication on topics that are familiar or of personal interest. They can repeat a part of what has been said to ensure that they and their interlocutors interpret content in the same way.
Writing	They can write simple connected texts on familiar, everyday topics. They can describe their experiences and opinions.
Accuracy	They can use structures and sentence types of high frequency that pertain to anticipatable situations and have been practiced before with relatively good accuracy. Their vocabulary is adequate for expressing themselves about most of the topics that pertain to their own everyday life.

B2, upper intermediate

At this level, students can understand the main ideas of complex texts on both concrete and abstract topics, including technical discussions of personal interest. They can initiate and maintain fluent and natural interaction with native speakers. They can produce clear, detailed texts on a wide range of subjects and explain a viewpoint on a topical issue giving the advantages and disadvantages of various options.

Reading	They can understand the main points, information and argumentation in texts (articles, reports, narratives) concerned with contemporary problems. Generally, they can understand literary prose about events, feeling and opinions.
Listening	They can understand extended lectures and follow even complex line of argument provided that the topic is reasonably familiar. They can understand the main points in radio and television news about current affairs and the majority of films that use standard language.
Speaking	They can interact fluently and naturally with native speakers on topics pertaining to everyday life, even without preparation. They can give detailed descriptions, justification and explanation of their opinions; they can relate a story.
Interaction	They can initiate interactions, they speak at the right time and, if needed, can finish the conversation, albeit not necessarily smoothly. In case of familiar topics, they can maintain conversation by expressing they understand the content and can involve other persons in the conversation.
Writing	They can write detailed and coherent texts about contemporary problems and topics of personal interest. They can describe their

	experiences, express opinions and argue for or against statements.
Accuracy	They have a relatively high-level mastery of grammar. They do not make mistakes that may cause misunderstanding and can correct most of their own mistakes. They have adequate vocabulary to express themselves in a polished and accurate manner on general topics and topics of personal interest.

B) CLASSICAL LANGUAGES

PRINCIPLES AND GOALS

Traditionally, three classical languages are taught in Hungary: Latin, Ancient Greek and Ancient Hebrew. As Latin is the most widely taught of the three, the NCC specifies development goals and language levels with reference to Latin.

Linguistic and textual competence

The learning of the Latin language has its most immediate influence on linguistic and textual competence. It develops logical skills and – just like abstract mathematical logic – it develops the abilities of analysis, overview, systematizing and synthesising.

Learning Latin develops comprehension skills to a considerable degree, as a key methodological tool of teaching is the study of written texts, normally moving from short, easy-to-overview texts towards longer and more complex excerpts from literary works.

Mediatory skills

With regard to Classical languages the role of studying literary texts is of primary importance, as they have no spoken version and there are hardly any extant texts of everyday language. Primarily, classical languages are suitable for – assuming that the text is an independent entity – the development of the skill of exact and stylistically authentic translation. In the course of conveying a multi-layered meaning of a given text, translation skills develop significantly composition skills and a related desire for high-quality text production in the mother tongue and in the foreign language alike.

The formation of language learning strategies

The learning of Classical languages develops other types of language learning strategies that those of living foreign languages do. As in the case of Classical languages, priority is attributed to the study of written texts, preference is normally given to the systemic methods of language learning – that is, the morphological, syntactic and textual characteristics of the given language are dealt with from a theoretical and logical perspective.

General knowledge of the target language culture

The acquisition of the characteristic general knowledge of cultures related to Classical languages contributes greatly to the familiarization with and reception of the shared European cultural heritage.

Another major objective of teaching Classical languages is the dissemination of knowledge of cultural history and information about relevant sources. Another important goal is to introduce students to the continuity of Classical culture and contemporary European culture, and teach them about the tools of mediation and the role of arts and sciences as factors preserving traditions.

Intercultural competence

While familiarizing with Classical cultures, students enter a world that differs from today's reality distinctly yet, at the same, evidently conveys values. Learning about Classical languages and cultures give students an insight into the cultural sources of our Europeanness.

The utilization of opportunities of subject integration

Texts in Classical languages are often valuable historical sources. Studying texts in the original language – which entails analyzing them properly in terms of syntax and style – is a useful exercise for the analysis and criticism of historical sources.

As learning Classical languages almost invariably focuses on literary texts, literary texts read in the given foreign language are studied in their original linguistic organization and multi-layered structure.

The development of the skills of the application of information and communications technologies

With regard to learning Classical languages, special importance is attributed to the acquisition of knowledge of cultural history. Knowledge processing offers an opportunity for independent collection activity. The use of the Internet is indispensable for obtaining information about the history of Classical cultures.

DEVELOPMENT TASKS, LANGUAGE LEVELS

The basic requirements of the output levels of teaching Latin language are in harmony with the competence levels of living foreign languages as defined by the Common European Framework of Reference for Languages as follows:

CEFR A2 minimum requirement as the third foreign language	The recognition of the vocabulary and grammatical elements of known adapted Latin texts; the body of knowledge of cultural history related to the text.
CEFR B1 minimum requirement as the second foreign language	The translation of adapted Latin texts; limited grammatical knowledge (the recognition of regular morphological phenomena and syntactic structures); a relatively small body of knowledge of cultural history (knowledge that enhances the understanding of texts and works of art related to the Ancient culture).

CEFR B2 minimum requirement in case of advanced-level education	The ability to translate Classical texts of medium difficulty; the high-level knowledge of grammar (the active use of irregular grammatical phenomena and syntactic structures); a relatively large body of knowledge of cultural history (the knowledge of the subject areas of Ancient cultures and their impacts).

II.3.3. MATHEMATICS

A) PRINCIPLES AND GOALS

The goal of mathematics teaching in school is to give students an authentic view of mathematics as a system of knowledge and a peculiar way of learning, thinking and mental exercise. Learning mathematics shapes and enriches the learner's personality with regard to emotions and motivation, improves independent systematic thinking and provides applicable knowledge. Developing mathematical thinking enhances the individual's general intellectual culture.

In teaching mathematics, the various facets of this science need to be demonstrated.

Mathematics is:

- part of our cultural heritage;
- a way of thinking;
- a creative activity;
- a source of pleasure as a mental challenge;
- a way to experience the order and aesthetics of patterns and structure;
- an independent science;
- a tool other sciences rely on;
- part of everyday life and a necessary tool in many professions.

This subject areaaims to initiate students into the world of mathematics and mathematical thinking through several themes, presented as one organic whole. A spiral structure of constantly increasing level is required to allow time for concepts, laws and connections to sink in and for the mathematical way of thinking to take hold, in accordance with individual developmental characteristics and interests, the increasingly complex knowledge to be learned and the gradually improving ability for abstraction. This structure also makes it possible to work effectively with students who are making slower progress, and it allows talented students to realize their potential.

Differentiation is crucial at all ages. This is not limited to taking individual needs into consideration. The choice of subject matter and the manner of presentation are often chosen based on what is feasible in practice; in other cases, a differentiation based on the level of scientific standards is necessary. When teaching mathematics to a particular class, the feasibility of the goals and tasks requires students' interests and career choices to be taken into account when determining the material to be taught.

In keeping with key competences, ensuring reliable numeracy as part of developing mathematical skills receives special attention. Developing communication skills (text comprehension, listening to and understanding the thoughts of others when expressed orally

or in writing, and communicating one's own thoughts) and developing argument-based debating skills must also be priority areas.

In the course of students' mathematical development and the learning process, it is crucial for them to be able to choose and apply the models and ways of thinking (analogy, heuristics, estimation, mathematical logic, axioms, probabilities, constructive and creative approaches, etc.), methods (arithmetic, algebraic, geometric, function-based, statistical, etc.) and descriptions that fit particular natural and social phenomena. At the same time, teaching the skills necessary for determining the scope of validity and practical applicability of models is crucial as well, as is the development of the abilities that lay the groundwork for these skills. Getting to know and learning to use reproductive and problem-solving, creative ways of thinking is also important – without ignoring the teaching of basic activities (e.g. measurements, basic constructions), operations (e.g. arithmetics, algebra, transformations) until they become automatic. Learning can lead students to understand the role of mathematics in natural and social sciences and numerous branches of human culture. It is important to teach students about some major mathematicians and some interesting mathematical problems that arose in the course of scientific development.

In the course of teaching, students must be made conscious of the fact that precise, persistent, disciplined work, self-verification and respect for views that are different from one's own are important values.

Thanks to learning about mathematical values and achievements, students will be able to effectively use the mathematical competences they acquire in various areas of life.

B) DEVELOPMENT TASKS

The structure of development tasks

1. Orientation
    - *1.1. Orientation in space*
    - *1.2. Orientation in time*
    - *1.3. Orientation in the quantity relationships of the world*
2. Learning
    - *2.1. Gaining experience: consciously reinforcing, communicating, recording experiences, using notations, interpreting/reading notations.*
    - *2.2. Imagination (imitative, creative)*
    - *2.3. Memory*
    - *2.4. Thinking*
    - *2.5. The systematization of knowledge*
    - *2.6. The use of knowledge media*
3. The application of knowledge
4. Handling and solving problems
5. Creation and creativity: creation without assistance, based on own plans; creation according to prescribed conditions; restructuring

6. Will-based, emotional control, the ability to self-improve, values associated with tolerance

   6.1. Communication

   6.2. Cooperation

   6.3. Motivation

   6.4. Self-knowledge, self-assessment, reflection, self-control

7. Acquiring mathematical experience, the principles of the structure of mathematics

The arrows in the tables (►►) mean that the activity in question continues in higher grades, with the additions indicated for the next phase of education.

1. Orientation

1.1. Orientation in space

<table>
<tr><th rowspan="2">Grades 1-4</th><th colspan="2">Grades 5-8</th><th rowspan="2">Grades 9-12</th></tr>
<tr><th>Grades 5-6</th><th>Grades 7-8</th></tr>
<tr><td>Orientation (e.g. in and around school) using full body movement; repeating series of movements, improving muscle memory,►►</td><td>►► improving muscle memory; repeating series of movements in reverse.</td><td></td><td></td></tr>
<tr><td colspan="2">Orientation based on objects in the external world; learning relationships aiding orientation (e.g. beside, below, above, between, in front of, behind). Orientation in a plane (e.g. orientation in space represented on a plane; orientation based on information conveyed orally).</td><td>Possible ways of depicting spatial relationships and solids on a plane.</td><td></td></tr>
<tr><td colspan="2">Orientation based on the current position of the student's own moving, rotating body (e.g. left and right).</td><td></td><td></td></tr>
<tr><td></td><td colspan="2">Orientation based on the point of view of another person.</td><td></td></tr>
<tr><td></td><td colspan="2">Orientation based on maps and other sketches of the real environment (e.g. reading and making maps; using spatial measurement data in calculations, improving one's sense of proportions; estimating real sizes and scales based on a map, the coordinate method). ►►</td><td>►►Understanding the principles of map-making; using devices that aid orientation.</td></tr>
</table>

1.2. Orientation in time

<table>
<tr><th rowspan="2">Grades 1-4</th><th colspan="2">Grades 5-8</th><th rowspan="2">Grades 9-12</th></tr>
<tr><th>Grades 5-6</th><th>Grades 7-8</th></tr>
<tr><td colspan="2">The past, the present and the future as continuously changing concepts; understanding and using "before", "after", "earlier" and "later"; putting the events of a process in chronological order; word problems in which chronological order is relevant.</td><td></td><td></td></tr>
<tr><td colspan="2">Measuring time periods based on constant-speed motion and based on sound; using standard units (second, minute, hour, day, week, month, year, decade).</td><td>Time experienced as a series of cycles and the linear concept of time; time periods and points in time.</td><td>Time-dependent periodic phenomena.</td></tr>
</table>

1.3. Orientation in the quantity relationships of the world

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Comparing objects, persons, figures, phenomena and sets based on quantitative properties (height, width, length, mass, volume capacity, volume, number of items); estimation; the basics of the concept of quantities.			
Expressing quantities with numbers; interpreting numbers as corresponding to quantities in reality. E.g. measurements and numbers of items (the cardinality of sets); natural numbers, rational numbers, real numbers, exact and approximate numbers. Determinations with regard to quantity (e.g. based on the relationship of quantity and measurement if the unit of measurement is the same; based on the relationship of the unit and the measurement if the quantity is the same).			

2. Learning

2.1. Gaining experience: consciously reinforcing, communicating, recording experiences, using notations, interpreting/reading notations

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Fine motor coordination: manipulating small objects, using a ruler, ►►	►► , a compass, etc.		
Static positions, observing pictures and objects.			
Recognizing, identifying, differentiating in a broader context and reconstructing situations or images seen or heard before, relying on the coordinated work of various senses. Increasing the precision of detection.			
Increasing the precision of perception. Singling out properties of objects (analysis); comparison, identification, differentiation; classification, ordering according to various properties, using various senses consciously. Increasing the range and duration of attention; conscious, directed attention. Recognizing common properties; denying properties.			
Sorting according to two criteria; divided attention; paying attention to two or more criteria at the same time.			
Precise observation of static situations, singling out the most important aspects. E.g. completing puzzles based on situations or images; drawing; simplified puzzles. Making simplified drawings, conserving the relevant elements.		Modelling; the depiction of concepts and logical relationships. Using sets as tools.	

<table>
<tr><th rowspan="2">Grades 1-4</th><th colspan="2">Grades 5-8</th><th rowspan="2">Grades 9-12</th></tr>
<tr><th>Grades 5-6</th><th>Grades 7-8</th></tr>
<tr><td colspan="2">The introduction of number symbols.</td><td colspan="2"></td></tr>
<tr><td colspan="3">Experience-based preparation for the interpretation of binary operations; the interpretation of binary operations (as a synthesis of various types of concrete operations).</td><td></td></tr>
<tr><td></td><td colspan="2">Grouping numbers, plane figures and solids.</td><td></td></tr>
<tr><td>The observation of changing situations. The representation of operations through objects.</td><td colspan="2">Carrying out experiments (e.g. probability experiments); observing events several times.</td><td></td></tr>
<tr><td></td><td colspan="3">The creation of geometric works freely and through copying; carrying out transformations, recreating the original "image".</td></tr>
<tr><td colspan="4">The observation of changing situations and events with a temporal aspect, repeating them in words; ability to focus on changes (analysis); realizing temporality.</td></tr>
<tr><td colspan="4">Noting down, ordering and depicting data.
Noting down the associated data pairs of quantities that change together: creating functions and series based on the results, interpreting them etc; attempting to find a mathematical model that describes the changes.
Understanding the constant and changing properties observed in the course of geometric transformations.</td></tr>
<tr><td colspan="3">Observing and interpreting a position or event described in text; separating relevant information from irrelevant information.
Directing attention; increasing its duration.</td><td></td></tr>
<tr><td colspan="4">Translating a situation or event described in text to mathematics: choosing, finding or creating mathematical models, and interpreting them with regard to the situation in question. (E.g. simplified drawings, number tasks, open sentences, sequences, tables, methods for solving equations, graphs.)</td></tr>
<tr><td colspan="3">Drawing, puzzle solving and text interpretation: remembering an event that was played out, listened to or read.</td><td></td></tr>
<tr><td colspan="4">Interpreting symbols (drawings and objects) through activity, guessing an event.</td></tr>
<tr><td colspan="4">Interpreting a mathematical "text" made about a situation or event described in words. The interpretation of concrete mathematical models (open sentence, line segment drawing, etc.) by writing a word problem that matches the model.</td></tr>
<tr><td colspan="4">Conscious observation in abstract situations; analysis, identification, differentiation, conservation of restrictions: observation of prescribed properties, recognized properties and relationships, changing criteria and conditions; choosing criteria independently.</td></tr>
<tr><td colspan="4">Listing scenarios, arguing based on the independent choice and manipulation of considerations, criteria and parameters (e.g. combinatorics, equations, constructions).</td></tr>
</table>

2.2. Imagination (imitative, creative)

<table>
<tr><th rowspan="2">Grades 1-4</th><th colspan="2">Grades 5-8</th><th rowspan="2">Grades 9-12</th></tr>
<tr><th>Grades 5-6</th><th>Grades 7-8</th></tr>
<tr><td colspan="4">Imagining examples of forming and fully formed mathematical concepts and relationships; identifying and creating examples of such relationships.</td></tr>
<tr><td colspan="4">Imagining the real situations, events and relationships based on numbers, operations and other mathematical symbols (e.g. images, line segment drawings, diagrams, graphs, tables, operations, open sentences). Mentally picturing the quantities associated with standard units of measurement and their multiples and fractions.</td></tr>
</table>

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Imagining objects, arrangements and pictures from a different point of view; e.g. building geometric solids based on various views and projections.			
Imagining objects meeting certain criteria before preparing them; making sketches; comparing the real object with the imagined one. Construction using various construction tools and procedures.			
Moving objects in the imagination (e.g. imagining cutting up something and moving its pieces; imagining folding and cutting a net; imagining various plane sections of the same solid).			
Imagining the solution of a problem that can be solved by mathematical means, putting forward an estimation or conjecture; after solution, comparing the expected and the real solution.			

2.3. Memory

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Motor memory (orientation based on remembered movements; remembering shapes based on touch, using large movements and finer movements; developing number memory in association with movements, remembering logical relationships based on an executed series of movements; basic constructions; remembering rhythms, patterns and structures created by or associated with movement; sequences). Auditive memory.			
Visual memory in static situations (remembering the overall picture of an image or situation; the size of standard units of measurement; remembering sets: cardinality, members, distribution, order; remembering patterns and structures of static images; remembering the position and shape of symbols; the graphical representation of functions).			
Remembering events (that had been played out or had taken place; remembering the details and chronology; combinatoric counting; remembering the events of experiments and observations; making, using and re-reading notes, drawings and symbols to aid memory; settling on notation habits).			
Remembering oral and written information and questions (recalling information; remembering data and criteria for the duration of problem solving; remembering names, symbols, notation and other agreed-upon elements, recalling definitions).			
Remembering stories or problems the students were told or read; recalling the substance of word problems with precision; preparing and reading graphics, sketches and drawings. Remembering data and logical relationships together.			
Conscious memorization and recalling of knowledge; learning about the tools that can help memory. Memorizing and recalling facts. Using logical relationships to aid in retaining knowledge, making notes, reading them back; conscious practice; recalling knowledge in response to questions, when creating original works, when learning new knowledge, integrating new knowledge and when solving problems. Remembering procedures and methods.			
Remembering understood statements, rules and logical relationships: remembering the rules of behaviour, movement and games; recalling the connections and relationships between facts, ►►		►► remembering the meaning of statements and theorems; remembering more abstract logical relationships.	
Remembering argumentation, refutations, deductions, trains of thought; applying them in new situations, ►►			►► remembering proof methods.

2.4. Thinking

<table>
<tr><th rowspan="2">Grades 1-4</th><th colspan="2">Grades 5-8</th><th rowspan="2">Grades 9-12</th></tr>
<tr><th>Grades 5-6</th><th>Grades 7-8</th></tr>
<tr><td colspan="2">Comparison, identification, differentiation; consciously recognizing, finding, marking differences and identical elements.</td><td></td><td></td></tr>
<tr><td colspan="2">Classification based on one criterion and based on two (or more) own criteria, based on stated criteria and criteria recognized based on existing sorted sets.</td><td></td><td></td></tr>
<tr><td colspan="3">Ordering. Creating (continuing, completing) sequences in order to deepen the understanding of a subjective or objective property and characterize the ordered elements.</td><td></td></tr>
<tr><td colspan="2">Assessment, decision:
- based on practicality (assessing problems based on whether they contain unnecessary or contradictory data or not, whether they contain enough information or not; whether an agreed-upon convention or symbol or (e.g. cm^2) is practical or not, whether a learned procedure or a found solution method is practical or not);
- based on content (assessment of situation based on whether it is deterministic or dependent on random chance; assessment of statement based on whether it makes sense or not; based on whether it is unambiguous or not; based on its importance; based on whether it is consistent with experience or with another statement or not).</td><td colspan="2">Assessing two statements based on the relationship between their meanings (they are independent of each other; they mean the same thing; they are mutually exclusive but are not denials of each other; they are denials of each other); assessing a solution based on whether or not it is consistent with the criteria (reality, practical needs).
Assessment based on values (being unambiguous, clear, simple, beautiful, usable in practice); assessing information based on whether it is important and usable in the given situation for deciding the question at hand or solving the problem at hand.</td></tr>
<tr><td colspan="2">Assessing statements based on their truth value. Closing open sentences by substitution.</td><td colspan="2">Assessing deductions based on correctness. Statements made using quantification.</td></tr>
<tr><td colspan="3">Understanding:
- instructions with known content; understanding instructions given in a new situation based on an example and without an example;
- understanding the content of a question in a given material situation and regarding a known problem (interpreting a situation, change, word problem or other problem by playing it out, completing a puzzle, making exact or simplified drawings or paraphrasing; understanding data, ignoring irrelevant data and emphasising and recording important data, grasping their relationships and understanding their roles; understanding and using notations regarding data and logical relationships; playing out a process in reverse; understanding temporality).</td><td></td></tr>
<tr><td colspan="4">Understanding the relationships of concepts (subordination, relationship of elements of equal rank; understanding systems; methods of classification).</td></tr>
<tr><td colspan="4">Understanding mathematical models (e.g. numbers, operations, open sentences, sequences, functions, tables, drawing-based models, diagrams, graphs, charts); transcoding into other models. Naming examples or problems to fit a particular model.</td></tr>
<tr><td colspan="4">Following trains of thought; reversing simple trains of thought. Seeking and understanding causal relationships. Thinking about one's own thinking processes.</td></tr>
<tr><td colspan="3">Deduction of other truths (finding or creating examples or counterexamples; one-step intuitive deduction regarding the truth of other statements, without consciously expressing the thought processes in words yet), ►►</td><td>►► proof.</td></tr>
</table>

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Abstraction, concretization (creating concepts, classification under a given concept). Individual experiences and models; interpreting general experience and universal models (e.g. counting using fingers; number systems, various forms of numbers, expressions and statements made in various forms with the same meaning; properties of operations; calculation based on the properties of operations and their relationships, using analogy). Classification of new elements in existing inner frame of reference: recognition. Finding and creating new concrete items to match the grasped conceptual features. Conceptual generalization.			
		Analogy-based thinking and its limitations.	
		Idealizing abstraction (circle, triangle, quadrilateral, point, line, plane, space).	
	Generalization, concretization, finding examples and counterexamples (confirming general statements by deduction; proving, disproving: demonstrating errors by supplying a counterexample).		
Developing thinking in terms of probabilities. Developing statistical thinking.			
The way language and thinking are intertwined; their interactions.			
Words as designators of a class of elements associated with a complex, a pre-concept or a concept. Colloquial expressions and technical terms. The role, creation and use of signs. The development of reading aimed at understanding and analysis. Implementing instructions received in writing, reconstructing a described situation.			
	Gradually learning and deepening the understanding of the language of mathematical logic. Comparing the meaning of colloquial conjunctions and the expressions used in mathematical logic; accepting the linguistic characteristics of mathematical logic.		
Trains of thought. Verbalizing actions (e.g. carrying out a creative process and then listing the actions in chronological order; repeating the manual solution of a problem in words). Going through an imagined activity in thought and in words (e.g. orally describing the plan for a creation or problem solution). Following a train of thought by listening.			
Playing out a process the student had experienced, ►►	►► describing it in free text; (wording arrived at together), ►►	►► describing it in words and symbols.	
	Interpreting the train of thought of the description of a previously experienced process (e.g. recalling the process of a construction based on a description of the steps, comparison with own memories and notes, comparing the contents of the notes; reviewing the description to see if it matches the previously experienced process).		
		Using a known train of thought as a panel in a new process. Dividing up a train of thought.	
Following, interpreting, drawing up algorithms.			

2.5. The systematization of knowledge

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
The interrelationships of concepts: subordination, relationship of elements of equal rank. Learning about tools and algorithms that aid in systematization.			Definitions, theorems. Developing a conscious understanding of the relationships between the various areas of mathematics.

2.6. The use of knowledge media

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
The expedient use of the manipulative tools of learning (e.g. coloured rod sets, measuring tapes, logical sets, toys, number tables, modelling sets).			
Using books (e.g. mathematics pocketbooks, technical books, popular science books, encyclopedias, problem books, tables, formula collections), calculators and computers.			
Help from the teacher and peers (e.g. organizing learning, providing a good working atmosphere, providing interesting problems and projects, raising interesting questions, organizing study circles, camps and competitions).			
Learning about teaching-learning technologies, using them in productive, interactive ways.			
Openness and self-confidence required for learning new things.			

3. The application of knowledge

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
The direct application of new or refreshed knowledge, information and realizations in implementing simple commands and making decisions.			
Recalling and using existing knowledge, information and realizations in situations that are analogous to the learning situation.			
Recalling and using older knowledge, information and realizations in situations that are novel; conjectures and confirmation.			
Using knowledge in gaining new knowledge ►► Associating new experiences with pre-concepts and concepts.	►► in everyday life and in the context of other subjects (e.g. percentage, area, surface and volume calculation, relative frequency, probability), ►►	►► in argumentation, in phrasing conjectures and justifications, in proving, disproving and creation (e.g. the use of transformations in construction), ►►	►► with regard to certain professions.

4. Handling and solving problems

<table>
<tr><th rowspan="2">Grades 1-4</th><th colspan="2">Grades 5-8</th><th rowspan="2">Grades 9-12</th></tr>
<tr><th>Grades 5-6</th><th>Grades 7-8</th></tr>
<tr><td colspan="4">The recognition of the problem (experiencing a problematic situation); sensitivity to problems.</td></tr>
<tr><td colspan="2" rowspan="5">Understanding a problem described in a situation or story or read about; using various techniques aiding understanding (playing out in a natural situation, creating an image, playing out by putting items alongside each other, having a conversation about the situation, phrasing questions, making a conscious mental note of the data that is relevant to the problem and separating it from unimportant elements).</td><td colspan="2">Clashing known elements and unknowns; phrasing conjectures and questions. Reviewing a simple problem.</td></tr>
<tr><td colspan="2">Willingness to solve the problem; taking responsibility. Trying a new approach after an unsuccessful solution attempt. Looking for the cause of failure (e.g. one condition was overlooked).</td></tr>
<tr><td colspan="2">Looking for an easier problem of a similar nature that has already been solved.</td></tr>
<tr><td colspan="2">Seeking solution procedures independently, taking solution attempts and guesses freely, comparing them with the information supplied and with reality.</td></tr>
<tr><td colspan="2">Choosing, seeking or creating a mathematical model that fits the problem. (Dividing the problem up into parts; reviewing a complex problem. Rephrasing into a different, known problem, looking for an analogy.)</td></tr>
<tr><td colspan="4">Solution within the mathematical model. Knowledge of mathematical models (e.g. open sentences, graphs, sequences, functions, graphical representation of functions, computer programs, statistical analysis), their method of application and limitations (precision, interpretability).
Self-checking; taking responsibility for results.</td></tr>
<tr><td colspan="2">Seeking various solution methods, comparing alternative solutions, ►►</td><td colspan="2">►► choosing the solution method (methods) most suited to the problem; justification.</td></tr>
<tr><td colspan="2">Applying the solution to the original problem. Comparing the result to the criteria, the projected result and reality, ►►</td><td colspan="2">►► discussion. (Enumerating possibilities. In the course of comparison with criteria, a conscious realization of how and in what respect the criteria affect the result. How does the solution change if one of the criteria is eliminated or modified?)</td></tr>
<tr><td colspan="4">Providing an answer orally, and later in writing as well.</td></tr>
</table>

5. Creation and creativity: creation without assistance, based on own plans; creation according to prescribed conditions; restructuring

<table>
<tr><th rowspan="2">Grades 1-4</th><th colspan="2">Grades 5-8</th><th rowspan="2">Grades 9-12</th></tr>
<tr><th>Grades 5-6</th><th>Grades 7-8</th></tr>
<tr><td colspan="4">Creating objects freely; by copying, following certain criteria.</td></tr>
<tr><td colspan="4">Phrasing statements and questions regarding an image, a situation or an event orally and in writing. Phrasing own thoughts; creating, phrasing, saying aloud and writing down ideas, definitions and theorems.</td></tr>
<tr><td colspan="4">Creating collections in accordance with pre-established criteria; creating sets, establishing the defining feature; establishing the opposite feature as the shared and defining feature of the complement set.</td></tr>
</table>

<table>
<tr><th rowspan="2">Grades 1-4</th><th colspan="2">Grades 5-8</th><th rowspan="2">Grades 9-12</th></tr>
<tr><th>Grades 5-6</th><th>Grades 7-8</th></tr>
<tr><td colspan="2">Creating names, notations, symbols (one-off names using colloquial words to denote ideas or pre-concepts; one-off notations), ►►</td><td colspan="2">►►creating concepts (synthesizing the shared, defining, relevant properties of members of collections; classifying new examples, identifying counterexamples based on defining features).
The modification of concepts based on new experiences and knowledge; expanding concepts into new concepts.
Creating concepts through specialization.</td></tr>
<tr><td></td><td colspan="3">Creating systems: ordering elements based on various criteria; using and creating systematization tools (tree diagrams, diagrams of distance travelled, tables). Transforming a created system. The combinatorical approach.</td></tr>
<tr><td colspan="4">The approach of number systems.</td></tr>
<tr><td colspan="4">Creating sequences. Ordering data and elements collected through observation, measurement, counting or calculation into sequences; examining the regularity of the properties of the generated series (e.g. periodical series, arithmetic and geometric series). Continuing/complementing a sequence based on known or recognized rules. Establishing the rule governing a sequence by generalizing the relationship that exists between the elements of the series; verifying the rule.</td></tr>
<tr><td></td><td colspan="3">Creating tables.
Ordering data pairs or data triplets collected through observation, measurement, counting, calculation or experimentation (e.g. into a table); examining their relationships.
Supplying the data missing from a table based on a known or recognized rule or logical relationship. Establishing the rule governing a table by generalizing the relationship that exists between the element pairs (triplets) of the table; verifying the rule.</td></tr>
<tr><td colspan="4">Creating a model in order to understand a situation: playing out, mimicking, creating pictures, simplified pictures, simplified puzzles, line segment drawings and graphs to interpret a problem or word problem.</td></tr>
<tr><td colspan="4">Creating and interpreting models associated with concepts. Using natural numbers as models (as a representation of different conceptual elements – number of things, measurement, value, signal), using fractions, negative numbers, whole numbers and rational numbers as models; the number line; the mathematical models of arithmetical operations as events and relationships; equations, inequalities; relations, functions and sequences as models; drawings and diagrams as models.</td></tr>
<tr><td></td><td>Other algebraic models.
Geometric models.</td><td colspan="2">Coordinate geometry models.
Probability models.
Combinatorial models.
Statistical features.</td></tr>
<tr><td colspan="4">Creating models in order to solve a problem (playing it out, mimicking, creating and interpreting/reading simplified pictures, simplified puzzles, line segment drawings, graphs, number problems, open sentences, sequences and tables in order to solve a problem or word problem; consciously coordinating the elements of the problem and the model).</td></tr>
<tr><td colspan="4">Transcoding between different models.</td></tr>
<tr><td colspan="4">Formulating conjectures; divergent thinking. (Imagining, projecting the "result" of a problem after understanding it; formulating and noting down a conjecture, checking it after arriving at the solution. Estimation. Proposing new possibilities, questions and problems, changing criteria.)</td></tr>
</table>

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Building up a train of thought (e.g. "solution plan" for a word problem). Interpreting and consciously viewing manual activities as mental steps. Dividing up a problem into subproblems after understanding it with or without using a model; ordering the subproblems e.g. based on the time each takes to solve; consciously considering the resulting plan by saying it out loud, writing it down or drawing a series of symbols (process planning). Determining the method of plan preparation. Creating a strategy.			
Implementing the solution. (Carrying out the steps of the planned solution; interpreting the partial results, applying the solution to the original problem, providing the answer with or without a discussion.)			

6. Will-based, emotional control, the ability to self-improve, values associated with living together

6.1. Communication

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Pre-linguistic communication: playing out things, combining items as puzzle pieces and mimicking to express thoughts; understanding such communication.			
Using names, conventions, notations: using and accepting colloquial words to designate pre-concepts; simple technical terms and notations to designate forming and formed concepts; learning exact expressions (e.g. numbers and their symbols; operation symbols, equation and inequality symbols, measurements, units of measurement).			
	Gradually learning the linguistic and logical structures necessary for learning mathematics. Understanding and accepting the differences, values and limitations of colloquial language and mathematical language.		
	Attempting to understand others' thoughts (looking for or requesting examples and counterexamples; requesting an explanation, making attempts at paraphrasing and making simple deductions). Arguing others' thoughts, civilized argumentation.		
	Expressing and recording own thoughts (expressing them orally; writing and interpreting mathematical texts, making notes and reading them back; keeping notebooks).		
	Making an effort to make others understand one's own thoughts (oral argumentation: colourful justification; simple proof; written argumentation: providing proof in writing, using symbols; phrasing conjectures, confirming conjectures, being able to reject conjectures; emphasising the basic concept of the proof).		

6.2. Cooperation

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Participating in joint work with others (in pairs, small groups and larger groups); cooperation, paying attention to each other; individual and joint responsibility.			

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Planning, organizing and sharing work.			
Taking into consideration the abilities and needs of the individual in order to reach the common goal, and respecting them in the interest of the individual's development; tolerance and mutual assistance. Understanding and appreciating the value of the roles in shared work.			
Developing argumentation and expression skills. Interpreting, evaluating and coordinating the partial achievements of participating partners. Cooperation on projects.			

6.3. Motivation

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
The drive to gain experiences and knowledge independently, refine one's abilities and become more educated. (The experiences of "I know it, too", "I can solve it, too" and "I came up with that" are some of the strongest motivators of development. With the right attitude from the teacher, the desire to become more independent and promote one's own values can become a stronger motivator than external motivation; what is more, it can eventually make external motivation superfluous.)			
The desire to get to know the world. (Initially, mathematical knowledge contributes directly to learning about the objects and phenomena of the world.) They provide tools and methods for observing, emphasizing various properties and describing objects and phenomena. Curiosity about one's own direct – and gradually, more distant – environment can provide motivation for learning.)			
The desire to find out about mathematical values and achievements. (Utility in other sciences, real life and the interest/beauty held by the thoughts, trains of thought, patterns, structures, etc. can make the subject attractive to students.)			
A desire to get to know mathematical methods and tools. (Mathematical methods and tools can have an impact in numerous fields of thought.)			

6.4. Self-knowledge, self-assessment, reflection, self-control

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Self-knowledge. Knowing one's own values (e.g. precision, adhering to plans, monotony tolerance, perseverance, failure tolerance, ability of self-expression, self-discipline, individual responsibility, curiosity) and limitations and developing a conscious awareness of them; learning techniques to compensate for them. Learning about the components of abilities, learning about, recognizing and consciously considering thought processes. Reflection.			
Self-assessment. Self-checking. Emotional reactions and their control. Self-motivation. Self-regulation.			

7. Acquiring mathematical experience, the principles of the structure of mathematics

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Gaining experience, developing concepts, argumentation.	Separating colloquial and mathematical concepts, generating concepts.	Intuitively understanding the relationships between mathematical topics.	

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
	Function relationships and random relationships. Idealization		Creating models within mathematics; modelling problems outside of mathematics.
			The need for unambiguous expression; e.g. using concepts with strong descriptive power, the necessity of introducing definitions, learning the defined concepts, creating definitions.
			Applicability to new cases and to every case, extension to special cases; the principle of permanence (the importance of algebraic language; expanding the concepts of exponentiation and trigonometric functions).
			Illustrating the creation of axioms on a simple example.
			Mathematics as part of our cultural heritage.

C) GENERAL COMPETENCES

Grades 1-4

1. Methods of thinking, sets, mathematical logic, combinatorics, graphs

1.1. Sets

- Deciding if a given object belongs to a given set.

1.2. Mathematical logic

- Interpreting changes in a simple text with mathematical content. Determining the truth value of statements.

1.3. Combinatorics

- Ordering a few elements, finding all cases (by repeated trials).

2. Number theory, algebra

2.1. Numbers, measurement, units of measurement

- Reading and writing numbers (up to 10,000). Place values, digits and real values.
- Negative numbers in everyday life (temperature, debt).

- Fractions in everyday life (fractions with 2, 3, 4, 10, 100 as denominator).
- The place of numbers on the number line.
- Measuring length, capacity, mass and time. Units of measurement; simple conversions.
- Rounding. Measuring instruments.

2.2. Operations
- Mathematical symbols +, –, •, :, =, <, >, ( ).
- Mental calculations up to 100.
- Sums, differences, products, quotients. Properties of operations. The order of operations.
- Addition and subtraction of four-digit numbers, multiplication with two-digit numbers, and division with one-digit numbers in writing.
- The checking of operations.
- Word problems, solution plans, estimation, verification.

2.3. Number theory knowledge
- Odd and even numbers, multiples, divisors, remainders.

2.4. Algebraic expressions
- The use of symbols to note down mathematical texts, calculating the unknown symbol.

3. Geometry

3.1. Elements of space
- Lines. Parallel and perpendicular lines. Measurement.

3.2. Plane figures
- The creation, recognition and characteristics of triangles, squares, rectangles, polygons and circles.

3.3. Solid figures
- The creation, recognition and characteristics of cubes, cuboids and spheres.

3.4. Transformations
- Figures with reflection symmetry; reflection symmetry.

3.5. Perimeter, area
- The perimeter and area of squares and rectangles. Measurement, calculation, units of measurement.

4. Functions; the elements of analysis

4.1. Sequences
- Recognizing and following rules. Increasing and decreasing numerical sequences.

4.2. Defining functions and generating their graphical representations
- Noting down experimental data and entering it into tables. Reading tables.

5. Statistics, probability

5.1. Statistics
- Collecting and recording data; reading diagrams.

5.2. Elements of probability calculation
- Probability-based games. (Certain. Impossible. Possible but not certain.)

6. Interesting stories from the history of science and the world of mathematics; famed mathematicians.

- Rubik's cube

Grades 5-8

1. Methods of thinking, sets, mathematical logic, combinatorics, graphs

1.1. Sets

- Sorting into sets based on various criteria. The concept of subset.
- Union and intersection of two finite sets.

1.2. Mathematical logic

- Analysis of simple texts with mathematical content. The truth content of statements.
- Phrasing definitions, theorems.

1.3. Combinatorics

- Ordering and sorting tasks related to listing all cases.

2. Number theory, algebra

2.1. Numbers, measurement, units of measurement

- Rational numbers. Writing, reading and comparing numbers; placing them on the number line.
- Opposite numbers, absolute values, reciprocals, standard forms.
- Measurement; the use of measurement units; conversion. Proportionality, inverse proportionality

2.2. Operations

- Basic operations with rational numbers in writing and with calculator.
- Parentheses, the reliable application of the order of operations. Correct and meaningful rounding; estimating results; using estimation for the purpose of checking.
- Percentage calculation.

2.3. Number theory knowledge

- Divisors, multiples, common divisors, common multiples. Rules of divisibility (2, 3, 5, 9, 10, 100).
- Prime numbers, composite numbers.

2.4. Algebraic expressions

- The substitution value of simple algebraic integer expressions. Merging.

2.5. Exponential, root, logarithm

- Squaring; calculating square roots; exponentiation of integers with positive integer exponents.

2.6. Equations, inequalities, systems of equation

- Linear equations and inequalities. Solving simple word problems with deduction and equations; verification.

3. Geometry

3.1. Elements of space

- Point, line, straight line, half-line, line segment, plane, plane sections delimited by angles. The distance between two points and between a point and a line.

3.2. Plane figures

- Triangles and their categories. Quadrilaterals, special quadrilateral (trapezoids, parallelograms, kites, rhombuses). Polygons, regular polygons. The circle and its parts. Sets of points that meet given criteria.
- The sum of the interior angles of the triangle and the quadrilateral. The circle and its tangent. The application of Pythagoras' theorem.

3.3. Solid figures

- Right prisms, right circular cylinders, right circular cones, right regular pyramids, spheres.

3.4. Transformations

- Reflection symmetry and point symmetry; translation by construction.
- Recognizing reduction and enlargement in everyday situations (without construction).

3.5. Construction

- Halving line segments, halving angles, copying angles. Perpendicular and parallel lines; constructing the previously learned plane figures.

3.6. Coordinate geometry

- The coordinate system; depiction of points.

3.7. Perimeter, area

- The perimeter and area of triangles, previously studied quadrilaterals and circles; practical applications.

3.8. Volume and surface area

- Calculating the surface area and volume of right prisms, and right circular cylinders.

4. Functions; the elements of analysis

4.1. Sequences

- Continuing sequences according to a known rule.

4.2. Defining functions and generating their graphical representations

- Reading, interpreting and preparing graphs: drawing the graphical representation of a rule defined in text or in a mathematical format, using a value table (e.g. linear and squared function).
- The graphical representation of proportionality.

4.3. Characterising functions

- Reading from the graph: increasing or decreasing value, greatest and smallest value.

5. Statistics, probability

5.1. Statistics

- Preparing and interpreting graphs; reading tables.
- Calculation of the arithmetic mean.

5.2. Elements of probability calculation

- Probability experiments, noting down the results. Frequency. Calculation of relative frequency.

6. Interesting stories from the history of science and the world of mathematics; famed mathematicians.

- Euclid, Pythagoras, René Descartes, Farkas Bolyai, János Bolyai.

Grades 9-12

1. Methods of thinking, sets, mathematical logic, combinatorics, graphs

1.1. Sets
- Defining sets and generating their graphical representations Subsets.
- The number of elements (cardinality) of finite sets. Union, intersection, difference, complement.

1.2. Mathematical logic
- Interpreting (non-scientific) texts with mathematical content.
- The correct use of "all" and "there is".
- The logical value of statements. Denying statements.
- Logical operations: "and", "or", "if...then".
- Declaring theorems and proving them (directly and indirectly).

1.3. Combinatorics
- Selection and ordering, working from a finite number of elements.

1.4. Graphs
- An accessible definition of the concept of graphs; simple applications.

2. Number theory, algebra

2.1. Numbers, measurement, units of measurement
- Real numbers. Using the scientific notation of numbers.
- Numeral systems; numbers in the binary numeral system.
- Proportional splitting.

2.2. Operations
- Percentage calculation in practice. Meaningful rounding of the results of calculation with calculators.

2.3. Number theory knowledge
- Prime decomposition, greatest common divisor, least common multiple, coprimes.

2.4. Algebraic expressions
- Operations with simple algebraic expressions.

2.5. Exponential, root, logarithm
- Powers with fractional and negative exponents. Identities in exponentiation.
- Roots.
- Interpretation of the logarithm.

2.6. Equations, inequalities, systems of equation
- Systems of linear equations with two unknowns. Quadratic equations. Linear inequalities.
- Word problems. Simple square root, exponential, logarithmic and trigonometric equations (equations requiring the direct application of a concept and word equations taken from real life).

3. Geometry

3.1. Elements of space
- Distance of solid figures in space.

- Dimension.

3.2. Plane figures
- The classification of triangles and quadrilaterals. Altitudes, centroid, incircle and circumcircle of triangles.
- The incircle and circumcircle of regular polygons.
- Thales' theorem.

3.3. Solid figures
- Pyramidal frustums, conical frustums.

3.4. Transformations
- Reflection with respect to an axis and a point, translation, rotation around a point. Congruence and similarity. Applications.

3.5. Vectors
- The concept of the vector; addition and subtraction of vectors; dot products.
- Vector decomposition. Vectors in the coordinate system. Using vectors in problems.

3.6. Trigonometry
- Applying trigonometric functions in triangles. Practical mathematical problems.

3.7. Coordinate geometry
- The distance between two points. The equations of lines and circles.

3.8. Perimeter, area
- The perimeters and areas of figures learned earlier; practical applications.

3.9. Volume and surface area
- Calculating the surface area and volume of solids learned earlier.

4. Functions; the elements of analysis

4.1. Sequences
- Sequences: arithmetic and geometric sequences.
- Compound interest, investment and credit.

4.2. Defining functions and generating their graphical representations
- Functions defined in a colourful manner.
- Defining functions and representing them in a coordinate system.
- Linear and quadratic functions, inverse proportionality.
- Basic exponential, logarithmic and trigonometric functions.

4.3. Function transformations
- $f(x)+c$; $f(x+c)$ and $c \cdot f(x)$ representations.

4.4. Characterising functions
- Reading range, zero value, extreme value, monotonity and periodicity from graphs.

5. Statistics, probability

5.1. Statistics
- Ordering data sets, interpreting sampling (frequency-based, relative frequency-based, distribution-based) diagrams and graphs, mean values.

5.2. Elements of probability calculation
- Random events; experiment.
- Relative frequency and probability.

– Calculating probabilities using the classical model.

6. Interesting stories from the history of science and the world of mathematics; famed mathematicians.

– Thales, Euler, Carl Friedrich Gauss, Blaise Pascal, Georg Ferdinand Cantor, Pál Erdős, John von Neumann, Alfréd Rényi.

II.3.4. MAN AND SOCIETY

A) PRINCIPLES AND GOALS

The subject area "Man and society" gives an insight into the history, principles and main institutions of social co-existence and into the process of civilization and culture. Its principal fields include: history; ethics; homeland and peoples; social, civic ad financial knowledge, philosophy. Altogether, they play a key role in the successful performance of the tasks of public education as they significantly help students become responsible and active citizens of Hungary, gain adequate self-knowledge and reliable ethical judgement, become capable of independent orientation, forming independent opinions and independent action, and they get to know and understand natural, social and cultural phenomena and processes.

The processing of the contents of knowledge of society and citizenship serves as a reliable basis for conscious participation in public life and – through the establishment of key competences – strengthens respect for the values of democracy (among others, the rule of law, participation in decision-making, social justice, autonomy, solidarity, tolerance, co-existence).

The major general development goals of the subject area "Man and society" are as follows:

- education aimed at the establishment of respect for privacy and human rights and at the internalization of ethical values;
- the formation of, calling conscious attention to and development of the sense of national identity and civic knowledge;
- calling conscious attention to the values of social justice, fairness and solidarity;
- to create an openness towards social and economic problems;
- to establish responsibility for nature and sustainability;
- to get to know and accept other cultures, in particular, peoples and religions of the Carpathian basin;
- to understand the operation of the democratic institutional system;
- to develop knowledge and skills related to equal treatment and equal opportunities;
- to establish an approach and a way of thinking based on social science; to form and develop skills required for the examination and analysis of problems of this nature.

The general knowledge of social science has many aspects. For the ability of reflection and critical assessment, students need not only knowledge but also intellectual tools as this is how they can apply their acquired knowledge efficiently.

In grades 1-4, students study the contents of this subject area through reading and activities. In this phase of education, students may acquire the basic elements of a historical point of view (time, location, persons) and the basics of ethical thinking through learning about personal and family stories and the major events and persons of Hungarian history.

In grades 5-8, the principle is to teach history by relating and presenting stories and with activity-centred methods, one of its main tools being the presentation of important historical persons. An important factor is to convey the historical, cultural and religious values of the individual's immediate and wider environment and to familiarize students with the key elements of the professions related to the research of the past (historian, archaeologist, linguist). This effort is supported by visits to museums and other public collections (e.g. archives) and by the knowledge of the functions and roles of such institutions. In the second half of this phase of education, the focus is on the improvement of historical thinking, while working with historical documents is aimed at the internalization of social and civic norms.

In grades 9-12, teaching is based on a source- and activity-centred way of the acquisition of the material to be taught. Within this framework, students are required to learn about the general characteristics of the different (textual, visual and audiovisual) sources of

the historical past and the aspects of dealing with such sources and to become able to identify the author's point of view in various source types. A role of paramount importance is attributed to problem-centred and analytic teaching, which helps students understand the historical roots of historical situations and of contemporary problems and phenomena.

Prioritized development fields

History: The teaching of history achieves its specific and complex system of objectives if it can encourage interest in the past and can offer diverse evidence for the fact that the knowledge of the historical past serves the real understanding of the present. The discovery, interpretation and presentation of historical events contributes to the acquisition of skills which help students become successful adults. They serve as a basis for conscious participation in public life and strengthens respect for the values of democracy (among others, the rule of law, participation in decision-making, social justice, autonomy, solidarity and tolerance).

The learning of history enhances the personal experience of belonging to smaller or greater communities: to the family, to the hometown or village, to the Hungarian nation, to Europe and to the human civilization. Through offering information on our heritage, the study of history supports orientation in the present and preparation for the future. General historical knowledge is made up of the most important contents that are preserved in our shared memory. Dealing with these contents in a scientific manner ensures that public education gives a valid picture – which, at the same time, is in harmony with students' age characteristics and scope of interest – of the operation of forces which influence history, of the life, works and life conditions of past generations, of the ideas and beliefs that determined thinking in each era as well as of their origins and the reasons for their evolution. It is important to ensure that the encounter with the historical past and the learning about conclusions drawn from history is a personal experience for students. At the same time, a problem-centred approach to history offers an opportunity for students to develop the skill of relating to each other and to create a positive self-image.

A principal objective of teaching is to establish a differentiated way of historical thinking with the flexible adaptation of data, facts, concepts and the constructions (schemes) offered by the science of history and with the application of the examination procedures of the science of history (the recognition and formulation of the historical problem, criticism, interpretation). Another objective of teaching is to make students understand in what ways and why people in the past felt, thought and acted differently than today's people do. This is conditional upon a gradual extension of knowledge of the key concepts that promote the comprehension and interpretation of history.

Key historical terms (historical time, change and continuity, causes and consequences, historical sources, facts and evidence, interpretation, significance, historical point of view) help students understand explanations, conclusions and evaluations related to the past, systematize historical knowledge, give increasingly complex answers to questions about the past and about getting to know the past, compare eras and events, identify links and formulate independent conclusions and opinions.

Besides the key concepts that ensure *the interpretation of contents,* there are key concepts that *represent historical content* (e.g. society, social class, layer of society, form of state, type of state, culture, empire) and – by denoting the concepts of the shared characteristics of the above mentioned phenomena – help students understand, systematize, compare and evaluate the processes and events of the past.

A principal component of the meaningful learning of history is the continuous extension and enrichment of the knowledge of the key terms which facilitates the

interpretation of contents and express the contents, as well as the application of this knowledge in various contexts.

Ethics: "Ethical education" denotes the cultivation of human ethical sense, which, as a task, does not specifically belong to any one subject. The school environment, the teacher as a model and the life of the class community gain ethical significance as a unified whole. The dialogue between the representatives of various views about the principles of proper behaviour and good decision has been present throughout the history of human civilization. The task of ethics is to teach students about this tradition. It does not offer ready-made answers; its aim is the recognition and interpretation of questions. Offering a many-faceted approach to the meaning of proper ethical behaviour, it helps students differentiate between the good and the bad. Ethical education discovers those value principles which serve as a basis for the generally accepted norms of social co-existence, ensures that these principles can be expressed with concepts, and, at the same time, promotes the recognition of the value of cultural diversity.

Homeland and peoples: "Homeland and peoples" covers the well-established elements of Hungarian national culture, Hungarian folk tradition and the cultural memory, customs and current culture of national minorities living in Hungary.

It allows for experience-centred individual and communal activities which establish respect for the family, for the home town or village and for the country. It promotes the formation of the sense of identity as an individual and as a member of a family, a community, a nation and possibly a national minority, as well as a sense of history.

It calls students' conscious attention to the fact through getting to know and internalizing their own traditions and national values they may become more open to the culture of national minorities or religious communities living in Hungary, of neighbouring or related peoples and to universal values.

Society, citizenship and economy The main objective of this knowledge field is to reflect on students' social experience. It is intended to present phenomena and problems in the light of various social sciences (sociology, social psychology, politology, jurisprudence, economics, etc.) and help students interpret these phenomena and problems and draw relevant conclusions. The processing of contents requires the application of methods of skills development that are based on personal experience, establish and develop students' sense of society, ethics and law and improve their attitude towards problem solving.

Philosophy: The objective of the study of philosophy is to raise and discuss general questions about the meaning of human life and the nature of knowledge and to introduce students to the history and key figures of philosophy. Studying the philosophical texts of various eras and cultures encourages critical thinking, develops sensitivity to problems, facilitates the formation of independent opinion and improves the ability to understand other ways of thinking. The philosophical systems offer general conceptual frameworks within which it becomes possible to consider the domain of human experience as a unified whole.

Philosophical content may be processed in several ways. The focus may be on the aspect of cultural history, on the interdisciplinary nature or on chronological order, and its structure may be centred around philosophical problems or philosophical disciplines and themes.

B) DEVELOPMENT TASKS

The structure of development tasks

1. Knowledge acquisition; learning
2. Critical thinking
3. Communication
4. Orientation in time and space

The arrows in the tables (►►) mean that the activity in question continues in higher grades, with the additions indicated for the next phase of education.

1. Knowledge acquisition; learning

<table>
<tr><th rowspan="2">Grades 1-4</th><th colspan="2">Grades 5-8</th><th rowspan="2">Grades 9-12</th></tr>
<tr><th>Grades 5-6</th><th>Grades 7-8</th></tr>
<tr><td colspan="3">Acquiring knowledge from personal discussions, from the direct observation of objects, buildings and pictures, from heard and read narrative texts, from the various types of media, ►►</td><td>►► from scientific literature.</td></tr>
<tr><td>Observing human situations and life situations, ►►</td><td>►► interpreting behaviour types.</td><td colspan="2">Observing human behaviour types and life situations; drawing conclusions.</td></tr>
<tr><td>Reading short texts related to this subject area.</td><td colspan="2">Systematizing and interpreting information.
Looking for key words and key sentences in texts.
Preparing visual tools of systematization (charts, figures, drafts).</td><td>Acquiring information from written sources, statistical charts, graphs and diagrams.</td></tr>
<tr><td>Collecting information about a given topic with assistance, ►►</td><td>►► in libraries, media libraries, museums.</td><td>Independent collection of information about a given topic from various types of media; the preparation a short textual presentation of the content, ►►</td><td>►► independent systematization and interpretation of the information.
Reviewing and evaluating the available resources of information.
Planning a historical investigation.</td></tr>
<tr><td>Using atlases and children's encyclopedias
Using the acquired body of knowledge in new situations.</td><td colspan="2">Using reference books, manuals, atlases and encyclopedias.
Preparing notes of the material read with the key information highlighted.
Using the acquired body of knowledge in new situations.</td><td>Knowledge and use of major manuals, atlases and encyclopedias of history, social science, philosophy and ethics.
Preparing notes of presentations without assistance.</td></tr>
<tr><td></td><td></td><td colspan="2">The critical and conscious use of the Internet to acquire information on the history of philosophy and ethics.</td></tr>
</table>

2. Critical thinking

<table>
<tr><th rowspan="2">Grades 1-4</th><th colspan="2">Grades 5-8</th><th rowspan="2">Grades 9-12</th></tr>
<tr><th>Grades 5-6</th><th>Grades 7-8</th></tr>
<tr><td colspan="4">Independent formulation of questions about the topics discussed.</td></tr>
<tr><td>Differentiating between heroes in tales and historical persons.</td><td colspan="2">Recognizing and phrasing social-historical and ethical problems, ►►</td><td>►► a problem-centred systematization of the acquired knowledge.</td></tr>
<tr><td colspan="2">Highlighting the main information in written and oral texts, ►►</td><td colspan="2">►► defining thesis sentence; text compression; rephrasing texts on the basis of given criteria.</td></tr>
<tr><td>Differentiating between literary narratives and other fiction from true stories.</td><td colspan="2">Differentiating between the real and fictitious elements of a story.
Phrasing questions about the motivation of the acts and behaviour of persons in real stories.</td><td>Comparing historical narrative texts on the basis of the narrative type.
Examining texts, audio materials, films, etc. with regard to their historical validity.</td></tr>
<tr><td colspan="2">Understanding that there is more than one possible way of interpreting a given text.</td><td colspan="2">Discovering the layers of meaning of texts which can be interpreted in several ways.</td></tr>
<tr><td>Enumeration of the internal and external characteristics of famous persons, historical persons, heroes in literature or films, etc.</td><td>Characterization of famous persons and historical persons,►►</td><td colspan="2">►► formulation of hypotheses about the motivation of the acts and behaviour of historical persons.</td></tr>
<tr><td colspan="4">Practicing the recognition of the connection between human (historical) acts and their consequences.</td></tr>
<tr><td>Relating and acting out everyday life situations ►►</td><td colspan="3">►► from the perspectives of different persons in the situation.
Relating and acting out historical scenes from different perspectives. Recognizing and representing life situations that raise ethical questions.</td></tr>
<tr><td>Phrasing an independent opinion about events and persons,►►</td><td colspan="3">►► about social and historical events, persons and phenomena and about philosophical questions.</td></tr>
<tr><td>Examining the behaviour of historical persons, ►►</td><td>►► analyzing the operation of social groups and institutions.
Phrasing hypotheses about the motivation of the acts of individuals and groups.</td><td>Phrasing hypotheses about the background, conditions and causes of certain social-historical phenomena and institutions. Collecting arguments for and against the hypotheses, ►►</td><td>►► the critical evaluation of arguments.</td></tr>
<tr><td>Collecting arguments to support one's own opinion, ►►</td><td colspan="2">►► collecting counterarguments to refute opposing opinions, ►►</td><td>►► to refute pre-defined opinions.</td></tr>
<tr><td colspan="3">Gaining experience about the judgement of what is real, possible, impossible and probable (e.g. with regard to location, time, persons, events).</td><td>Analysis of historical and social data, models and narrative texts in terms of certainty, possibility and probability.</td></tr>
</table>

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Recognizing and identifying differences between living conditions today and in the past.	Recognizing differences and following up changes with regard to a given historical phenomenon. Comparing various types of social and historical phenomena, ►►		►► on the basis structural and functional criteria. Comparing different value systems; defining one's own values. Evaluating social and historical phenomena on the basis of one's own value system.
Examining if the author of a narrative text was a participant of or lived at time of the event described.		Formulating questions about the reliability of the source, ►►	►► about the author's biases (if any), knowledge, hidden intentions, etc.

3. Communication

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Discussing of a social or historical topic.	Clear formulation of one's own opinion; differentiating between objective argumentation and personal remarks.		
Listening to others' opinions patiently,►►	►► taking others' opinions into consideration.		Summarizing and taking into consideration others' opinions. Clarification of differences in opinion; the enrichment and development of one's own opinion.
Relating events and stories orally ►►	►► and from memory.		
Relating one's own experience ►►	►► or knowledge acquired with independent material collection and research. Giving an account of or presentation about literature, press materials, radio and television programmes,►►		►► texts from popular scientific literature and from historical sources.
Differentiating of visual, textual or other sources of information.	Formulating conclusions orally, on the basis of various types of sources of information.		Analyzing primary historical sources; discovering social and historical links.
Preparing drawings about a historical or social topic. Preparing picture collections.		Preparing drafts with drawings. Analyzing flow diagrams and other diagrams.	Preparing flow diagrams and other diagrams. Visual representation of historical and social topics. Preparing visual tools of systematization (charts, figures).
Writing short coherent	Writing compositions about a historical-social and		Writing an essay about

texts about stories.	ethical topic.	historical and social topics and philosophical questions; clear formulation of relevant questions; exposition of arguments and counterarguments; drawing conclusions.
Acting out events, stories and phenomena with movement, dance and drama.		

4. Orientation in time and space

Grades 1-4	Grades 5-6		Grades 9-12
	Grades 5-6	Grades 7-8	
Using expressions of measuring time: minute, hour, day, week, month, year, ►►	►► decade, century, millennium, generation.		Using the names of historical eras and periods.
Using expressions to define time: when I was small (went to the kindergarten, etc.), when my grandparents were children, etc., a long time ago.	Defining time with reference to a known event or phenomenon (e.g. after the Hungarian conquest of the Carpathian Basin, during the reign of King Matthias). Before Christ, Anno Domini (or Before the Common Era and Common Era).	Defining time with concrete chronological data.	
Using expressions of time: now, earlier, later, at the same time, before, a long ago,►►		►► with reference to concrete historical eras (e.g. the previous decade, in the Reform Era, in the 20th century).	
Organizing events, phenomena, objects, persons, etc. into a chronological order.			
Representing time with a clock and a calendar.	Representing time with spatial-visual tools (e.g. preparing a timeline).	Systematizing chronological data.	
Organizing the events of a story into a chronological order.	Learning about the date of some key events or phenomena. Systematizing acquired knowledge in terms of defined dates; chronological calculations. Recognizing the different chronological rhythm of various historical events (economy, culture, politics, etc.), ►►		►► analyzing their interaction. Analyzing the different chronological rhythms and interactions of world history, European history and Hungarian history.
Categorizing certain events and objects on the basis of whether they belong to the present, the past or the historical past.	Comparing the life of people who lived long ago with that of today's people. Categorizing events, persons and objects on the basis of eras. Understanding and comparing the characteristics of the individual eras.		A complex description and presentation of a given era. Illustrating the factors and significance of orientation in historical time with examples.

Grades 1-4	Grades 5-6		Grades 9-12
	Grades 5-6	Grades 7-8	
Collecting examples of the possible reference points of time (e.g. the life of a person, three generations, the time that has elapsed since the Hungarian conquest of the Carpathian Basin).	Comparing historical periods (e.g. centuries) with regard to the number and speed of changes. Comparing the life of people in various eras in terms of things that changed during their lifetime. Differentiating between fast and slow processes of change.		
Copying simple maps manually.			Preparing simple map sketches with various tools and on the basis of various information sources.
Recognizing the main elements of maps: waters, topographic symbols, state borders, settlements.	Finding well-known places on the map. Acquiring information about events and phenomena from historical maps. Estimating and calculating distance on historical maps. Preparing simple layout drawings.		Comparing the historical maps of various eras; discovering the background of changes. Getting information about the changes of historical space from maps (e.g. of population density or religion).
Finding the locations of stories on simple maps.	Showing the topographic location of events and phenomena which students have already learned about. Finding the location of some important events or phenomena on blind maps.		Selecting the atlas and online sources which are the most adequate for studying the given topic.

C) GENERAL COMPETENCES

HISTORY

Grades 1-4
1. Events of family life (birth, marriage, etc.). 2. The childhood, way of life and material culture of parents and grandparents. 3. Historical objects in the closer environment of students (museums, memorial plaques, historical monuments; objects, photographs, other documents; customs). 4. National festivals and symbols. 5. Legends from the early history of the Hungarians. 6. Historical figures of Hungary's history in the Middle Ages and in the Modern Age; the life paths of men and women. 7. The major figures of Hungarian freedom fights in the 18th-20th centuries. 8. Children and children's life in the 20th century. 9. Rescuers in the 20th century. 10. Hungarian scientists, inventors, artists and sportsmen in the 19th and 20th centuries.

Recurring and cross cutting topics

The topics below are dealt with in all grades.

Grades 5-8	Grades 9-12
Social status, way of life, living conditions	
— The education of children — Family, place of residence — Villages and towns; urbanization — Everyday life and festivals — Clothing, fashion – Diseases, epidemics►►	— The way of life and social situation of men and women — The poor and the rich — Equality; the emancipation of women — Mass media, press, propaganda — Population and demography (migration)
Society and state	
— Emperors and statesmen — Empires — Minorities, majority, national minorities►►	— Forms of state; state structure — The forms and levels of power sharing — Revolution, reform and compromise
Local and international cooperation and conflicts	
— Peace treaties, wars, warfare — Agreements, alliances►►	— Independence and subordination — Small states, great powers
The interaction of nature and technology	
— Geographic environment — The effects of the shaping and modification of nature by humans. — Transport, road network, communication — Discoverers, inventors►►	— Resources and production cultures — Conditions and consequences of technological development — Catching up; falling behind.
Cultures, religions and ideologies	
— Similarities and differences — The interaction and co-existence of peoples and religions — Principal teachings of the world religions; founders and reformers of religions — Ideas that shaped history►►	— Eras and style eras — The intellectual, social and political roots and effects of religions — World view, ideas, ideologies, social criticism — The characteristics and forms of fanaticism

Chronological topics

Grades 5-8	Grades 9-12
1. Prehistory and the Ancient East	
1.1. The world of prehistoric man. 1.2. The material and intellectual culture of Ancient Egypt. 1.3. Stories from the Old Testament. 1.4. The heritage of the ancient East (calendars. writing, scientific knowledge, religions, buildings).	1.1. The beginnings of human civilization 1.2 Material and intellectual culture and religion in the Ancient East.
2. Antiquity	
2.1. Ancient Greece: gods, heroes, scientists, artists and the Olympic Games. 2.2. Greco-Persian wars and the Athenian democracy 2.3. The foundation and expansion of ancient Rome	2.1. Hellas – the city-states and the empire: Athens, Sparta, Alexander the Great 2.2. Rome – from the republic to the empire. Pannonia. 2.3. The heritage of ancient culture; the beginnings of philosophical thought.

Grades 5-8	Grades 9-12
2.4. Commanders and emperors in Ancient Rome 2.5. Stories from the New Testament	2.4. The values of the Jewish and Christian culture; the beginnings and teachings of Christianity. 2.5. The Migration Period and the decline of the antique civilization.
3. Europe in the Middle Ages	
3.1. The major characteristics of Western and Eastern Christian states. 3.2. Islam and its cultural heritage. 3.3. Scenes and persons of Medieval life. 3.4. Knights' lifestyle and the crusades.	3.1. The characteristics of the Byzantine Empire, the Frankish Empire and the Holy Roman Empire. 3.2. The birth of European states. 3.3. Characteristics of the exercise of power, and of social and economic life. 3.4. Religious conflicts; conflict between churches; power struggles; invasions. The role of religion and the church in Medieval Europe. 3.5. The crisis of Western Europe; the strengthening of the states of Central and Eastern Europe in the 14th-15th centuries. 3.6. Europe's medieval Christian heritage. World views, style eras.
4. The beginning of the history of the Hungarians; their integration into Europe	
4.1. Stories and explanations about the Hungarians' migration and the conquest of the Carpathian Basin. 4.2. The foundation of the state: Géza and Stephen I of Hungary. 4.3. The rulers and saints of the House of Árpád. 4.4. Charles Robert and Louis the Great. 4.5. János Hunyadi and the fights against the Turks. 4.6. Matthias Corvinus and his court. 4.7. The battle of Mohács and its consequences.	4.1. Problems of the origin; migration; conquest of the Carpathian Basin; the foundation of the state. 4.2. Conquest and defence. The exercise of power, state structure, social and economic life during the Árpád dynasty. 4.3. The Hungarian Kingdom as a European middle power in the era of the House of Anjou, Sigismund and Matthias. 4.4. Specimens from the history of Hungarian culture. 4.5. Fights against the Turks; the decline of the medieval Hungarian state.
5. The world and Europe in the early Modern Period	
5.1. Geographic discoveries. 5.2. Reformers of religions (the Protestant reformation and the Catholic revival). 5.3. Rich imperial courts. 5.4. The establishment of constitutional monarchy in England. 5.5. The ideas of the Age of Enlightenment. 5.6. The European powers and colonies; the independence fight of North American colonies.	5.1. Ancient cultures of America; the geographical discoveries and their consequences. 5.2. The rise of the Atlantic powers; absolutism; the English Civil War and its consequences. 5.3. Reformation and the Catholic revival. 5.4. The evolution of the scientific world view and the Age of Enlightenment. 5.5. Struggles between the great powers in the 17th-18th centuries; enlightened absolutism. 5.6. The establishment and Constitution of the United States of America.
6. Hungary in the 16th-18th centuries	
6.1. Hungary split into three parts; border fort	6.1. Struggles, everyday life and culture in a

Grades 5-8	Grades 9-12
battles. 6.2. Religious conflicts; aspirations for independence. 6.3. The golden age of the Principality of Transylvania under Gábor Bethlen. 6.4. Miklós Zrínyi, the general. 6.5. Heroes of Rákóczi's War of Independence. 6.6. Hungary's reconstruction in the Habsburg Empire. The country's new ethnic map; national minorities.	Hungary split into three parts. 6.2. The Principality of Transylvania. 6.3. The end of the Turkish rule; Rákóczi's War of Independence 6.4. Demographic, social and economic changes. National minorities in the state under reorganization. 6.5. The Kingdom of Hungary in the 18th-century Habsburg Empire; enlightened absolutism in Hungary.
7. The age of revolutions and the rise of the middle class	
7.1. Achievements of the French Revolution. The Reign of Terror. Napoleon. 7.2. Inventions of the Industrial Revolution. 7.3. Representatives of the Hungarian Reform Era (Széchenyi, Kossuth, Kölcsey, Wesselényi). 7.4. The goals, results and key figures of the Hungarian Revolution of 1848-49.	7.1. The ideas, movements and effects of the French Revolution. The consequences of the Napoleonic Wars. 7.2. Major ideas of the 19th century. 7.3. The Industrial Revolution and its consequences. 7.4. The major issues and key figures of the Hungarian Age of Enlightenment and the Reform Era; the birth of national culture. 7.5. The Hungarian revolution.
8. The era of nation states	
8.1. The birth of the unified German nation state. 8.2. Civil war in the United States of America. 8.3. Retaliation and the Austro-Hungarian Compromise of 1867. 8.4. Hungary's development in the era of the dual monarchy. 8.5. Co-existing peoples of the Austro-Hungarian Monarchy; the situation of national minorities. 8.6. The development of science and technology; the competition of the great powers for the redivision of the world; life in the colonies.	8.1. The birth and rise of nation states in Europe; how the United States of America became a world power. 8.2. The Eastern question. 8.3. The new period of the development of science and technology. 8.4. Great colonial empires; China and Japan. 8.5. Autocracy and the Austro-Hungarian Compromise of 1867. 8.6. The operation of the dualist state; political conditions. 8.7. The situation of national minorities. The co-existence of Jewish and Hungarian people. 8.8. Modernization and the rise of the middle class in Hungary.
9. Hungary and the world in the first half of the 20th century	
9.1. The characteristics and consequences of World War I in Europe and Hungary. 9.2. The Treaty of Trianon and its consequences. 9.3. The Great Depression and its consequences in the United States of America and Europe. 9.4. Dictatorships and dictators in Europe. 9.5. The major characteristics and key politicians of the Horthy era. 9.6. Hungarians beyond the borders defined by the Treaty of Trianon between the two	9.1. World War I and peace treaties. 9.2. Consequences of the defeat in Hungary. 9.3. The Treaty of Trianon and its effects. New states in Central Europe. Hungarians living beyond the borders defined by the Treaty of Trianon. 9.4. The Bolshevik ideology and Communist dictatorship in the Soviet Union. 9.5. Fascist ideology and state in Italy. 9.6. The Great Depression of 1929-33 and its management in Western democracies. 9.7. National Socialist ideology; Nazi

Grades 5-8	Grades 9-12
world wars. 9.7. The characteristics and consequences of World War II. 9.8. Hungary in World War II. 9.9. The Holocaust in Europe and Hungary.	dictatorship. 9.8. Hungary's consolidation; revisionist foreign policy. 9.9. The main theatres of war, military and diplomatic events of World War II. 9.10. Hungary's participation in World War II; Hungary's losses. 9.11. The persecution of Jews; events leading up to the Holocaust; the genocide; the Holocaust.
10. Hungary and the* World *in the second half of the 20th century	
10.1. The Cold War: tension between the United States of America and the Soviet Union. 10.2. Europe divided. 10.3. The Third World; Arab-Israeli conflicts. 10.4. The characteristics of the Soviet invasion and the Communist dictatorship in Hungary. 10.5. Key figures and goals of the Revolution of 1956. 10.6. Characteristics of the Kádár era (from the retaliation until the fall of the regime). 10.7. The creation and establishment of democratic conditions in Hungary. 10.8. Hungarians in the neighbouring countries.	10.1. The two-poled world and the arms race. 10.2. Armed conflicts in the Cold War. 10.3. Integration efforts in a divided Europe, in the East and the West. 10.4. The end of the colonial system and its effects in the third world. 10.5. Hungary after World War II: reconstruction and the establishment of the Communist dictatorship. 10.6. Characteristics of the Rákosi era (nationalization, single-party state, terror). 10.7. The Hungarian revolution of 1956. Retaliation. 10.8. The establishment, consolidation, characteristics and crisis of the Kádár era. 10.9. Neighbouring states; Hungarians living abroad. 10.10. The democratic transition and the evolution of the market economy.
11. A globalizing world and Hungary	
11.1. The establishment of the European Union and the fundamental rights of the European citizens. 11.2. The fall of the Iron Curtain and its consequences in the countries of the Eastern bloc. 11.3. Global problems: urbanization, environmental pollution, terrorism, migration, climate change. 11.4. The Fundamental Law and the institutions of the rule of law in contemporary Hungary. 11.5. Fields of economy; the labour market. 11.6. The culture of national and ethnic minorities in Hungary; changes of the situation of the Roma/Gypsy population. 11.7. The life of Hungarians living abroad after the fall of the Soviet bloc.	11.1. The establishment, principles, institutions and operation of the European Union. 11.2. The breakup of the Soviet Union, Czechoslovakia and Yugoslavia. 11.3. The scientific and technological revolution; welfare states; global problems; sustainability. 11.4. The Fundamental Law and the institutions of the rule of law in contemporary Hungary. 11.5. Demographic changes, population. National minorities and religious minorities in Hungary. 11.6. The history, situation and process of integration of the Roma/Gypsy society. 11.7. The situation of Hungarians in neighbouring countries; Hungarians in the world. 11.8. The effects of the challenges posed by a globalized world in Hungary.

ETHICS

Grades 1-4

In grades 1-4, with regard to the content of the subject "Ethics", the history-related topics of "Man and society" and those development requirements and general competences of the subject areas "Hungarian language and literature", "Man and society", "Way of life and practical skills", "Arts" and "Man and nature" must be relied on which convey topics for discussion, behavioural patterns and lifestyle habits that are suitable children of the given age group.

1. Self-knowledge, knowledge of others

1.1. How do I see myself? How do others see me?
1.2. What is my best quality?
1.3. Who is my role model?
1.4. The values related to other people. What is good and important for others?

2. Values and norms

2.1. Traditions, customs and festivals in families and in Hungary.
2.2. Traditions, customs and festivals in others families and countries.
2.3. Rules of co-existence; the creation of shared rules.

Grades 5-8

1. Human nature

1.1. Man and nature.
1.2. Body and mind. Health, disease, disabilities.
1.3. Instincts, feelings, emotions. Intelligence, will.
1.4. Language and thinking. Knowledge, ability, talent.

2. Ethical personality; human communities

2.1. Customs, traditions, rules, good manners.
2.2. Conscience. The good and the bad, sin and virtue.
2.3. Man as a being capable of assessment and as an ethical being.
2.4. Independence, adaptation, obedience. Truthfulness and deception.

3. Social relationships

3.1. Peers. Friendship, love, respect, helpful relationships.
3.2. Sexuality and love. Marriage. Family; creating a home.
3.3. Prejudice, trust, empathy.
3.4. National identity, national minority identity, ethnic identity; co-existence of ethnic groups; conflicts between ethnic groups.

4. Human society

4.1. The individual and the community. Social justice. The poor and the rich.
4.2. Freedom and limitations.

4.3. Work, creation. Meaningful life; success. Well-being and wealth.
4.4. Law, power, politics, democracy.

5. The world of religions

5.1. Conviction, belief, world view.
5.2. Religion as a psychological phenomenon.
5.3. Religious communities and religious institutions.
5.4. Religious folk traditions.

6. Christianity and Europe

6.1. The world views and ethical teachings of the world religions.
6.2. Christianity and Judaism in the light of the Bible.
6.3. The history of Christianity. The Judeo-Christian roots of European civilization and culture.
6.4. Secular teachings of Christian religious ethics and Christianity. Dialogue and cooperation between religious and non-religious people.
6.5 New religious movements.

ETHICS (GRADES 9-12)

1. The basics of ethical thinking

1.1. Facts and values. The ethical assessment of acts. Ethical views on the origin of the knowledge of the good and the bad The issue of suffering.
1.2. Belief and religion. The concept of the human being and ethical teachings in the world religions.
1.3. Active love. The special status of humanity; its sin and aspiration for goodness. The values of religious ethics in secular ethics.

2. Law and conscience

2.1. The development of ethical thought. Custom, tradition, law. The choices of the individual.
2.2. The freedom of conscience and the ethical responsibility of the individual. Intention and consequence.
2.3. The goals of virtues and good life. The character. Ethical sense; ethical education. Autonomy and following examples. Self-realization and self-limitation.

3. The world of relationships

3.1. Me and you. Friendship, love, sexuality. Parents and children. Home and family.
3.2. Me and us. The individual and the community. Citizenship and patriotic feeling. The order of freedom: rights and obligations.
3.3. Us and Them. Majority and minority. Solidarity, helping each other. The issue of social justice.
3.4. Ethics and politics. Private interest and the public good. Participation in public life. Morality in public life. Freedom of speech and the responsibility related to public speech in the information society.

4. Contemporary ethical challenges

4.1. The ecological crisis as an ethical problem. Our obligation towards other living beings. Environmentally friendly ways of life.

4.2. World poverty – the world of the poor. Demographic imbalances and their consequences.
4.3. The problem of community and social corruption.
4.4. Intolerance, hatred, social exclusion and racism as ethical dilemmas.
4.5. The shared heritage of mankind and the rights of future generations.

HOMELAND AND PEOPLES (GRADES 5-8)

1. My world

1.1. The history of my family. Neighbours, relatives.
1.2. My town or village.
1.3. Hungary's regions. Local history, local traditions, sights.
1.4. Children and students in the past.
1.5. Traditional Hungarian historical sports.

2. Encounter with the past

2.1. The world of our grandparents and great-grandparents in rural and urban regions.
2.2. Peasants' houses and households; persons in the household. Folk crafts.
2.3. Daily routine (diet, clothes, way of life).
2.4. The origin and customs of traditional and folk (religious) festivals.
2.5. Religious life and community life.

3. Our heritage and traditions

3.1. The heritage of the ancient Hungarian culture.
3.2. Hungarians in the territory of historical Hungary and today's Hungary.
3.3. Ethnographic regions, areas and ethnic groups in the Carpathian Basin. Hungary's neighbouring countries.
3.4. The culture and traditions of national minorities in Hungary (e.g. the elements of knowledge about the Roma/Gypsy ethnic minority).
3.5. Hungary's natural and man-made heritage; elements of intellectual and cultural heritage and of the World Heritage.
3.6. The achievements of Hungarian science and culture in the world.

SOCIETY, CITIZENSHIP AND ECONOMY

Grades 5-8

1. Social rules

1.1. Customs, traditions, ethics, law.
1.2. Fundamental rights and equal opportunities.
1.3. Children's rights; students' rights.
1.4. Arranging administrative affairs.

2. Basic knowledge of citizenship

2.1. State forms, political systems.
2.2. The principles of democracy.

2.3. Hungary's political institutions.
2.4. The role of the media and publicity.
2.5. Citizens' rights and obligations.

3. Financial and economic culture

3.1. Family budget (income, expenses, savings, loans).
3.2. Money and its forms (coins, banknotes, virtual money, monetary surrogates, bank cards).
3.4. Handling money (bank accounts and transactions).
3.3. Financial institutions and their activities (deposit services, lending, interest, capital, exchange rate, inflation).
3.4. Entrepreneurial knowledge (entrepreneurs; responsible entrepreneurial attitude; the immediate and wider environment of enterprises).

4. The labour market

4.1. Finding employment; work. What all employees need to know.
4.2. Economic sectors, professions, jobs (work sharing, intellectual and physical work).

Grades 9-12

1. Society

1.1. Contemporary forms of family.
1.2. Contemporary group cultures and youth subcultures.
1.3. Local society, civil society, volunteering.
1.4. Disadvantaged social situations; social responsibility and solidarity.

2. I am a citizen

2.1. Rights and obligations in Hungary.
2.2. Rights and obligations in the European Union.
2.3. The system of political institutions and the system of elections.
2.4. Nation, national minority, majority and minority.

3. Financial and economic culture

3.1. The key actors of the economy and their relationships.
3.2. The management of the family budget; techniques of financial management; consumer choice; long-term planning.
3.3. The world of enterprises.
3.4. The economic role of the state.
3.5. Financial intermediaries in the national economy.
3.6. The performance of national economy; economic growth and related problems.
3.7. Correlations and institutions of the national, EU and global markets and the monetary world.

4. The role of employees

4.1. Employees in the economy.
4.2. Basics of labour law; forms of employment.
4.3. Requirements on the labour market in Hungary and abroad.
4.4. Starting a career, job search, entering into work relationship, employment contracts.

4.5. Aspects of employment: taxation, insurance, health insurance and pension insurance.
4.6. Unemployment.

5. Changes in everyday life.

5.1. The changing notion of knowledge; lifelong learning.
5.2. The effects of scientific and technological development.
5.3. Consumer society and the welfare state.

PHILOSOPHY (GRADES 9-12)

1. Philosophy

Its notion, subject, origin, relationships to sciences, religions, art and everyday life; the history of philosophical thought.

2. Logic

The rules of valid inference. The connection between logic, mathematics and verbal communication.

3. Epistemology

The definition, sources and limits of knowledge.

4. Questions about out existence

Man's place in the world. Space, time, cause-and-effect. Body and mind.

5. Ethics

The nature of moral characteristics; the rules of moral acts; applied ethics.

6. Philosophy of science

The development of science; science in the various eras. The characteristics and paradigms of scientific argumentation.

7. Religious philosophy

The analysis of religious phenomena, events, concepts and teachings.

8. Political philosophy

Man as a social being. The examination of politics, the state, justice and personal freedom.

II.3.5. MAN AND NATURE

A) PRINCIPLES AND GOALS

This subject area is focussed on nature and the human being who attempts to understand nature. General scientific knowledge is based on a direct, accepting and loving attitude to nature. The knowledge to be acquired must help students understand their natural and technological environment and encourage them to act in a manner that contributes to finding harmony with nature and to maintaining it in the long run. For this purpose, students must learn about the basic scientific models and theories that describe the world, their development throughout history, the limits of their validity and the methods of comprehension on the basis of which they evolved. As paradigms and research programmes undergo changes, scientific education must highlight the fact that they were created as results of centuries of collective work, are constantly changing and, in many cases, they augment rather than rule out each other. At the same time, it must be pointed out that natural sciences are built on basic truths (theories, laws, rules) that were defined and proved through series of observations and experiments. The characteristics and methods of the development of natural sciences must be taken into account during school education. Students must be introduced into planned observation and experimentation, the representation of results, the formulation of possible correlations in the language of mathematics, the methods of checking, proving or refuting, argumentation based on scientific facts and the basics of model creation.

General scientific knowledge is of paramount importance for the individual and the society alike. Research in natural sciences and the application of its results are indispensable for conscious health protection and for the responsible and sustainable formation of the natural, technological and built environment. An important condition for the solution of global problems is a critical and constructive attitude of citizens which is rooted in a general knowledge of natural sciences. An adequate number of technical experts with proper qualification is vital in terms of economy and competitiveness. At the social level, the individual's knowledge is closely tied to economic competitiveness and the survival of smaller or greater autonomous communities.

For the purpose of teaching natural sciences, the accurate and partly differentiated use of technical terms of branches of sciences is of key importance. In addition, the teaching of natural sciences must enhance the social effects of the disseminated knowledge. For this reason, it cannot be limited to the narrowly defined frameworks of specialized sciences either in terms of content or methods. School education must also deal with issues that can be subjected to scientific examination and which emerge in the society and the economy at a given time and place, which influence the life of the individual and the community and which affect the future. Such issues include problems related to health maintenance and sustainable management. The objective is to make students participate actively in the learning process and, at the same time, prepare for active citizenship.

Natural sciences are not only bodies of systematized knowledge and the shared cultural heritage of mankind, but also represent a highly organized means of collective cognition. With its special tools, public science education offers access to this; at the same time, it serves as a basis for the preparation for careers in the field of natural sciences or technology. For the internalization of knowledge, the knowledge systems of disciplines must be adapted to students' needs and age characteristics as well as to the development of their abilities and the diversity of their ways of thinking. In this way, it is possible to encourage students' interest, to lay the groundwork of the scientific awareness of those who decide to

pursue careers in other fields than natural sciences and – with special emphasis laid on talent development – to orientate a part of students towards careers related to natural sciences.

In the course of school education, the development tasks and general competences defined in the core curriculum must be dealt with in various contexts and connected to situations and problems of everyday life. A general knowledge of natural sciences and technology that is embedded in various contexts and supported by practice may be used more efficiently in everyday life and on the labour market. Properly defined contexts help encourage student's interest and make students accept goals of learning. These can be interpreted as follows:

Fields:

- *Health* (health maintenance, way of life, public health, medicine)
- *Natural resources* (the use materials and energy; efficiency; the exhaustion of supplies)
- *The condition of environmental systems* (models and forecasts; climate change; the damage of ecosystems; biodiversity loss; pollution and waste)
- *The connection between science and technology* (the application of scientific results; technological systems and their effects; the necessity and mechanisms of social control)

Levels (dimensions):

- *The individual* (individual life situation; personal environment; individual tasks and responsibility)
- *Family* (the narrowest social environment of the individual; the level of households; common rules, close cooperation and responsibility)
- *Local community* (residential environment; the environment of settlements and regions; cooperation and collective responsibility)
- *Society* (the level of the country and the nation; uniform regulation and responsibility)
- *Global* (the global systems of the Earth; the community of nations; international cooperation, agreements, world organizations)

For this reason, development tasks are organized around key terms which facilitate the embedding of general competences into the above mentioned contextual fields in a manner that matches the levels defined by students' age characteristics and which strengthen the connections between different science subjects but do not hinder the establishment of the traditional system of sciences.

A precondition of the validity and efficiency of the scientific knowledge acquired in the course of public education is a systemic approach. The knowledge of principles, key concepts and models must be developed in a way that ensures easy understanding, encourages and maintains interest and allows extension. Knowledge development that ensures students' active participation is a suitable tool for achieving this goal. Similarly to the other subject areas, science education – which has complex functions – is embedded in the complex personality development process at school. It requires the variability of the curricular and extracurricular environment, the diversity of information sources and possible interactions and an opportunity for independent and active learning. Therefore, in the course of teaching natural sciences, the learning environment must be organized in a manner that supports various types and techniques of active learning in harmony with the composition and size of the study group and with the available conditions. It is recommended that the use of the methods of active learning (for example, problem-based learning or cooperative work) be selected in harmony with the content to be acquired and with the needs of the study group.

Science education encourages active participation and urges students to establish a way of life that supports sustainability and entails responsibility for oneself and for the community. Well-founded general scientific knowledge allows the recognition and avoidance of misguiding, manipulative or pseudoscientific efforts.

B) DEVELOPMENT TASKS

The development tasks of the subject area of natural sciences are categorized into subfields. The structure, on the one hand, is organized on the basis of the branches of science and, on the other hand, it supports a uniform scientific approach and emphasizes prioritized development goals. Its objective is to create the theoretical and logical background of the pedagogical system. It promotes the coherent and practical definition of the detailed development tasks and general competences: it lays special emphasis on those connection points which make cross-curricular cooperation possible and support the joint efforts made in specialized fields to create knowledge. It develops general abilities, such as abstraction, logical inference, data evaluation, the development of probabilistic thinking, the examination of variables, the differentiation between facts and explanations, the recognition of special (technological, economic, social or ethic) applications and connections, the assessment of other's points of views, the exposition of one's own viewpoint and the recognition of the role of scientific community.

An individual's relationship with scientific and technological culture is defined by his or her attitudes. Consequently, attitudes are vital for understanding the natural and technological environment, which, in turn, is a prerequisite for a rational and health conscious way of life and for an economy that supports sustainability. The skills and abilities to be developed allow for the acquisition and practical implementation of scientific knowledge. The development process takes places embedded in the content and is connected to the shared key concepts, basic theories and models of natural sciences. General scientific knowledge develops the system of skills related to communication, simplification, structuralization, classification, concept definition, systematic observation, experimentation, measurement, data collection and processing, inference, forecast, proving and refutation. All these activity types are suitable for – besides the acquisition of the content elements ofgeneral competences– the formation and development of the quantitative approach which is indispensable for scientific thinking.

The structure of development tasks

1. Science, technology, culture
2. Matter, energy, information
3. Systems
4. Connections between structure and function
5. Constancy and change
6. Humans and human health
7. Environment and sustainability

The arrows in the tables (►►) mean that the activity in question continues in higher grades, with the additions indicated for the next phase of education.

1. Science, technology, culture

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Scientific comprehension			
Encouragement of interest in the natural, man-made and technological environment; the gradual evolution of a desire for scientific knowledge.	Maintaining and strengthening the desire for scientific knowledge and observation.	Learning about operations of scientific thinking, ►►differentiation between scientific methods and non-scientific ideas.	The conscious use of operations of scientific thinking. Understanding the usefulness of a scientific way of thinking in everyday life; the conscious use of these methods.
		A description of the primary aims and methods of examination of biology, physics and chemistry, with a conscious effort aimed at identifying connection points.	
The use of known sources of information, ►►	►► the development of a basis for communicative skills required for the collection and processing of information.	Using methods of computer-assisted learning (information search; using libraries and the Internet; using databases and simulation; planning short presentations),►►	►► using them for the purpose of measurement, information search, presentations and communication. A critical evaluation of the process and results of knowledge acquisition. Efficient information search focussed on problem solving.
Practicing and connection the operations of observation, description, asking and interpreting questions.	Development of a basis for skills needed for observation and simple experiments, ►►	►►the guided application of the methods of observation, experimentation and measurement. Interpreting measurement data and figures.	Conscious identification of problems; examination of hypotheses. Planning experiments to solve problems; experiment analysis; differentiating between alternatives.
Phrasing and sharing experiences related to natural and technological phenomena.	Defining methods of group learning, ►►	►► improving such methods.	Formulating and examining models; coherent and critical argumentation. Preparing presentations individually and in groups.
Observing some natural phenomena; looking for simple explanations with experiments. Discussing the experience gained at at least one practical activity at an external location (museum, study tour), ►►	►►performing at least two independent experiments or examinations related to the topics per year. Presenting notes and drawings of at least four examinations performed in the classroom. Preparing one work on a science-related subject.	Performing at least two physical, two chemical and two biological experiments or examinations per year. Preparing the protocols of at least four physical, four chemical and four biological experiments or examinations performed in the classroom (per year). Presenting the experience gained at at least one practical activity at an external location.	
		Preparing of one project work on a subject related to health education.	One project work on a subject related to sustainability.
	Learning about and	►► learning the poison sign and other frequently used	

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
	complying with the rules of safe experimentation, ►►	danger symbols; the careful handling of toxic materials.	
	Encouraging and developing the desire to engage in investigations with the purpose of problem definition and solution.	Searching for, following up and interpreting popular science sources independently; presenting the results; interpreting others' results. A visit to at least one Hungarian museum, national park or scientific collection; gaining analytical knowledge of its profile and major items.	
Science history			
Laying the groundwork for a historical approach that is related to scientific comprehension.		Recognizing the changes of scientific models. Getting to know major and correlated processes of the history of science; examining their role in the changes of human knowledge and history.	Interpreting the processes of the history of science in the light of the evolution and decline of models and ideas or theories that mutually complement each other. Analyzing the advantages and limitations of the methods of obtaining knowledge.
Discoveries, inventions, ideas and procedures of importance with regard to the history of science, with the use the popular science sources.		Getting to know the methods, scientific results (and the scope of validity of such results) of major Hungarian and foreign natural scientists.	
Science, technology, society			
Presenting the connection between the development of science and technology and the start of new historical eras (with examples). Presenting the connection of science and technology with everyday life; laying the groundwork for the notion of individual responsibility.		Learning about the role science and technology plays in the development of society and economy. Laying the groundwork for an attitude that recognizes and appreciates the importance or research and engineering, ►►	►► forming a responsible civic attitude. A critical analysis of the complex system of correlations of science, technology and society; defining problems; learning about alternative solutions; arriving at individual viewpoints.

2. Matter, energy, information

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Materials			
Examining of the properties of easy-to-observe materials available in students' immediate environment. Observing transitions between states of matter. Preparing simple solutions and mixtures	Extending the concept of material to various material types. Grouping materials on the basis of their properties defined with observation and experiments. ---	Properties and grouping of elements, compounds and mixtures, ►► --- Quantitative and qualitative properties of materials. Comparing states of matter and changes of states of	►►interpreting the periodic changes of the properties of chemical elements. --- Conscious management of the interrelated organization levels of the material world. --- ►► explaining set

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
	Differentiating between dissolution and melting, ►►	matter. --- ►► explaining their differences►►	structures based on the structure of their components and interactions.
		The use of models of atom structure in connection with physical and chemical phenomena.	
	Interpreting phenomena in terms of the conservation of mass,	►► extending the principle, ►►	►► describing the flow of material living systems.
Interactions, forces			
Examining interactions. Examining phenomena related to motion; playful experiments and observations; formulating relevant questions, ►►	►►observing motion, magnetic and electrostatic phenomena; their occurrence in everyday life; formulating questions about their application,►►	►► learning about the forces in everyday life; interpreting experience as results of the forces' effects that change state of motion or form, ►►	►► learning about the basic forces and interactions of nature. Explaining the properties of materials based on material structure.
		The interpretation of chemical formulae, the explanation of chemical reactions based on chemical bonds and their description using reaction equations; the connection between the equation and the number of particles.	
		Learning about the effects of electricity, gravitation, magnetism and radiation on life.	
Energy			
Observing the operation of certain technical devices; interpreting the conditions of operation in everyday environments.			
Laying the groundwork for an energy efficient behaviour,►►		►► learning about methods of achieving energy efficiency and their importance.	
		Familiarizing with and applying the law of conservation of energy, ►► --- Learning about the facts that prove the relationship between the energy supply and physiology of living organisms, ►►	►► extending the principle; learning about the properties of the energy flow characteristic of living systems. --- ►► interpreting organisms and ecosystems as open systems.
Observations of and playful experiments with the propagation of sound, light and heat. Learning about various sources of energy. Learning about the energy needs of the human organism and about the proper ways of energy replenishment, ►►	►► introduction to the concept of energy, learning about types of energy, fuels, renewable and non-renewable resources, and energy transformation. Understanding the importance of non-fossil energy resources.	Learning about the processes involved in converting one type of energy into another (chemical, solar and electric energy), ►► --- Interpretation of phenomena based on the conservation of energy, ►►	►► the development of the quantitative approach to energy. --- ►► observing the connection between the efficiency of energy transformation and its secondary effects (pollution). Considering the advantages and drawbacks of various

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
			sources of energy.
		Observing and measuring energy changes involved in changes of state of matter and dissolution, ►►	►►describing the energy changes which take place in the course of chemical processes; simple calculations.
Information			
		The role of electromagnetic waves and sound in information transmission.	
Recognizing and interpreting signs in the everyday environment; the development of communication related to sound-based information. Interpreting order and disorder; recognizing effects (information) that form order on the basis of everyday examples and simple experiments. Interpreting symptoms as the signs of nature (diseases, wilting).		Recognizing the role of biological information in the survival of the individual and the species.	►► understanding the processes of information storage, expression and modification in the living world and in the technological environment. Learning about the structure of information and communication systems; evaluating their significance.

3. Systems

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Space, time, orders of magnitude			
The development of orientation in space through immediate experience, ►►	►► orientation near one's place of residence and its surroundings; the definition of location, direction and distance.	Knowledge, use and conversion of the measurement units of distance and time, ►►	►► introduction of methods of orientation, from the size of the atoms to the dimensions of the known world.
Naming and estimating directions, distances, lengths and orders of magnitude. Defining cardinal directions on the maps of the place of residence and of Hungary. Using a compass. Drawing a route about the place of residence,►►	►► applying the existing knowledge of the cardinal directions, the geographic coordinate system and maps. Orientation in man-made and natural environments; the basics of topography.	Learning about the basics and the use of tools and methods that help orientation in space. Analyzing the size and time scales of life; describing and explaining spatial and temporal patterns.	
Recognizing, observing and cyclical natural processes, learning the correct order of their events, ►►	►► the simple interpretation and use of cyclic phenomena that measure time.	Giving examples of very short and very long time periods that play an important role in nature and in technology, ►►	►► describing natural phenomena and the temporal aspect of processes with functions; analyzing and interpreting graphs.
Familiarizing with the units and ways of measurement of time.			

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Estimating time in various life situations; experiencing the correlation between movement and time.			
		Simple methods for accelerating and slowing down chemical processes, ►►	►► the interpretation of their speed.
Systems and their environment			
Analyzing simple systems in the surroundings of the place of residence and the school. Using the concepts of "natural" and "man-made" (technical and built) with regard to the observation of surroundings of students' place of residence.		The use of systemic approach and the analysis of the relationship between the system and its environment with the examination of concrete examples, ►►	►► the generalization of the concept of "system".
		Interpreting open and closed systems with examples, ►►	►► applying the main laws of thermodynamics in solving concrete problems.
		Interpreting the concept of the environment at various levels of organization of life (cell, organism, ecosystem). Formation of local and global ways of thinking.	
Levels of organization, networks			
Understanding the fact that in the environment, systems exist interdependently, ►►	►► recognizing the complexity and internal relations of systems, ►►	►► interpreting them with regard to various levels of physical, chemical and biological organization, ►►	►► selecting the levels that are adequate in terms of the given problem. Analyzing complex technological, social and ecological systems.
Recognizing the organization levels of the living world, ►►	►► learning about the organization levels and units of the human organism.	Analyzing the consequences of hierarchy and networks in living systems. Forming notions of the unity of nature.	

4. Connections between structure and function

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
The properties of materials			
Recognizing and naming the material of tools often used in students' immediate surroundings. Categorizing and grouping of materials, ►►	►► recognizing and naming of qualitative properties; categorization on the basis of qualitative properties.	Familiarizing with the atom structure of the material. Recognizing the links between the characteristics of materials and their possible use on the basis of concrete examples.	Learning some important material testing methods; identifying properties on the basis of experiments performed by the teacher or students; interpreting certain properties with regard to material structure.
Describing the manufacturability of types of materials; learning about their possible uses, ►►	►► recognizing this relationship on the basis of concrete examples (food, clothes, functional products).	Based on examples, following the transformation of materials from raw material into product, then into secondary raw materials. Recognizing the importance of the economical use of materials.	
		Knowledge of some widespread acids and bases; learning about their safe and practical handling. --- Drawing conclusions from information on the chemical composition of foodstuffs and its biological effects, ►►	Recognizing the relationships between the structure, composition and properties of inorganic and organic compounds and applying this knowledge. --- ►► analyzing the links between important biological functions and physical-chemical properties.
The body plan and functioning of organisms			
Comparing the living and the inanimate; collecting information through observation and experience. Recognizing conditions needed for life and the life functions; naming them with regard to concrete plants and animals and with regard to man, ►►	►► naming some life functions, organs and reproduction with regard to concrete plants and animals and with regard to man, ►►	►► linking structure with function in living organisms, ►►	►► summarizing the common structural and operational characteristics of living systems.
Recognizing the relationship between body plan, way of life, habitat and behaviour based on some known examples,►►	►► recognizing this relationship based on the example of large plant and animal groups, ►►	►► the analysis of this relationship based on the example of concrete plant and animal species, ►►	►► the analysis of the environmental, health and economic importance of major groups of living organisms.

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
		The examination of cell structure and its observation with optical microscope; understanding the basic physiological processes. The comparison of plant and animal tissue types and their observation with a microscope; the relationship of structure and function.	
Ecosystems			
Observing ecosystems in the immediate surroundings; recording and discussing results. Understanding the links between living creatures, and between a living creature and its environment. Observing a natural ecosystem near students' place of residence; describing its condition; monitoring, presenting and discussing its changes.		Examining the observable structure and system of internal relationships of an ecosystem and learning about interspecies relationships on the basis of on-the-field observations and other information sources, ►► --- Learning about the location and major botanical and zoological characteristics of biomes; understanding the reasons for their evolution. --- Analyzing animals' behaviour with concrete examples, on the basis of their role in the ecosystem, ►►	►►in-the-field examination of some ecosystems. Observing the cyclical and linear processes in temporal changes; identifying causes. The role of living organisms in ecosystems with regard to the flow of matter and energy. --- Examination of the relationship between structure and function, between the inanimate environment and human activity; overview of endangerment and possible ways of protection. --- ►► phrasing the relationship between behaviour and nature.
The taxonomy of the living world			
Categorizing plants and animals living in the immediate environment and in Hungary into simple groups on the basis of the characteristics observed. Their categorization on the basis of optional or pre-defined criteria.	Learning about and using the principle of hierarchical systematization. Knowledge and use of the names of and relationships between known groups (phyla, classes). Comparing and categorizing the observed plants and animals.	Phrasing and presenting the criteria of the taxonomy of the living world with species identification manuals. Presentation of the kingdoms of the living world; the presentation and taxonomy of concrete species.	Understanding the principle of artificial systems and the system of evolutionary taxonomy; learning about the methods of their examination.
	Treating biological diversity as valuable; the basics of the knowledge of species.		
The Earth			
Defining links between the Sun's movement, weather and climate, ►►	►► the effects of the Earth's shape and axis rotation on the climate zones.	Analyzing the connection between climate and the living world, ►►	►► understanding the connection between the geological characteristics of the Earth and the survival of life forms. Analyzing the possible causes and consequences of global climate change.

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Observing, describing, making drawings of and writing a journal about the weather.	Laying the groundwork for the interpretation of meteorological data, images, maps and weather forecasts.	Interpreting the relationship of information learned about changes of state of matter and chemical reactions with meteorological and geological phenomena, ►►	►► analyzing the connection between physical laws and the weather.
Recognizing and naming land surface forms.	Describing the major processes of topographical changes; presenting examples; recognizing the results of changes.		Understanding the facts that support the theory of plate tectonics; understanding the major physical process involved. Interpreting the basic types of material transformation which occur in biogeochemical systems.
The Sun and the Solar System			
Getting to know the Sun as a source of energy, ►►	►► understanding the importance of the energy radiated to the Earth. Familiarizing with the interactions of the Sun, the Earth and the Moon.	Learning about the structure and celestial body types of the Solar System; a schematic description of its evolution and development, ►► --- Understanding the principles of solar energy production. Recognizing the connection between sunlight and life on the Earth; interpreting this connection in consideration of the physical properties of light.	►► understanding the relationship between the physical and chemical properties of planets and their environmental conditions. --- Learning about the energy production of the Sun and the nuclear physics background of this phenomenon.
Observing and making drawings of the lunar phases.	Modelling the system of the Earth, the Moon and the Sun.	Understanding lunar phases, ►►	►► telling apart the causes of the lunar phases and lunar eclipses.
The Universe			
Observing and making drawings of some characteristic constellations.	Discussing and correcting notions about the distance and size of stars. Learning about the existence and observed appearance of the Milky Way.	Learning about the objects of the cosmic spaces beyond the Solar System and about their hierarchical structure. Comparing orders of magnitudes with regard to distance and time.	Getting to know the structure of the Universe; overviewing some methods, goals and results of research.

5. Constancy and change

<table>
<tr><th rowspan="2">Grades 1-4</th><th colspan="2">Grades 5-8</th><th rowspan="2">Grades 9-12</th></tr>
<tr><th>Grades 5-6</th><th>Grades 7-8</th></tr>
<tr><td colspan="4">State</td></tr>
<tr><td colspan="2">Observing, naming and comparing materials and the perceivable properties of bodies.</td><td colspan="2">Learning about and using the aspects and methods that serve for the description of the examined natural and technological systems.</td></tr>
<tr><td colspan="2">Recognition of measurable material properties; introduction into the concepts of estimation and measurement.</td><td colspan="2">The state descriptions and state indicators most often used in the course of the examination of materials; their use and measurement; the consistent use of units of measurement.</td></tr>
<tr><td>Learning about and measuring those physical quantities that play a significant role in everyday life.
Using natural measuring instruments and systems of measurement (mass, length, volume, temperature, time), ►►</td><td>►► learning about frequently used units of measurement; practicing measurement with them.</td><td>Learning about and using basic tools and methods that serve for the description of physiological status.</td><td>Understanding data types that describe man's mental status; drawing some possible consequences.</td></tr>
<tr><td colspan="4">Changes</td></tr>
<tr><td>The study of the constancy and change as manifested in motion; the observation of the direction of changes; their categorization in the basis of predefined criteria, ►►</td><td>►► the recognition of changes through the comparison of two different states.</td><td>The description of phenomena related to movement; the graphic representation of movement; the interpretation of graphs. The recognition of motion at constant velocity and motion accelerating with a constant rate, ►►</td><td>►► the creation of graphs of distance travelled and time and of velocity and time; calculations comparing motion at constant velocity and accelerating motion. The interpretation of complex movement.</td></tr>
<tr><td>The recognition and naming of changes of states of matter, ►►

Observing the changes of seasons; discovering their effects in nature and everyday life.</td><td>►►defining its connections with weather phenomena. Differentiating between dissolution and melting.</td><td>Learning about the connections between velocity change and force, ►►

Interpreting GPS data of time, distance and velocity.
Interpreting orbital period and rotational speed with practical examples related to traffic and their particle-level explanation.</td><td>►► interpreting and using related concepts.

Recognizing the relationship between force and velocity change with practical examples. Recognizing the role of kinetic energy and momentum in the description of interactions.</td></tr>
<tr><td colspan="2">Observing, interpreting and naming of phenomena that involve the change of material properties or of material type. Preparation and separation of mixtures and solutions.</td><td>Using chemical symbols for indicating materials in reactions.
The explanation of combustion, the necessary conditions, and basic fire protection education.
The interpretation of chemical change;</td><td>►►acid-base reactions; the interpretation of the pH scale; the examination of redox processes (including electrochemical processes); the examination of hydrolysis and condensation and understanding their significance.</td></tr>
</table>

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
		differentiation between and explanation of its major types, ►►	
Observing biological changes and phenomena of motion in the immediate surroundings, ►►		►► examining and comparing their temporal aspect; creating time scales.	
Identifying of effects that cause changes in the phenomena which can be observed in the everyday environment.		Learning about the qualitative and quantitative changes related to physiological processes. --- Analyzing the ways of adapting to the habitat and the environment, ►►	Using a mechanical approach in the course of the explanation of life functions. --- ►► using the evolutionary approach in analyzing the geographic distribution of plant and animal species.
Equilibrium, stability			
Games that introduce students to the concept of equilibrium.	The introduction of the concept of equilibrium with the interpretation of everyday events, with simple measurements and experiments.	Understanding the relationship between the state of equilibrium and the stability of systems; its application in concrete examples.	The presentation of metastable states through examples.
		Learning about the measurement of mass with equilibrium; preparing scales; measuring of mass, ►►	►► understanding the vector nature of forces; learning about vector addition. The use of the concept of stability in nuclear physics; understanding the operation of nuclear power plants and the safety issues associated with regulation.
		The interpretation of thermal equilibrium and the process of equalization, ►►	►► the generalization of the concept of dynamic equilibrium and its relationship with reaction rate. Analyzing the causes affecting the equilibrium.
		Effects that disturb the stable states of ecosystems and the biosphere; the identification of possible consequences.	The interpretation of the concept of homeostasis in living systems.
Processes			
Following the process of raw material becoming a product (with examples), ►► --- Examples for waste recycling.	►► the definition of some general characteristics of processes, their control and the recognition of their importance, ►►	►► the examination of the direction of natural processes through concrete examples ►► --- Analyzing some simple controlled processes.	►► understanding the background of one-way, reversible and cyclical processes; recognizing the regulatory steps of cyclical processes.
		Observing and recording	►► their interpretation; the

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
		the speed changes of some natural processes, ►►	analysis of their regulation.
Learning about one-way physiological processes.		Interpreting life as a regulated or controlled process; observing and explaining physiological phenomena on the basis of their regulated nature, ►►	►► understanding the general mechanisms of controlledness and regulatedness. Using the role of randomness and the concept of probability (risk factors of diseases, evolutionary processes).
Interpreting some changes that occur in the landscape due to human activity.		Looking for evolution-based explanations for biological facts and for related physical, geographical and historical facts.	
			The facts and arguments for and against the various theories regarding the past and future of the universe.

6. Humans and human health

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Body image, build, exercise			
The image of the human body; the observation and measurement of age characteristic body proportions and sizes. Getting acquainted with the biological factors, forms and limits of human movement.		Learning about the biological factors of movement and about the structure and operation of the skeletal and muscular system, ►►	►►using mechanical and chemical principles in the analysis of movement.
Getting to know, accepting and helping people with disabilities,►►		►►understanding their condition. A conscious approach to body image; promoting acceptance. Learning about the reasons and possible consequences of body weight problems; recognizing the role of regular exercise in preventing and curing mental and physical diseases.	
Survival of the individual			
Naming the main parts and organs of the human body; their protection, ►►	►► understanding their location and functions.	Learning about the organ systems of the flow of material and energy; the relationship between structure and function; the presentation of possible ways of health maintenance, ►►	►► linking information on the functioning of organ systems with the acquired knowledge of chemistry, cell biology, physics and psychology. Understanding their regulation.
Learning about the operation of sense organs and types of sensation, ►► --- Learning about and complying with the rules that ensure		►►analyzing the physical aspects of sensation and the role sensation plays in regulation.	

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
the protection of sense organs (food and drinks, hygiene, daily routine, leisure, condition of the environment).			
The formation of healthy dietary habits; the presentation of qualitative and quantitative aspects, ►►		►► learning about the characteristics and physiological role of the main food nutrients; using data and recommendations for a healthy diet	Evaluating the effects of nutrients on human health. Understanding the adverse effects of smoking and alcohol and drug consumption.
Recognizing diseases; differentiating accident and illness; getting to know the rules of prevention. Everyday hygiene.	Recognizing relationship between the status of the environment and human health; desire for healthy life conditions.	The acquisition of basic first aid knowledge, ►► --- Understanding the importance of regular health checks, screening, self-examination, vaccination, hygiene, skin hygiene and a healthy way of life in disease prevention.	►► the acquisition of a basic knowledge of CPR. Interpreting the basic rights of patients. Understanding the connection between health and homeostasis, between the status of the immune system and the development of illnesses.
	Learning about the objective and proper timing of consultation with a doctor.		
Reproduction, ontogeny, sexuality			
Discussing concepts of pregnancy, birth and breastfeeding, ►►		►► discussing the processes that affect human fertility; learning about methods to avoid adverse effects.	
Getting to know the major phases of human ontogeny, ►►	►► comparing them; learning about the secondary sexual characteristics and the physical and psychological differences.	Comparing the most characteristic physical and psychological features of the phases of development after birth.	Analyzing the psychological background of behavioural changes and crises. Getting to know the phases of human life before and after birth; understanding their value.
		Understanding personal responsibility with regard to sexual life; presenting the arguments for complying with basic rules related to ethics and health. Argumentation for responsible family planning and for the health conscious way of life of pregnant women.	
Hereditary transmission			
Observing the physical similarities and differences of people, ►►	►► differentiating genetic and acquired characteristics, ►►	►►recognizing and analyzing the interactions between genetic and learnt factors (genetic factors, environmental and education-related effects) determining human behaviour.	
		Understanding how the mother's and father's genetic traits appear in descendants, ►► --- Getting to know the environmental effects that modify DNA;	►►understanding the connection between reproduction and hereditary transmission; understanding the rules and biochemical background of hereditary transmission. ---

Grades 1-4	Grades 5-8		Grades 9-12
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		understanding the possible consequences of such modifications; avoiding hazards,►►	►►considering the possible consequences of random and controlled genetic changes. Learning about genetic counselling.
Behaviour and mental health			
Observing human behaviour and life situations in students' surroundings. The establishment of correct self-knowledge.	The basic features of man's intellectual capacity and emotional intelligence; getting to know the characteristics.	Interpreting the forms of learning as factors of adaptation to the environment, ►►	►► interpreting the forms of learning as a permanent personality change. Recognizing the importance of motivation. The connection between perception, sensation and attention; differentiating between their functions.
Learning about and presenting forms of community behaviour and behavioural norms,►►	►► assessing their importance, ►►	►►learning about the characteristics and causes of human aggression and belonging, and ways to influence them. The development of self-knowledge, self-acceptance and empathy. Recognizing the factors that determine thinking processes and the connection between emotional and intellectual development.	
		Development of self-knowledge which promotes career choice.	
	Presenting the causes of risky or dangerous behavioural forms and addictions and possible ways of avoiding them; presenting possible solutions of various life situations. Raising awareness of personal responsibility; understanding the role of parents, the family and the environment in preventing addiction.		
		Recognizing the specific characteristics and shared values of races and cultures.	
	Interpreting psychological features of the given age with the assistance of experts and same-age helpers.		

7. Environment and sustainability

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Global environmental systems			
The establishment of an environmentally aware attitude. Getting to know and practicing a way of life that promotes sustainability. Laying the groundwork for an attitude and ways of life based on saving material and energy (transport, heating, packaging, food and drink, selective waste collection, recycling).		Learning about the interactions between the geosphere, the biosphere and the technosphere with concrete examples, ►► --- Describing and measuring the physical properties of the atmosphere.	►►the generalization of the links. Analyzing the flow of matter and energy (carbon, oxygen, nitrogen) as part of a regulated system. --- Understanding the effects and causes of some

Grades 1-4	Grades 5-8		Grades 9-12
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		Learning about the physical aspects of the water cycle; assessing its role in environmental systems.	environmental problems (accelerating greenhouse effect, acid rain, ozone hole).
Living and inanimate features of the environment			
Recognizing and observing the effects of climate and weather on living organisms, ►► --- Presenting the adaptation of living organisms to the environment with known examples. Observing semi-natural habitats near students' place of residence; describing the experience.	►► and its effects on the natural and man-made (built) environment. --- Presenting the characteristics that prove the adaptation of living organisms to the environment (with known examples).	Naming the elements of weather; their relationship with living systems,►►	►► analyzing the links between relevant data. Interpreting hydrodynamic and aerodynamic phenomena with simple models.
		Getting to know and examining the sources of air, water and soil pollution and the types and concrete examples of polluting substances. Analyzing the factors that affect soil fertility.	
Recognizing the links between the environment and the health status of people.		The analysis of causes of environmental degradation, of industrial and natural or weather disasters; the possible ways of avoiding them.	
The condition and protection of environmental systems; sustainability			
Observing semi-natural and degraded and habitats►► --- Illustrating the effect of human activity on the natural environment (with examples).	►►learning about their ecosystems; the presence of species as an indicator of the condition of the environment; interpreting this role. --- Getting to know human activities that sustain or pollute the healthy environment.	A critical examination of the role of mankind in natural processes. Efforts made to educate conscious citizens with emphasis laid on a rational and responsible approach to consumption habits.	
Recognizing local problems related to nature conservation and environmental protection; laying the groundwork for the individual's sense of responsibility for the preservation of natural values and for the protection and conservation of landscape values. Collection and implementation of forms of individual and community environmental protection action in students' immediate surroundings.		Defining a local environmental problem; collecting information; formulating individual opinions. Forming a health conscious and environmentally aware attitude in all fields of everyday life; active participation in environmental protection. Observation of the status of ecosystems near students' place of residence; call for protection and laying the groundwork for action. Identifying natural values, damage and the cause of damage; assessing possible actions.	
		Analyzing the environmental effects of energy conversion processes; alternative energy conversion methods,	►► applying the acquired knowledge in households and small communities to facilitate sustainability and autonomy.

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
		►►	
The beauty and uniqueness of the Earth			
Collecting basic information about the celestial bodies; simple observations. Discovering and learning about the natural and cultural values and uniqueness of the Carpathian Basin.	Presenting the diversity of life on Earth and its values►► ---	►► recognizing the values of natural ecosystems that can be sustained in the long run.	Learning about the arguments for the uniqueness of life conditions on Earth. The connections between evolution and environmental protection and nature protection.
Discovering and getting to know the natural and cultural values and uniqueness of the Carpathian Basin.			
Presenting the connections between the beauty of nature, the sustainability of human cultures and the physical and mental health of human beings.			

C) GENERAL COMPETENCES

ENVIRONMENT (GRADES 1-4)

1. Science, technology, culture

Science history. Discoveries, inventions, ideas and procedures of importance with regard to the history of science; great scientists and inventors.
Science, technology and society. Examples of the uses of natural resources, means of transportation, IT and telecommunications equipment and the value of the natural and built environment.

2. Matter, energy, information

Materials. Learning about the relationships between shape and material.
Interactions, forces. Demonstration of magnetic attraction and repulsion; the importance of the compass. Examples of sound and light phenomena. Distinguishing types of motion.
Energy. The role of heating and cooling in everyday life. Energy sources in the household. Energy efficiency in heating equipment, household machinery, appliances and devices. Distinguishing renewable and non-renewable energy sources based on concrete examples. The energy content of foodstuffs/nutrients. Interrelationships between the energy needs and lifestyles of living creatures.
Information. Sign, signal, information (transport at place of residence, disaster response). The communication of animals (how animals find their bearings based on light, sound and smell).

3. Systems

Space, time, orders of magnitude. Estimations and measurements. Determining directions, distances and lengths. The names of the basic map markings in the topographic map of Hungary (national borders, topographic features, bodies of water, the capital, settlements, roads), the names of the main regions of the world and their location. Floor plans, increasing

and reducing scale, copying maps. Days of remembrance, celebrations, holidays. Measuring time, informal and standardized units of time. Discussing time in everyday communication.
Systems and their environment. Examples to illustrate the concepts of part and whole, complexity and function (tools, living creatures, houses, parts of bicycles, houses and plants). Altering the environment at one's place of residence; the impact of the state of the environment; the definition of environmental protection and nature protection.
Levels of organization, networks. Differentiating individual specimens (living creatures), groups and ecosystems through concrete examples. Grouping living creatures by their habitat, the food sources they rely on and other characteristics. Describing a chosen living creature: body plan, lifestyle and interactions with the environment. The infrastructure of settlements. History and natural environment of the place of residence.

4. Connections between structure and function

The properties of materials. Material types and their characteristics. Natural and artificial materials. The role, occurrence and states of water in nature. Water-soluble and non-water-soluble substances.
The body plan and function of living organisms. Life functions. Living vs. inanimate. Preconditions for life. Fungi, plants, animals. Fruits and vegetables. Domesticated animals, farm animals, wild animals (arthropods, fish, birds, mammals). Reproduction: eggs of various types, vivipary (live birth). Seeds and fruits..
Ecosystems. Some characteristic natural plant and animal ecosystems in Hungary. Habitats, ecosystems, protected natural resources.
The Earth. Notions and myths regarding the shape of the Earth. The movements of the Earth. Factors determining the weather. Types of precipitation. The water cycle. Shapes on the Earth's surface (topography, hydrography).
The Sun and the Solar System. The Earth, the Sun, the Moon and the phases of the Moon. The cycle of times of day and seasons. Solar energy (visible light and heat radiation). The effects of solar radiation on the flora and fauna.

5. Constancy and change

States. Transparency, hardness, elasticity, coarseness vs. smoothness, temperature, shape, colour, taste, smell. Weight, length, volume and their units of measurement. The Celsius scale, room temperature, body temperature; measuring fever.
Changes. The changes of the state of matter in water. Melting, freezing. Freezing, boiling and drying in the home. Chopping, shredding. Changes of position and place. Combustion (conditions required for combustion, products of combustion, flammable and non-flammable materials). Fire protection; the basic principles and tools of fighting fires. Life phases, germination, growth, development, aging. Decomposition, composting, rotting. Reversible changes (dissolution of salt in water) and non-reversible changes (combustion).
Processes. The interaction between the natural and built environment.

6. Humans and human health

Body image, build, exercise. Depictions of humans. Naming the main human body parts and crucial organs; normal body weight, overweight, obesity, undernourishment. Musculo-skeletal organs; flexibility, power, speed, agility, and training. People with disabilities; reduced capacity for work.
Survival of the individual. Nutrition, foodstuffs, foods, drinks, diet, the food guide pyramid. Sensory organs, perception. Health protection. Healthy lifestyle (healthy and safe nutrition, active and passive recreation, clothing, washing hands and showering/bathing, exercise, cleanliness and personal hygiene). Habits that are beneficial/harmful to human health. How to

recognize disease. Healing. Accidents: prevention, getting help, calling an ambulance. Providing assistance in accordance with age.
Ontogeny. Birth and death. Stages of the human life.
Behaviour and mental health. Types of behaviour, rules, norms of conduct in various situations. Internal and external characteristics. Cohabitation in the family. Friendships, school communities.

7. Environment and sustainability

Global environmental systems. Characteristics of a healthy, looked-after environment.
Living and inanimate features of the environment. Examples of the adaptation of plants to light conditions and the adaptation of animals to changing temperatures.
The state and protection of natural systems, sustainability. The protection of bodies of water. Environmental protection, the protection of biodiversity. Tradition and sustainability. Environmental pollution: air, soil and water pollution. Endangered species. Responsibility for animals. Energy efficiency. Selective waste collection.
The beauty and uniqueness of the Earth. The main natural sites of our local area and Hungary. The regions and settlement types of Hungary.

ENVIRONMENT (GRADES 5-6)

1. Science, technology, culture

Science history. The development of science and technology, milestone scientists, ideas, discoveries and inventions.
Science, technology and society. Examples of the development and uses of natural resources, means of transportation, IT, telecommunications and household equipment and the value of the natural and man-made environment.

2. Matter, energy, information

Materials. Types of materials in our everyday environment (metal, wood, stone, leather, textile, plastic, glass, ceramics, paper). The relationship between material types and the shaping and use of various materials. Qualitative and quantitative properties. States of matter. Solutions and mixtures (foods, drinks, medicines, paints). Water in nature (sweet water, seawater, drinking water).
Interactions, forces. Interactions in our everyday environment (mechanical interactions, heating, cooling, magnetic attraction and repulsion, static electricity, sources of sound and light). Motion in our everyday environment (transport, sport, the movement of animals).
Energy. Energy sources in the household. Fuels (foods, vehicle fuels, heating fuels). Energy management, energy efficiency, means of saving energy (reducing usage, increasing efficiency). The use of electricity; its role in everyday life. Heating and cooling. Renewable and non-renewable energy sources. The energy use and energy needs of the human body (normal body weight).
Information. Signs, signals (traffic signs, pictograms, disaster response signalling system). Natural signals (plants signalling environment quality, communication signals used by animals).

3. Systems

Space, time, orders of magnitude. Maps and the globe. Units of measurement of length. Measuring directions, possible methods and tools of determining location (compass, GPS).

Natural cycles (times of day, seasons, changes of the flora and fauna, climate changes). Methods and tools of measuring time.
Systems and their environment. Natural and technological systems in our environment. The relationship of systems and their environment (living creature and its habitat, house and public utility networks, city and the surrounding area). Agricultural cultures: the most important crops, farm animals. Animals around the house.
The nesting and hierarchy of systems (room-house-city-country, organ-body).
Levels of organization, networks. Networks in nature and the man-made environment (food webs, energy and road networks).

4. Connections between structure and function

The body plan and function of living organisms. The structure of flowering plants (through a concrete example), their living conditions (water, soil, sunlight, temperature) and main characteristics (metabolism, means of reproduction). Woody and herbaceous plants. Care of indoor and/or garden plants. Edible and poisonous mushrooms. The general body plan of animals: comparison of a vertebrate and a non-vertebrate. The living conditions of animals (food, habitat). The main characteristics of the lifestyle of animals (active movement, methods of finding food, reproduction and care of offspring, behaviour). The relationship of body plan, build and lifestyle (predators, ungulates, fish, birds). Variation in body plans (the diversity of species).
Ecosystems. Ecosystems in our living environment (or at a nearby natural habitat). The formation of soil; life in the soil. The conservation of natural resources, possibilities of nature protection.
Taxonomy of living organisms. Fungi, plants, animals. The names of the most characteristic groups of living creatures; some interesting examples.
The Earth. The shape and movements of the Earth; the consequences of rotation around an axis and its orbit around the Sun: times of day, seasons, climatic zones, elements of climate. Elements and phenomena of weather (types of precipitation, wind, clouds).
The Sun and the Solar System. The relative position and movement of the Sun, the Earth, and the Moon (phases of the Moon, eclipses). The relationship between the Sun's energy and life on Earth.
The Universe. The similarity of stars and the Sun. Comparing distances. Constellations (some characteristic examples).

5. Constancy and change

States. Qualitative characteristics (transparency, hardness, elasticity, surface, shape, colour, taste, smell). Quantitative characteristics; simple measuring instruments and methods used in everyday life.
Changes. Changes in our environment, natural and technological examples. Physical changes (evaporation and freezing of water/drying and freezing of materials, crumbling of rock, chopping/shredding of materials, movement in nature/transport). Chemical changes (combustion/fire protection, caustic substances, decomposition and combination/conservation of matter). Biological changes (reproduction, development, movement, feeding, breathing). The energy needed for or generated by changes (boiling, combustion). Information as a means of controlling changes (building houses – floor plans; travel – itineraries).
Processes. The organization of changes into processes, natural and technological examples. Simple means of making products (folding paper, preparing pasta). Cyclical processes (recycling paper and plastic, making products out of waste; waste management).

6. Humans and human health

Body image, build, exercise. The proportions and sizes of the human body. Build, symmetry, body parts. Body weight (normal weight, overweight). Human movement (everyday movements, sport, work), basic musculoskeletal elements and their operation (bones, muscles, joints). Injuries, musculoskeletal diseases and their prevention. People with disabilities, reduced capacity for work.
Survival of the individual. The vital organ systems and organs of the human body and their function. Basic principles and methods of healthy nutrition. Quantity and quality in nutrition. The importance and methods of personal hygiene. Sensory organs and the basics of their protection through hygiene. Basic knowledge on medical treatments. Basic first aid training. Infectious diseases, epidemics.
Reproduction, ontogeny, sexuality. The main stages of human ontogeny. Differences between the sexes, secondary sexual characteristics.
Hereditary transmission. Inherited and acquired traits.
Behaviour and mental health. The importance of self-knowledge and self-improvement. The role of norms of behaviour and rules. Social needs, the importance of familiar and personal relationships.

7. Environment and sustainability

Global environmental systems. The water cycle, weather phenomena and processes. The relationship of man and the landscape in the Carpathian Basin.
Living and inanimate features of the environment. The effects of weather and climate on the built environment (heat insulation, waterproofing). The inanimate features of the environment affecting living creatures, adaptive strategies (the adaptation of plants to soil, precipitation and light conditions, the thermal adaptation of animals).
The state and protection of natural systems, sustainability. The relationship between the state of the environment and human health. Environmental pollution; characteristic instances and consequences (air, water and soil pollution). Causes and consequences of habitat destruction, options for conservation (endangered species). Energy efficiency, the recycling of various materials.
The beauty and uniqueness of the Earth. Regions, bodies of water, topographic features and climate of the Carpathian Basin and Hungary, examples of the most characteristic plant and animal species. National parks and protected areas.

BIOLOGY

Grades 7-8

1. Science, technology, culture

History of science. Principles of categorizing living creatures; various approaches with regard to explaining and treating illnesses.
Science, technology and society. The effects of biology and medical science on agriculture, the food industry and population levels.

2. Matter, energy, information

Materials. The characteristics of the material composition of biological systems.
Energy. The impact of sunlight on life on Earth. The role of nutrition and breathing in the body's energy supply. Animals' heat management, the regulation of body temperature. Movement, lifestyle and energy needs.

Information. Environmental signals and the biological importance of detecting them. The biological interpretation of reproduction, comparison of sexual and non-sexual reproduction based on a concrete example. The information encoded in biodiversity.

3. Systems

Space, time, orders of magnitude. The size scale of the living world. The spatial distribution of ecosystems. The time scale of phylogeny; major events. The concept of the biological clock; examples.

Systems and their environment. Cells, organisms and ecosystems as systems. The concept of the environment, the relationship between systems and the environment and their biological interpretation with regard to cells, organisms, ecosystems and the biosphere.

Levels of organization, networks. Levels of organization in biology, relationships between levels. The network principle in biology; biological networks.

Natural, technological and built systems. Results of the on-site study of natural or semi-natural ecosystems (e.g. forest school).

4. Connections between structure and function

Materials. The biological role of water. The fundamental role of the inorganic and organic materials making up living organisms (water, minerals, carbohydrates, fats, oils, proteins, vitamins). Foodstuffs and healthy diet (nutrients, nutritional value, product composition).

The body plan and function of living organisms. Examination of the structure of eukaryote cells using an optical microscope (cell membrane, cytoplasm, nucleus). Life processes at the cell level. Main characteristics of the main types of plant and animal tissues. The general characteristics of viruses, bacteria, simple eukaryotes, fungi, plants and animals. The study of the relationships between body plan, lifestyle and environment through the example of the species studied from each of the main groups of living creatures.

Ecosystems. Levels of organization above the individual. Internal relationship within ecosystems, types of interrelationships between species, concrete examples (coexistence, competition, parasitism, predation). Food webs in ecosystems. Animal behaviours, concrete examples. The formation and main characteristics of biomes. Means of climatic adaptation in plants and animals; examples.

Taxonomy of living organisms. Basic principles of taxonomy, the concept of and evidence for the common ancestor. Dividing the living world into primary groups, separating the kingdoms, the main characteristics of descendant relationships. Species: the diversity of species and its importance.

The Sun and the Solar System. The impact of sunlight on life on Earth.

5. Constancy and change

Changes. The physical description of the movement of animals (force, work). The physical changes affecting the heat management of living organisms (heat flow, heat conduction, heat radiation). Detecting the electrical changes tied to life processes; some examples (ECG, EEG). The importance of enzymes. The basics and interrelationship of photosynthesis and breathing. The impact of physiological processes on blood pressure, heart rate and blood sugar level.

Processes. The basics and mechanism of biological regulation (the regulation of heart rate, blood pressure, body temperature and blood sugar level). The biological importance of regulated constant states; examples.

6. Humans and human health

Body image, build, exercise. The position and function of main internal organs and organ systems. Change of build during growth and development. Active and passive organs in

movement. The impact of exercise on circulation, breathing and metabolism. The balance of exercise, rest and studying; the daily energy needs of the body. Warm-up. Injuries, musculoskeletal diseases and their prevention. People with disabilities, reduced capacity for work.
Survival of the individual. The metabolic organ systems and processes of the human body. Basal metabolic rate, body mass index, normal bodyweight. Qualitative and quantitative malnutrition. Functions of the skin, skin diseases, skin care, skin protection. The impact of nutrition on circulation, breathing and metabolism, the impact of being overweight. The function of the immune system and its parts. Central and peripheral nervous system; their parts and functions. The sensory organs of hearing, balance, vision, touch, taste and smell.
Reproduction, ontogeny, sexuality. Reproductive organ systems. Sexual characteristics, sex hormones. The menstrual cycle. Basic rules of sexual health. Family planning, contraception. Development in utero, birth, stages of life after birth.
Hereditary transmission. Inherited and learned behaviours, the role of the environment.
Behaviour and mental health. The composition of personality; mental capacity, emotional capacity. The importance of self-knowledge and self-improvement. Body image and body image disorders. The role of norms of behaviour and rules. The importance of social needs and relationships. The role of learning. The emotional, social and psychological characteristics of puberty. Aggression in the family and at school, altruism, adaptation, sacrifices, conflict management, problem solving.
Health. The most widespread infectious diseases; means of prevention and cure. Basic knowledge on medical treatments. Screening tests, self-examination, vaccines. Lifestyle choices necessary for conserving health (nutrition, exercise, hygiene, responsible sexual conduct, mental health, avoiding addiction). Basic first aid training. Patient's rights.

7. Environment and sustainability

Global environmental systems. Characteristics of the soil, soil protection.
Living and inanimate features of the environment. The impact of climate on the built environment (heat insulation). Inanimate environmental factors affecting living creatures (light, air, water, soil, temperature), means of adaptation.
The state and protection of natural systems, sustainability. The relationship between the state of the environment and human health. Invasive and allergenic plants (ragweed). Environmental pollution; characteristic instances and consequences (air, water and soil pollution). Causes and consequences of habitat destruction, options for conservation (active nature protection). Establishing conscious consumption habits. The concept of sustainability; options for individual and communal action for sustainability.

Grades 9-12

1. Science, technology, culture

Science history. The development of the concept of evolution. The results and limitations of experiments and theories on the learning processes. The approach of Mendelian genetics, molecular genetics and population genetics and the main stages of their development. Pseudoscience and its dangers.
Science, technology and society. The impact of biology and medical science on the food industry, the pharmaceutical industry, agriculture and population levels.

2. Matter, energy, information

Materials. The material unity of the living and the inanimate world. Examples of the circulation of matter in terrestrial ecosystems.
Interactions, forces. The link between the structure, interactions and biological functions of molecules. Examples of the effects of gravity on living creatures. The relationships between electricity and physiological processes.
Energy. The role of energy in physiological processes. The process of photosynthesis and biological oxidation; their relationship; examples of fermentation processes. Basal metabolic rate. The biological effects of electromagnetic radiation.
Information. The storage, changes, expression, transmission and artificial modification of genetic information. The cell cycle and its importance. Basic principles of hereditary transmission. The role and importance of bio-ethics, biotechnology and genetic engineering. Viruses. Mutation-inducing effects. The importance of genomics and bionics. Genes and the environment, the interaction of susceptibility and risk factors. The connection of epigenetic effects and health. The similarities and differences of human and animal communication.

3. Systems

Space, time, orders of magnitude. The causes for the vertical and horizontal structure of ecosystems. The main events in the evolution of the biosphere; evidence.
Systems and their environment. Cells, organisms, ecosystems and the biosphere as systems. An example illustrating the relationships of material, energy and information transfer.
Levels of organization, networks. Characteristics of networks (being built onto each other), examples of networks. The appearance of qualitatively novel characteristics (the phenomenon of emergence).
Natural, technological and built systems. The results of ecological studies carried out in natural or built environments.

4. Connections between structure and function

The chemical composition of materials, their characteristics and role. The physiological role of biogenic elements, water and macromolecules. The role of DNA in storing and transmitting information. The basics of the operation of enzymes. The uses of radioactivity in research and in medicine.
The body plan and function of living organisms. The criteria of life. The evolutionary links between body plan and physiological processes. The main parts of the cell and their function. Cell types. The structure and importance of microbes and fungi; their physiology and reproduction and their relationships with habitat and lifestyle. Main plant and animal (human) tissue types. Characterization of capped mushrooms and major taxonomic groups of plants and animals based on an examination of their body plan. The structure of plants and animals; their physiology and reproduction and their relationships with habitat and lifestyle. Animal behaviours.
Ecosystems. Levels of organization, food webs. Population interactions. Biological indication. The effects of human activity on ecosystems, endangerment, protection. Global cycles, matter and energy flow (carbon, oxygen, nitrogen).
The Earth, the Sun and the Solar System. Celestial bodies and the consequences of plate tectonic movements; magnetic fields, liquid water, sunlight, range and availability of chemical elements.

5. Constancy and change

States. Describing systems: concepts, state indicators and methods.
Changes. The main characteristics of physical and chemical processes in living systems; examples. The biological role of diffusion and osmosis. The relationship between oxidation

and reduction. The biological and environmental role of a few important acid-base reactions (the pH of blood, acid rain, stomach fluid). Dynamic equilibrium and constant states. Types and examples of one-way, reversible, cyclical and chaotic changes. Biological rhythms.
Processes. The relationship between the one-way nature of ontogeny and differentiation. Conserving, reversing and unregulated change in cell states (stem cells, regeneration, cancerous masses). Homeostasis. The Darwinian description and models of evolution. Basic principles of artificial and natural classification (morphological similarity, genetic mapping). The extinction and emergence of species. Some of the lasting and irreversible effects of landscape-changing human activity. The ways in which the appearance and landscapes of the Carpathian Basin were transformed by human economic activity.

6. Humans and human health.

Body image, build, exercise. The planes of symmetry of the human body. Internal and external body image. Socio-cultural phenomena affecting body image. Body image disorders. Limbs and their connection to the body; bones of the torso; major muscles. Types of connections between bones. Exercise; the biological background and importance of warm-up. People with disabilities, reduced capacity for work. The connection between regular exercise and the health of body and mind.
Survival of the individual. Stem cells. Skin care and skin protection. Conscious diet, qualitative and quantitative malnutrition. The importance of breathing, vocalization. The circulation of blood, the physiology of bodily fluids. The functioning of the immune system and the risk factors of immune disorders. The principle of negative feedback, regulatory loops. Nerve cells and the main parts of the central and peripheral nervous system. The basic structure and operation of sensory organs; the basics of possible corrections of abnormal function. The coordinated operation of organ systems.
Reproduction, ontogeny, sexuality. The structure and function of sexual organs. Basic rules of sexual health. Family planning. Contraception. Development in utero; childbirth. The connections between mental and emotional development. The main physical and mental characteristics of the process of becoming an adult.
Human inheritance. Single-gene and multiple-gene inheritance; traits associated with body chromosomes and sexual chromosomes; dominant and recessive traits. Family tree analysis. Genetic counselling.
Behaviour and mental health. Interpretations, functions and forms of learning. The efficiency and dangers of schematic thinking. The role of motivation. Factors affecting the efficiency of memory. The biological functions of emotions. Sleep functions. The possible causes and consequences of depression and unresolved persistent stress; possible methods of prevention and resolution. Social behaviour in human groups (copying, empathy, persistent attachment), group norms and the display of associated emotions; examples. The biological background of inter-group cooperation and competition. The shared characteristics of chemical and behavioural addictions; possibilities of prevention and responsibility of prevention.
Health. The concept of health. The biological background of sexuality, the beginning and end of life and the personal responsibility involved in the decision to undergo or refuse treatments. Infectious agents, infections, hygiene, epidemics. Vaccines. The importance of regular health checkups, screening tests and self-examination in prevention. The personal and societal damage caused by habits harmful to health. Healthy lifestyle. The risk factors of tumours. Basic first aid and CPR training. The potential uses and risks of alternative medicine. Patient's rights. The beginning and end of life.

7. Environment and sustainability.

The state and protection of natural systems, sustainability. The environmental impact of human activity (ecological footprint). Examples of lasting and self-destroying human civilizations; lessons to be learned. Methods and possibilities of reducing environmental

damage (bans, threshold values, selective taxing, agreements). The environmental and social impact of the various forms of energy conversion. The risks of chemical use; the precautionary principle. The local, regional and global aspects of environmental problems. Protecting natural resources and biodiversity; the principles of maintaining national parks. The Gaia theory.

PHYSICS

Grades 7-8

1. Science, technology, culture

Science history. Astrology and astronomy. Characteristics of the geocentric and heliocentric world view. Ideas about the evolution of the Earth, the Solar System and the universe.
Science, technology and society. The effects of the development of physics knowledge on everyday life.

2. Matter, interactions, energy

Materials. The concept of density, measuring density, its unit of measurement. States of matter, changes of state. Electric conductors and insulators, magnetic and non-magnetic materials.
Interactions, forces. The concept, properties (strength and direction) and unit of measurement of force.
Energy. The concept and unit of measurement of energy. Energy production methods. Hydroelectric, wind, solar and fossil energies, atomic energy.

3. Systems

Space, time, orders of magnitude. Atomic scale, human scale, light years. Characteristic short and long time scales in nature.
Hierarchical systems, networks. Examples of networks (internet, electric networks).
Natural systems. Objects in the solar system (planets, moons, comets, meteors). Means of getting to know space (e.g. telescopes, Mars rovers, space telescopes).
Built systems. Examples (energy supply, information systems, transport).

4. Connections between structure and function

The Earth. Internal structure, earthquakes, waves of vibration.
The Sun and the Solar System. The structure of the Sun; energy production in the Sun. Solar energy in energy sources on Earth. Planets, moons and the physical conditions on them. Characteristics and phases of the Moon. The gravitational effect of the Sun and the Moon on the Earth (tides).

5. Constancy and change

The characterization of motion. The relation of time and distance travelled; speed, average speed. Straight-line movement. Characteristics of circular motion.
Changes of state of motion. Acceleration and its effects; examples. The connection between force and change of velocity. Applications in transport; accident protection.
Processes. Reversible and irreversible processes. Tendency towards equilibrium.
Equilibrium, stability. Measuring mass; scales. Simple equilibrium of forces. Thermal equilibrium.

Electricity. Direct current, alternating current, electric currents.

6. Humans and human health

The role of energy in the living world. Feeding and energy use. Food as a source of energy.
The physics of perception. Light and the light spectrum. The physical principles underlying vision. Vision problems and their correction. The role of sound and ultrasound in the living world. The physical principles underlying hearing. Harmful environmental effects (light and noise pollution).
The effects of electricity on living organisms. Dangers, shock protection.

7. Environment and sustainability

The physical processes affecting the weather. The physical underpinnings of weather phenomena. The physical characteristics of the atmosphere. Measuring air pressure. The physical underpinnings of the formation of types of precipitation.
Natural disasters. The causes of storms, floods, earthquakes and tsunamis. Possible means of damage control.
The state and protection of natural systems, sustainability. The physical background of various ways of damaging the natural environment. Energy efficient processes and devices. Economical, comfortable and safe means of transport. Means of producing energy and their risks. Saving energy in the household.

Grades 9-12

1. Science, technology, culture

Science history. Changes in the concept of the atom; arguments and observations for and against the various models of the atom. Various models of light. Astronomical ideas about the evolution of the Earth, the Solar System and the universe. The development of concepts of space and time. How to recognize pseudoscience; its dangers.
Science, technology and society. The impact of physical and mathematical theories of the world on European culture. The effects of the science of physics on industrial-technological civilization, the most important applications of technology.

2. Matter, energy, information

Materials. The thermal properties of materials (thermal expansion, specific heat capacity, evaporation heat, melting point, boiling point). Other characteristics of materials (conductivity, elasticity, strength).
Interactions, forces. Force as an interaction. Gravitational interactions, electromagnetic interactions (interactions between electric charges) and interactions within the nucleus of an atom.
Energy. The concept and calculation of energy. Mechanical energy (kinetic, potential and elastic energy), thermal (internal) energy, electromagnetic energy, nuclear energy. Electric and magnetic fields. Energy conservation; the equivalence of mass and energy.
Information. The creation and characteristics of electromagnetic waves. Data transmission illustrated by examples (radio and television broadcasting and reception). Digital data storage (CDs, hard drives). Optical methods of data transmission (glass fibres). The principle and practical applications of the photoelectric effect (e.g. digital cameras, photocopiers, laser printers).

3. Systems

Space, time, orders of magnitude. Size scales in nature (atomic nucleus, living organisms, Solar System, Universe). Methods of measuring distances and determining positions (e.g. triangulation, positioning based on the Sun, radar, GPS, satellites). The structure of Earth's magnetic field, its characteristics, source and changes; compasses. Measuring time.
Thermal systems. Characteristics of open and closed systems. The first and second law of thermodynamics. Heat engines. The concept of energy conversion efficiency. Phase transitions (e.g. evaporation, boiling, precipitation, melting, freezing, sublimation). The energetic characteristics of phase transitions.
The nesting of physical systems, hierarchical systems. Quarks, protons, neutrons, electrons, atoms, molecules and other complex systems (crystals, liquid crystals, colloids). The structure of the Solar System, its position in the Milky Way. Galaxies and their structure. Galactic clusters.
Networks. The elements making up the Internet; means of connection. The structure and main characteristics of electric circuits and networks. Safety elements in electric networks.
Technological systems. "Producing", transporting and using energy in concrete systems (fossil and renewable energy, nuclear energy). Electricity storage. The physical principles underlying the operation of electric generators and engines (induction phenomena). The physical principles underlying the operation of information and communication systems (e.g. mobile phones, world-wide web). The structure of computers, the physics behind the operation of their parts (e.g. keyboard, laptop, power supply).

4. Connections between structure and function

The physics of chemical bonds. The nuclear physics of material structure (the Rutherford model, the Bohr model, the quantum mechanical description of atoms). The dual nature of matter.
Material examination methods. Description of some material examination methods and the physical principles behind them.
The structure of matter. The characteristics of solids, liquids and gases; their interpretation through the particle model and interaction types.
The physical underpinnings of physiological processes. Motion, breathing, circulation. Avoiding physical effects threatening living systems (e.g. shock protection, lightning, lightning rods, radiation protection).
The Earth's surface and climate. Physical characteristics of atmospheric circulation and oceanic currents and the physical phenomena generating them. The phenomenon of global climate change and its possible physical causes. Waves in nature; tide, tidal waves.
The Earth. The physical foundations of plate tectonics. The movement of tectonic plates, the tensions generated by the movement, earthquakes. A description of mechanical waves.
The Sun and the Solar System. The movement of planets, the matter they are made of, their gravity, atmosphere and surface. Characteristics of comets, meteors, meteorites, and asteroids and their movement. Characteristics, eclipses, phases and movement of the Moon. The Sun's structure, solar phenomena (e.g. solar wind, sunspots, solar flares). Solar radiation, its effects; auroras.

5. Constancy and change

Characteristics of motion. Motion at constant velocity and motion at constant acceleration. Complex motion. The kinematic and dynamic characteristics of constant circular motion. The concepts of momentum and kinetic energy and their role in describing motion. Interpreting the concept of angular momentum based on simple natural and technological examples. The conservation of momentum and angular momentum.

Equilibrium, stability. Characteristics of the balance of point-like and rigid bodies. Stable and unstable states of balance. Force vectors. Torque. Simple machines.
The dynamic characterization of motion. The accelerating effect of resultant force. The relationship of force, change of velocity and time. The energetic description of motion.
Conservation laws. Elastic and inelastic collisions. Vibrations. Practical applications (e.g. practical factors affecting the fuel economy of vehicles and their physical background).
Processes. Reversible and irreversible processes. The impossibility of creating perpetual motion machines of the first and second kind. Friction, energy dissipation. Order and disorder, ordering processes in nature (biological evolution). Radioactivity, artificial radioactivity, half-life.
The regulation of systems. The operation and regulation of nuclear power plants. Risks and system security.
The development of physical systems. The description of the movement of planets. The development of the Universe. Directions of space research; its uses and social role.

6. Humans and human health

Physical processes in the body. Simple machines (e.g. the operation of bones, joints and muscles). Energy in the operation of the human body (e.g. breathing, circulation, temperature management). Energy in nutrition (the energy content of foodstuffs, the accumulation of energy). Blood pressure, the flow of blood.
The physics of perception. Imaging devices: mirrors (flat, concave, convex), converging and diverging lenses. The eye as an optical system, vision problems; practical applications (e.g. 3D vision, 3D films). The physical characteristics of sound, the mechanism of its propagation, harmonics. The physical principles underlying human sound perception. Ultrasound in nature and medicine.
Diagnostics and therapy. The aim and basic physical principles of diagnostic methods in medicine (detecting electricity generated in the body, X-rays, imaging methods, radioactive tracing, endoscopy). The aims and basic physical principles of therapeutic methods in medicine.

7. Environment and sustainability

The physical characteristics of the atmosphere. Pressure, temperature, humidity. The characteristics of air as an ideal gas. Atmospheric optical phenomena (e.g. rainbows, mirages, the colour of the setting Sun). The greenhouse effect, the principles behind it, practical examples; factors affecting the greenhouse effect.
The physical processes affecting the weather. Weather phenomena; precipitation, the physical description of the formation of precipitation. Hydrostatic, aerostatic, hydrodynamic and aerodynamic principles and phenomena.
The state and protection of natural systems, sustainability. The physical principles underlying environmentally conscious behaviour. Economical, comfortable and safe transport technologies. Energy issues in the home (e.g. energy efficient construction, heat insulation, sealing windows, choosing construction materials). Economical energy supply in the home, using energy available in the environment (e.g. solar collectors, heat pumps, condensing boilers). Risk factors in energy production. The generation and transportation of electricity (e.g. transformers, alternating current and electricity generation). Issues associated with the use of electric energy in the home (e.g. electricity bills, light bulbs, fuses, rechargeable batteries).

CHEMISTRY

Grades 7-8

1. Science, technology, culture

Science history. The emergence of the concept of atoms and chemical elements. The interpretation of the concept of acids and bases based on the theory of dissociation.
Science, technology and society. The impact of chemical discoveries and technologies on medical science, molecular biology, the food industry, agriculture and heavy industry.

2. Matter, interaction, energy, information

Materials. The qualitative and quantitative description of the materials objects are made from. Distinguishing the elements, compounds and mixtures that are widely used in everyday life. The periodic table and its importance and use; groups and periods. Chemical formulae. The classification of elements and compounds (metals – metal oxides – bases, non-metals – non-metal-oxides – acids, salts, pH, indicators, the pH scale, fat soluble and water soluble substances.) Mixing and separation.
Interactions, forces. The atomic nucleus and electrons. Atoms, molecules, ions. Chemical bonds: covalent bonds, ionic bonds, metallic bonds. Distinguishing physical and chemical changes (through the examples of phase transitions, dissolution, combustion, neutralization and gas and precipitation generation).
Energy. Energy in physical and chemical processes through everyday examples (phase transitions, dissolution, starting a fire).
Information. The chemical notation of elements and chemical compounds (chemical symbols, chemical formulae). The description of chemical processes using word equations and chemical equations. Practical examples for the description of solutions by mass fraction and volume concentration. Simple calculations based on the laws learned.

3. Systems

Space, time, orders of magnitude. Illustrating the size of atoms using comparisons. Amounts of substances. Methods for accelerating and slowing down chemical processes (heating and cooling).
Systems and their environment. Objects and experimental setups as systems. Options for fighting fires. Classification of systems based on the number of components and phases, and the possibility of matter-energy transition.
Natural systems. The chemical properties of the nutrients required by plants and animals. Plants: water, carbon dioxide, oxygen, nitrogen, phosphorus and potassium needs (the use of chemical fertilizers); animals and man: water, oxygen, mineral salts, carbohydrates (glucose, starch), organic acids (acetic acid), fats, oils and proteins.
Technological and built systems. Metals, their characteristics, examples of their production using reduction. Some important alloys (steel, bronze, brass), corrosion protection.

4. Connections between structure and function

Inorganic and organic materials. The physical and chemical properties of some compounds occurring in everyday life (elements, metals, alloys, salts, acids and bases, natural and synthetic organic materials); explanations regarding their use; their categorization.
The Earth. The concepts of "ore" and "mineral"; the chemical composition of mountain-forming rocks; an explanation of the formation of caves. The chemical foundation of water hardness, water softening and chemical limescale removal.

Meteorology The chemical composition and comparison of natural waters. The chemical composition of the air.

5. Constancy and change

States. Temperature and pressure as indicators.
Changes. Various classifications of chemical reactions: exothermic vs. endothermic, fast vs. slow, combination vs. separation, acid-base reactions (interpreted based on Arrhenius' theory of acids and bases), redox reactions (interpreted based on oxygen transfer). The interpretation of chemical equations: conservation of mass. Balancing chemical equations. Conditions required for chemical reactions.
Processes. The interpretation of one-way, reversible and cyclical processes in everyday phenomena (burning lime, slaking lime, the generation of carbonic acid, the burning of carbon into carbon dioxide, the dissociation of carbonic acid).
Equilibrium, stability. The interpretation of saturated solutions, solution, crystallization and phase transitions as reversible processes tending towards equilibrium.

6. Humans and human health

Survival of the individual. The physiological role of certain elements. The chemical composition of the most important nutrients (macromolecules, water, mineral salts). The solubility of vitamins.
Behaviour and mental health. The chemical properties and physiological effects of some widely known psychoactive substances, energy drinks, methanol and ethanol.
Health. Healthy diet: the role of fats and sugars in nutrition, the consequences of overconsumption, the nutritional and energy content of various foods, the use of nutritional tables. Hazardous substances and their handling in the household (limescale remover, sodium hypochlorite, cold degreasers, anti-freeze). Consumer protection, the composition and quality control of household articles; food additives, food safety.

7. Environment and sustainability

Living and inanimate features of the environment. Water and air purity based on a knowledge of the chemical composition of natural bodies of water and the air; sources of contamination and everyday means of prevention; correct habits.
The state and protection of natural systems, sustainability. The chemical background of processes damaging and protecting the environment.

Grades 9-12

1. Science, technology, culture

Science history. The development of atom models. The discovery of chemical elements. The composition and spatial structure of molecules and polyatomic ions. An explanation of the properties of acids and bases and acid-base reactions based on the theories of dissociation and proton transfer. Changes in the interpretation of combustion and oxidation.
Science, technology and society. The impact of chemistry and chemical technologies on medical science, molecular biology, climate research, the food industry, agriculture, heavy industry, the visual arts and applied arts.

2. Matter, interaction, energy, information

Materials. The development and use of models describing the internal structure of atoms. The shell structure of electron distribution; the structure of noble gases. Atomic structure as the

foundation for the periodic table. Neutrons, protons, isotopes. The concept of relative weight and molar weight. The molar volume of gases. The composition, spatial structure and polarity of molecules and polyatomic ions. The importance of isomerism. Solubility, concentration; calculations regarding the composition of solutions: dilution, increasing concentration, mixing. The components of detergents and their function.
Interactions, forces. Strong and weak bonds. The classification of known materials by types of crystal lattice; an explanation of their physical and chemical properties based on type of crystal lattice.
Energy. An interpretation of activation energy and reaction heat, thermochemistry. The interpretation of temperature based on the kinetic energy of particles.
Information. An estimation of the type, strength and number of atomic bonds based on simple examples. Modelling the spatial structure of some organic molecules. The chemical basis of the information content of DNA and proteins.

3. Systems

Space, time, orders of magnitude. Estimating and calculating sizes and orders of magnitude from the size of atoms to the size of the known world. Examination of reaction rates, interpretation of the speed of chemical processes. Catalytic converters. The role of enzymes in making our food, the explanation of the role of (biological) catalysts at the particle level.
Systems and their environment. Heterogeneous and colloidal systems.
Technological systems. The goals, importance and principles of green chemistry. Possibilities of individual and community action for resolving environmental problems, commitment to action.

4. Connections between structure and function

Inorganic and organic materials. Materials in our environment: the main components of construction materials, paper, plastics, metals (alloys), detergents and foods. The classification of the most important inorganic and organic materials and compounds in everyday life; their structure and characteristic chemical reactions, physical and chemical properties, occurrence, production, use and physiological effects.
The body plan and function of living organisms. The connection between chemical structure and biological function, illustrated through the examples of hydrogen bonds, non-polar groups and surfactants. The biological function of redox reactions, acid-base reactions, hydrolysis and condensation. The role of colloids in living organisms.
The Earth. The most important compounds making up the Earth.
The Sun and the Solar System. The chemical composition of some celestial bodies.

5. Constancy and change

Changes. Physical and chemical changes. The interpretation of acid-base reactions. Strong and weak acids and bases; the pH of salts; the relationship between pH and concentration. The interpretation of redox reactions based on electron transfer.
Processes. Material flow processes: an interpretation of diffusion and osmosis. The interpretation of redox reactions and electrochemical processes based on the direction of redox reactions. The production of certain building materials (burning lime, slaking lime) and food and drink making (making soda water) as a series of linear and circular processes and one-way and reversible processes. The interpretation of the concept of corrosion, the generation of electricity and the production of certain metals based on the concept of oxidizing and reducing agents. The chemical basis of processes leading to colour change.
Equilibrium, stability. The Le Chatelier-Braun principle. The examination of dynamic chemical equilibrium in a material system.

The regulation of systems. Possibilities of regulating industrial processes.

6. Humans and human health

Body image, build, exercise. Active ingredients in cosmetics (lipids, glycerine, surfactants). Hormonal compounds. Chemical raw materials for clothing (cotton, flax, wool). The role of protein molecules.
Survival of the individual The chemical composition of foodstuffs (monomers, polymers). Blood sugar level (glucose, glycogen), the pH of blood, haemoglobin. The role and usefulness of danger signals and safety rules; what to do in case of various types of poisoning. Preservatives.
Reproduction, ontogeny, sexuality Pheromones as chemical means of communication. The chemical principles behind the action of contraceptives. Teratogenic chemicals.
Hereditary transmission. The role of DNA and RNA protein molecules in determining traits; the connection between structure and function.

7. Environment and sustainability

Global environmental systems. The chemical basis of major biogeochemical cycles.
Living and inanimate features of the environment. Defining smog, aerosols, smoke and fog. What to do in case of smog warnings. Environmental disasters.
The state of environmental systems; endangering and preserving stability. The environmental impact of the use of raw materials as energy sources (nuclear energy, fossil fuels, foodstuffs).
The state and protection of natural systems, sustainability. The necessity of increasing scientific knowledge and the responsibility of scientists (case studies). Discovering the chemical aspects of local (settlement-level) problems (e.g. water management, transport, the necessity and/or dangers of using fertilizers, agricultural pesticides, laundry detergents, dishwashing liquids and medicines). The environmental impact of agricultural and industrial activities. The occurrence and effects of ozone. The production of plastics, problems in waste management.

GENERAL KNOWLEDGE CONTENTS IN THE TRADITIONAL SUBJECT STRUCTURE FROM GRADE 7

BIOLOGY

Grades 7-8

1. Biology

Aims, application. A description of the primary aims and methods of the examination of biology, physics and chemistry, with a conscious effort aimed at identifying connection points. The possibilities of the application of biological knowledge (medicine, food industry, agriculture, environmental protection and nature conservation).

History. Research into the anatomy and physiology of the human body. The aim and historical antecedents of the classification of living organisms. Various approaches with regard to explaining health and illness and treating illnesses.

2. The organization of life

Physical principles. Fundamental characteristics of living and inanimate states; a comparison (open systems, self-regulation, self-reproduction). Levels of organization in biology (below and above the individual organism), relationships between levels. The size scale of living creatures.

Chemical structure. The main groups, role and importance of the inorganic and organic compounds making up living organisms (water, minerals, carbohydrates, fats, oils, proteins, vitamins).

3. The cell

Structure. Examination of the structure of eukaryote cells with an optical microscope; parts of the cell (cell membrane, cytoplasm, nucleus).

Operation. The cell as a (living) system. Cell-level physiological processes (flow of matter and information, cell division). The concept of system and environment, their relationship at the level of the cell.

4. The living organism

Body plan. Main types of plant and animal tissues and their characteristics. An examination of the relationships between body plan and lifestyle (through the example of the species studied from each of the main groups of living creatures).

Motion. Types of movement of animals, their physical description (force, work).

Metabolic processes. The importance of enzymes. The role of nutrition and breathing in the body's energy supply. Movement, lifestyle and energy needs.

Regulation, constant states. The biological importance of regulated constant states. The physical effects affecting the heat management of living organisms (heat flow, heat conduction, heat radiation). Body temperature regulation. The concept of internal and external environment. The concept and mechanisms of the constant regulation of internal states (the regulation of heart rate, blood pressure, blood sugar level, body temperature). Environmental signals and the biological importance of detecting them (senses, sensory organs). The electrical changes tied to life processes and their detection; some examples (ECG, EEG). The concept of the biological clock; examples.

Reproduction, ontogeny. The biological interpretation of reproduction, comparison of sexual and non-sexual reproduction based on a concrete example.

Hereditary transmission. The role of biological information in the survival of individual organisms and species.

5. Man

Body plan, organ systems. The human body as a system; organ systems and their relationships. The location of the main internal organs.
The skeletal system, movement, external surface. Active and passive organs in movement. The impact of exercise on circulation, breathing and metabolism; normal body weight. The balance of exercise, rest and studying; the daily energy needs of the body. The structure and functions of skin.
Survival of the individual. The metabolic organ systems and processes of the human body. The impact of nutrition on circulation, breathing and metabolism; the impact of being overweight. Qualitative and quantitative malnutrition. The function of the immune system and its parts. The central and the peripheral nervous system; their main parts. The sensory organs of hearing, balance, vision, touch, taste and smell.
Reproduction, ontogeny, hereditary transmission. Reproductive organ systems. Sexual characteristics, sex hormones. The menstrual cycle. Conception and pregnancy. Family planning. Development in utero, birth, stages of life after birth. Change of build during growth and development.
Behaviour. The composition of personality; mental capacity, emotional capacity. Complex elements of human behaviour. Inherited and learned behaviours; the role of the environment.
Physical and mental health. Healthy diet (nutrients, nutritional value, product composition). The most widespread infectious diseases; means of prevention and cure. Musculoskeletal diseases, injuries and their prevention. Skin diseases, skin care and skin protection. Body image disorders. Basic rules of sexual health. Contraception. Basic knowledge on medical treatments. Screening tests, self-examination, vaccines. Lifestyle choices necessary for conserving health (nutrition, exercise, hygiene, responsible sexual conduct, mental health, avoiding addiction). Basic first aid training. Patient's rights. The importance of self-knowledge and self-improvement. The role of norms of behaviour and rules. Social needs, the importance of familiar and personal relationships. The role of learning. The emotional, social and psychological characteristics of puberty. Aggression in the family and at school, altruism, adaptation, sacrifices, conflict management, problem solving.

6. The diversity of the living world

Diversity. The diversity of species and its importance. The information encoded in biodiversity.
Taxonomy. The basic principles of the taxonomy of living organisms. Domains and kingdoms in taxonomy. The general characteristics and typical representatives of bacteria, simple eukaryotes, fungi, plants and animals. Characteristics, as examined on example species of the main groups. Species: the diversity of species and its importance.
Evolution. The biological characteristics of long-term changes. The principle of the common ancestor; the main characteristics of lineage relationships. The time scale of phylogeny; major events.

7. Ecosystems

Environment and adaptation. Inanimate environmental factors affecting living creatures (air, water, soil, temperature); means of adaptation. The study of the relationships between body plan, lifestyle and environment through the example of the species studied from each of the main groups of living creatures. Means of climatic adaptation in plants and animals; examples. The spatial distribution of ecosystems. The formation and main characteristics of

biomes. Causes and consequences of habitat destruction, options for conservation (active nature protection).
Connections, networks. Internal relationship within ecosystems, types of interrelationships between species, concrete examples (coexistence, competition, parasitism, predation). Animal behaviours, concrete examples.
The flow or matter and energy. Food webs in ecosystems. The impact of sunlight on life on Earth. Soil fertility.
Global systems. Environmental pollution; characteristic instances and consequences (air, water and soil pollution). Invasive and allergenic plants (ragweed). The concept of sustainability, options for individual and communal action. Establishing conscious consumption habits.

Grades 9-12

1. The physical and chemical foundation of life (below the cell level).
The elements and inorganic and organic compounds making up cells. The physiological role of biogenic elements, water and macromolecules. The link between the structure, interactions and biological functions of molecules. The role of DNA in storing and transmitting information.
Physical-chemical processes. Biological functions, main characteristics and some examples of physical-chemical processes. The relationship between oxidation and reduction. The biological and environmental role of a few important acid-base reactions (the pH of blood, acid rain, stomach fluid). Dynamic equilibrium and constant states. The general principles of regulation and their implementation (at the level of the cell, the organism, the population and the biosphere). Types of one-way, reversible, cyclical, random and chaotic changes. The basics of the operation of enzymes. The uses of radioactivity in research and in medicine. The biological role of diffusion and osmosis.

2. Cell biology
The structure of eukaryote cells. The examination of cell structure and its observation with optical microscope; understanding the basic physiological processes. The main parts of the cell and their function.
The cell's metabolism and energy flow. The basic equations of photosynthesis and biological oxidation, their essence; examples of fermentation processes. The role of energy in physiological processes.
Communication between cells. The coordinated operation of organ systems. The shared characteristics of chemical and behavioural addictions.
Special cell operations. Stem cells. The relationship between the one-way nature of ontogeny and differentiation. Cell types.

3. The level of the individual organism
The living organism. A summary of the common structural and operational characteristics of living systems. An analysis of the environmental, health and economic importance of major groups of living organisms. The evolutionary links between body plan and physiological processes. The structure and importance of microbes. Main plant and animal tissue types. The comparison of plant and animal tissue types and its observation with a microscope; the relationship of structure and function. Characterization of capped mushrooms and major taxonomic groups of plants and animals based on an examination of their body plan. The body plan of plants and animals; their physiology and reproduction; their relationships with

habitat and lifestyle. Basic principles of artificial and natural classification. Treating biological diversity as valuable; the basics of the knowledge of species.
The self-sustaining functions of the human body. The planes of symmetry of the human body. Internal and external body image. Limbs and their connection to the body; bones of the torso; major muscles. The application of mechanical and chemical principles in analyzing motion. Types of connections between bones. Exercise; the biological background and importance of warm-up. Skin care and skin protection. Conscious diet; qualitative and quantitative malnutrition. The importance of breathing; vocalization. The circulation of blood, the physiology of bodily fluids. Blood panels, blood types, blood donation. The functioning of the immune system and the risk factors of immune disorders. The principle of negative feedback, regulatory loops. Nerve cells and the main parts of the central and peripheral nervous system. The basic structure and operation of sensory organs; the basics of possible corrections of abnormal function.
The homeostasis of living organisms. The coordinated operation of organ systems. Understanding the connection between health and homeostasis, between the status of the immune system and the development of illnesses. Biological rhythms.

4. Behaviour and health.

Behaviour. A conscious approach to body image; promoting acceptance. Interpretations, functions and forms of learning. The efficiency and dangers of schematic thinking (recognizing objects and types, prejudices, possibilities for manipulation, the effects of advertising). The role of motivation. Factors affecting the efficiency of memory. The biological functions of emotions. Sleep functions. The possible causes and consequences of depression and unresolved persistent stress; possible methods of prevention and resolution. Social behaviour in human groups (copying, empathy, persistent attachment), group norms and the display of associated emotions; examples. The shared characteristics of chemical and behavioural addictions. The role of motivation. The connection between perception, sensation and attentions; differentiating between their functions. Getting to know the characteristics and causes of human aggression and belonging, and ways to influence them.
Health. The concept of health. People with disabilities; reduced capacity for work. Learning about the reasons and possible consequences of body weight problems; recognizing the role of regular exercise in preventing and curing mental and physical diseases. Evaluating the effects of nutrients on human health. The biological background of sexuality, the beginning and end of life and the personal responsibility involved in the decision to undergo or refuse treatments. Infectious agents, infections, hygiene, epidemics. Vaccines and prevention. The importance of regular health checkups, screening tests and self-examination in prevention. The personal and societal damage caused by habits harmful to health. Diseases of the gastrointestinal tract, the respiratory system and the circulatory system; risk factors and preventive measures. Knowledge of the elements of healthy lifestyle. The risk factors of tumours. Basic first aid and CPR training. Basic CPR training. The potential uses and risks of alternative medicine. Patient's rights. The beginning and end of life.

5. Reproduction, ontogeny, hereditary transmission.

Reproduction and ontogeny. The structure and function of sexual organs. Basic rules of sexual health. Family planning. Contraception. Development in utero. Birth. The main physical and mental characteristics of the process of becoming an adult. Examples of types of ontogeny (plants, animals).
Hereditary transmission and variability. Understanding the connection between reproduction and hereditary transmission; understanding the rules and biochemical background of hereditary transmission. The storage, changes, expression, transmission and artificial

modification of genetic information. Basic principles of hereditary transmission. The role and importance of bio-ethics, biotechnology and genetic engineering. Viruses. Mutation-inducing effects. Genes and the environment, the interaction of susceptibility and risk factors. The relationship of health and epigenetic effects. Single-gene and multiple-gene inheritance, traits associated with body chromosomes and sexual chromosomes, dominant and recessive traits. Family tree analyses. Genetic counselling.

6. Biology above the level of the individual organism.

Levels of organization, food webs. Levels of organization above and below the individual organism. The appearance of qualitatively novel characteristics (the phenomenon of emergence). The material unity of the living and the inanimate world. Examples of the circulation of matter in terrestrial ecosystems. Population interactions. Biological indication. Global cycles, an analysis of the flow of matter and energy (carbon, oxygen, nitrogen) as part of a regulated system. Observing the cyclical and linear processes in temporal changes; identifying causes. Understanding the effects and causes of some environmental problems (accelerating greenhouse effect, acid rain, ozone hole).

Behaviour. Animals' body plan, physiology and behaviour and their relationship with their habitat and lifestyle.

System and environment. The interpretation of the concept of homeostasis in living systems. The causes for the vertical and horizontal structure of ecosystems. Analyzing the size and time scales of life; describing and explaining spatial and temporal patterns. Characteristics of networks (being built onto each other), examples of networks.

Environmental protection and nature protection. Interpreting the concept of the environment at various levels of organization of life (cell, organism, ecosystem). Getting to know and examining the sources of air, water and soil pollution and the types and concrete examples of polluting substances. Analyzing the factors that affect soil productivity. The effects of human activity on ecosystems; endangerment, protection. Some of the lasting and irreversible effects of landscape-changing human activity. The ways in which the appearance and landscapes of the Carpathian Basin were transformed by human economic activity. The environmental impact of human activity (ecological footprint). Examples of lasting and self-destroying human civilizations; lessons to be learned. Methods and possibilities of reducing environmental damage (bans, threshold values, selective taxing, agreements). The environmental and social impact of the various forms of energy conversion. The risks of chemical use, the precautionary principle. The local, regional and global aspects of environmental problems. Protecting natural resources and biodiversity, the principles of maintaining national parks. The Gaia theory.

7. The theory of evolution, the evolution of the biosphere

Classical methods and theories. The Darwinian description and models of evolution. The extinction and emergence of species. Using the evolutionary approach in analyzing the geographic distribution of plant and animal species.

Evolution and genetics. The connections between evolution and environmental protection and nature protection. The main events in the evolution of the biosphere; evidence.

8. Science, technology, culture

Getting to know the methods, scientific results (and the scope of validity of such results) of major Hungarian and foreign natural scientists. Learning processes, social relationships: the results and limitations of relevant experiments and theories. The approach of Mendelian genetics, molecular genetics and population genetics and the main stages of their

development. The development of the concept of evolution. Various approaches with regard to explaining health and illness and treating illnesses. Pseudoscience and its dangers.

PHYSICS

Grades 7-8

1. Mechanics

Characteristics of motion. Change of place; point of reference. Units of measurement and measuring. Human scales, atomic scales, astronomical distances, light years. The relation of time and distance travelled; speed, average speed. Rectilineal motion. Characteristics of circular motion. Acceleration.

Force. The concept of force, its measurement, size and direction. The connection between force and change of velocity. Simple equilibrium. Measuring mass. Applications in transport. Accident protection.

Energy. The concept and unit of measurement of energy. Energy production methods. Efficiency. Hydroelectric, wind, solar and fossil energies, atomic energy. The basic energy aspects of nutrition.

Fluid mechanics. The concept of density; measuring density; its unit of measurement. Flotation of bodies. Flows.

Vibrations and waves. Characteristics of vibrations. The propagation of waves. The physical characteristics of sound. The physical principles underlying hearing. Ultrasound in nature and medicine. The internal structure of the Earth; earthquakes, tsunamis and damage control. Noise pollution.

2. Thermodynamics

Thermodynamic phenomena. Atomic scale; a measurement of air pressure. Temperature measurement. The characteristics of gases. The thermodynamic properties of materials (melting point, boiling point). A description of states of matter. Tendency towards equilibrium. Thermal equilibrium. The physical characteristics of the atmosphere. Measuring air pressure. Types of precipitation. Storms.

The Earth's surface and climate. Physical characteristics of atmospheric circulation and oceanic currents and the physical phenomena generating them. The phenomenon of global climate change and its possible physical causes.

The physical principles underlying environmentally conscious behaviour. Energy efficient procedures. Means of producing energy and their risks. The physical background of various ways of damaging the natural environment.

3. The study of electricity

Electricity. Electric phenomena and charge. Magnetic phenomena and magnets. Conductors and insulators. Direct current. The work and power of electricity. The Earth's magnetism and the compass. Alternating current. Electric generators and motors. The generation and transportation of electricity (transformers, alternating current and electricity generation).

Networks. The structure of electricity networks. Shock protection, fuses, lightning, lightning rods, electricity bills. The physics of computers (keyboards, laptops, power supplies, the Internet). The propagation of electromagnetic waves (TV, radio, mobile phones). ()

Physiological effects. The effects of electricity and magnetism on living creatures. Information on shock protection.

4. The physics of light

Light. The propagation of light in a straight line; the speed of light. The operation of devices that rely on refraction and reflection; mirrors and lenses. Breaking down white light into colours. The physical principles underlying vision.
Applications: telescopes, space telescopes, the correction of vision problems, light pollution.

5. Gravity, astronomy

Space and time. Size scales in nature (atomic nucleus, living organisms, Solar System, Universe).
The Sun and the Solar System. The structure of the Solar System. The movement of planets and the characteristics of comets, meteors, meteorites and asteroids. Characteristics of the Moon. Tide, tidal waves.

6. The history of physics and the history of culture

Science history. Astrology and astronomy. Characteristics of the geocentric and heliocentric world view.
Science, technology and society. The effects of the science of physics on industrial-technological civilization, the most important applications of technology. Getting to know the methods and scientific results of major Hungarian and foreign natural scientists.

Grades 9-12

1. Mechanics

Characteristics of motion. Motion at constant velocity and motion at constant acceleration. The kinematic and dynamic characteristics of constant circular motion. Creating graphs of distance travelled and time, as well as speed and time; calculations comparing motion at constant velocity and accelerating motion. Methods of measuring distances and determining positions (triangulation, positioning based on the Sun, radar, GPS, satellites).
Force. Force as an interaction. Force vectors. The basic forces and interactions of nature. Gravity. Friction. The connection between resultant force and acceleration. Characteristics of the balance of point-like and rigid bodies. Stable and unstable states of balance. Torque. Simple machines.
Momentum, angular momentum and kinetic energy. Their concept and their role in describing motion. The interpretation of the concept of angular momentum based on simple natural and technological examples. The conservation of momentum and angular momentum.
Energy. The concept and calculation of energy. Mechanical (kinetic, positional, elastic). Energy conservation. Methods of achieving energy efficiency and their importance. Efficiency. The advantages and drawbacks of various sources of energy. Practical applications (practical factors affecting the fuel economy of vehicles and their physical background).
The physical underpinnings of physiological processes. Simple machines and their operation in the body (bones, joints, muscles). Energy in the operation of the human body (breathing, circulation, temperature management). Energy in nutrition (the energy content of foodstuffs, the accumulation of energy, energy use).
Materials. The mechanical properties of matter: elasticity, strength. The most often used properties in material examination; measurement methods, units of measurement.
Vibrations and waves. Characteristics of vibrations. The propagation of waves, standing waves. The physical characteristics of sound; the mechanism of its propagation; harmonics. The physical principles underlying human sound perception. Ultrasound in nature and medicine.

Continuum physics. Hydrostatics, fluid mechanics. Characteristics of atmospheric circulation and oceanic currents; the physical phenomena generating them. Mechanical waves in nature; tide, tidal waves. The movement of tectonic plates, the tensions generated by the movement, earthquakes. The analysis of elements of weather and the data describing them.
The physical principles underlying environmentally conscious behaviour. Economical, comfortable and safe transport technologies.

2. Thermodynamics

The structure of matter. The characteristics of solids, liquids and gases; their interpretation through the particle model and interaction types. Interactions at bounding surfaces. The thermal properties of materials (thermal expansion, specific heat capacity, evaporation heat, melting point, boiling point). The state descriptions and state indicators most often used in the examination of materials; their use and measurement; the consistent use of units of measurement.
Thermal systems. Characteristics of open and closed systems. The first and second law of thermodynamics. Heat engines. The concept of energy conversion efficiency. Phase transitions. The energetic characteristics of phase transitions. Internal energy.
The direction of processes. Reversible and irreversible processes. The impossibility of perpetual motion machines of the first and the second kind. The application of the main laws of thermodynamics in solving concrete problems. Order and disorder, ordering processes in nature.
Technological systems in our environment. "Generating", transporting and using heat energy in concrete systems.
The Earth's surface and climate. Physical characteristics of atmospheric circulation and oceanic currents and the physical phenomena generating them. The phenomenon of global climate change and its possible physical causes.
The physical characteristics of the atmosphere. Pressure, temperature, humidity. Atmospheric optical phenomena (rainbows, the colour of the setting Sun). The greenhouse effect, the principles behind it, practical examples, the factors affecting the greenhouse effect.
The physical processes affecting the weather. Weather phenomena; precipitation, the physical description of the formation of precipitation.
The physical principles underlying environmentally conscious behaviour. Energy issues in the home (energy efficient construction, heat insulation, sealing windows, choosing construction materials). Economical energy supply in the home, using energy available in the environment (solar collectors, heat pumps, condensing boilers). Risk factors in energy production. Analyzing the possible causes and consequences of global climate change. Understanding the effects and causes of some environmental problems (accelerating greenhouse effect, acid rain, ozone hole).
Physical processes in the body. Energy in the operation of the human body (breathing, circulation, temperature management). Energy in nutrition (the energy content of foodstuffs, the accumulation of energy). Blood pressure, the flow of blood.

3. The study of electricity

Electricity. Electric charges, the Coulomb interaction. Magnetic interactions. Electric and magnetic fields. The conductivity of materials.
Networks. The structure and main characteristics of electric circuits and networks. Safety elements in electric networks. The elements making up the Internet; means of connection. Avoiding physical effects threatening living systems (shock protection, lightning, lightning rods).

Electromagnetic energy. Electricity storage. The physical principles underlying the operation of electric generators and engines (induction phenomena). The physical principles underlying the operation of information and communication systems (mobile phones, world-wide web). The structure of computers, and the physics of the operation of their parts. The generation and transportation of electricity (transformers, alternating current and electricity generation). Issues associated with the use of electric energy in the home (electricity bills, light bulbs, fuses, rechargeable batteries).
Electromagnetic waves. Their generation and characteristics. Data transmission illustrated by examples (radio and television broadcasting and reception). Digital data storage (CDs, hard drives). Optical methods of data transmission (glass fibres). The principle and practical applications of the photoelectric effect (digital cameras, photocopiers, laser printers). The role of electromagnetic waves in information transmission. The effects of electricity and magnetism on living organisms.
The physics of light. Imaging devices: mirrors (flat, concave, convex), converging and diverging lenses. The eye as an optical system, vision problems; practical applications (colour vision, 3D vision, 3D films). Light as a wave.
Diagnostics and therapy. The aim and basic physical principles of diagnostic methods in medicine (detecting electricity generated in the body). The aims and basic physical principles of therapeutic methods in medicine.

4. Modern physics

Nuclear physics. The nuclear physics of material structure (the Rutherford model, the Bohr model, the quantum mechanical description of atoms). Protons, neutrons, electrons, atoms, molecules and other complex systems (crystals, liquid crystals, colloids). The dual nature of matter.
Material examination methods. Description of some material examination methods and the physical principles behind them.
Interactions within the atomic nucleus. Radioactivity, artificial radioactivity, half-life.
Nuclear energy. The equivalency of mass and energy. Energy generation in the Sun.
The regulation of systems. The operation of nuclear power plants. Risks and system security. The use of the concept of stability in nuclear physics; understanding the operation of nuclear power plants and the safety issues associated with regulation. Avoiding physical effects threatening living systems (radiation protection). The effects of radiation on the living world.
Diagnostics and therapy. The aim and basic physical principles of diagnostic methods in medicine (X-rays, imaging methods, radioactive tracing, endoscopy). The aims and basic physical principles of therapeutic methods in medicine.

5. Gravity, astronomy

Space and time. Size scales in nature (atomic nucleus, living organisms, Solar System, Universe). The effects of gravity on the living world. Measuring time; the homogeneity of time. The structure of the Solar System, its position in the Milky Way. Galaxies and their structure. Galactic clusters.
The Sun and the Solar System. The movement of planets, the matter they are made of, their gravity, atmosphere and surface. Characteristics of comets, meteors, meteorites, and asteroids and their movement. Characteristics, eclipses, phases and movement of the Moon. The Sun's structure, solar phenomena (solar wind, sunspots, solar flares). Solar radiation, its effects; auroras. The description of the movement of planets. The development of the Universe. Directions of space research; its uses and social role. Understanding the relationship between the physical and chemical properties of planets and their environmental conditions. Telling apart the causes of the phases of the moon and lunar eclipses. Tide, tidal waves. The facts and

arguments for and against the various theories regarding the past and the future of the universe. Getting to know the structure of the Universe. Overviewing some methods, goals and results of research.

6. The history of physics and the history of culture

Science history. Astrology and astronomy. Characteristics of the geocentric and heliocentric world view. Changes in the concept of the atom; arguments and observations for and against the various models of the atom. Various models of light. Astronomical ideas about the evolution of the Earth, the Solar System and the universe.

Science, technology and society. The impact of physical and mathematical theories of the world on European culture. The effects of the science of physics on industrial-technological civilisation. Understanding the usefulness of the scientific way of thinking in everyday life and using such methods consciously; the features and dangers of pseudoscience. The interpretation of processes in the history of science based on the development and building on each other of models and ideas. The role of laws and principles. Analyzing the advantages and drawbacks of various methods of obtaining knowledge. Getting to know the methods, scientific results (and the scope of validity of such results) of major Hungarian and foreign natural scientists.

CHEMISTRY

Grades 7-8

1. General chemistry

Atoms and the ions derived from them. The emergence of the concept of atoms and chemical elements. The atomic nucleus and electrons. Atoms, ions. The use of models of atom structure in connection with physical and chemical phenomena. The periodic table and its importance and use; groups and periods. The classification of elements and compounds. The chemical notation of elements and chemical compounds (chemical symbols, chemical formulae).

Molecules, polyatomic ions. Molecules. Chemical formulae. Strong chemical bonds. The interpretation of chemical formulae.

Sets. The qualitative and quantitative description of the materials objects are made from. The properties and grouping of elements, compounds and mixtures. Distinguishing the elements, compounds and mixtures that are widely used in everyday life. Mixing and separation. Classification of systems based on the number of components and phases, and the possibility of matter-energy transition. States of matter, a comparison of phase transitions. The explanation of the difference between dissolution and melting. Observing and measuring the energy changes involved in phase transitions and dissolution.

Chemical reactions. Differentiating physical and chemical changes. The description of chemical processes using word equations and chemical equations. Conditions required for chemical reactions. Illustration of the energy aspects of physical and chemical processes using everyday examples. Activation. Objects and experimental setups as systems. The explanation of chemical reactions based on chemical bonds and their description using reaction equations; the connection between the equation and the number of particles. Simple methods for accelerating and slowing down chemical processes. An analysis of the environmental effects of energy conversion processes; alternative energy conversion methods.

Chemical equilibrium. The interpretation of thermal equilibrium and the process of equalization. The interpretation of one-way, reversible and cyclical processes with respect to

everyday phenomena. The interpretation of saturated solutions, solution, crystallization and phase transitions as reversible processes tending towards equilibrium.
Types of reactions. The classification of chemical reactions. The explanation of combustion, the necessary conditions, and basic fire protection education. Options for fighting fires. Some widespread acids and bases and their safe and practical handling. Learning the poison sign and other frequently used danger symbols; the careful handling of toxic materials.
The interaction of chemical reactions and electricity. The processes involved in converting one type of energy into another. The concept of corrosion; corrosion protection.
Science history. The formation of the concept of the atom and the chemical element, evidence for atom models, their scope of validity and their practical scope of application. The interpretation of the concept of acids and bases based on the theory of dissociation. Changes in the interpretation of combustion and oxidation.

2. Inorganic chemistry

The structure of elements and compounds. Chemical bonds (ionic, covalent and metallic bonds). Understanding the relationship between the properties of materials and their scope of use based on concrete examples.
The physical and chemical properties of elements and compounds and their interpretation in terms of material structure. The classification of elements and compounds. The physical and chemical properties of various materials occurring in everyday life (elements, metals, alloys, salts, acids and bases).
The occurrence of elements and compounds. Distinguishing the elements and compounds that are widely used in everyday life. The explanation of the uses of various materials occurring in everyday life (elements, metals, alloys, salts, acids and bases) and their classification.
Producing elements and compounds in the laboratory and in an industrial setting. Objects and experimental setups as systems. Based on examples, following the transformation of materials from raw material into product, then into secondary raw materials. The production of metals through reduction. Making construction materials (burning lime, slaking lime). Some important alloys.
The most important uses of elements and compounds. Some important alloys (bronze, steel, brass). The concepts of "ore" and "mineral", the chemical composition of mountain-forming rocks, an explanation of the formation of caves. The chemical foundation of water hardness, water softening and chemical limescale removal. Materials in our environment: the most important components of building materials and metals (alloys).
The importance of elements and compounds. The nutrients necessary for the survival of plants, man and animals. The chemical composition and comparison of natural waters. The chemical composition of the air. The physiological role of certain elements. Water and air purity based on a knowledge of the chemical composition of natural bodies of water and the air; sources of contamination and everyday means of prevention; correct habits. The chemical background of processes damaging and protecting the environment. Dangerous substances and their handling in the household (sodium hypochlorite, limescale remover).

3. Organic chemistry

The structure and classification of organic compounds. Various everyday materials (natural and synthetic organic materials) and their classification. Carbohydrates, proteins, fats, oils and organic acids as nutrients.
The physical and chemical properties of organic compounds. The physical and chemical properties of various everyday materials (natural and synthetic organic materials); an explanation of their uses. The solubility of vitamins. The chemical properties of some widely known psychoactive substances, methanol and ethanol.

The occurrence and importance of organic compounds. Various everyday materials (natural and synthetic organic materials) and their classification. The chemical properties and physiological effects of some widely known psychoactive substances, energy drinks, methanol and ethanol. Healthy nutrition: the role of fats and sugars in nutrition; the consequences of overconsumption; the use of nutritional tables; food safety. The concept of food safety. Hazardous substances and their handling in the household (cold degreasers, anti-freeze).

4. Chemical calculations

Chemical quantity. The concept of chemical quantity and the use of the Avogadro constant.
Avogadro's law. Temperature and pressure as indicators.
Solutions and mixtures. Practical examples for the description of solutions by mass fraction and volume concentration.
Calculations with chemical formulae and reaction equations. The conservation of mass. Balancing chemical equations. The description of chemical processes using word equations and chemical equations.

Grades 9-12

1. General chemistry

Atoms and the ions derived from them. Proof of the existence of atoms, the use of the models of the internal structure of atoms to describe phenomena/processes and physical and chemical phenomena. The shell structure of electron distribution; the structure of noble gases. Atomic structure as the foundation for the periodic table. Neutrons, protons, isotopes. The concept of relative weight and molar weight. The interpretation of the periodic changes of the properties of chemical elements.
Molecules, polyatomic ions. The composition, spatial structure and polarity of molecules and polyatomic ions. An estimation of the type, strength and number of atomic bonds using the periodic table based on simple, clear examples. Isomery.
Sets. The explanation of set structures based on the structure of their components and interactions. Strong and weak bonds. The classification of known materials by types of crystal lattice; an explanation of their physical and chemical properties based on type of crystal lattice. The interpretation of temperature based on the kinetic energy of particles. Solubility and concentration. Heterogeneous and colloidal systems. The role of colloids in living organisms. Defining smog, aerosols, smoke and fog. What to do in case of smog warnings. The connection between chemical structure and biological function, illustrated through the examples of hydrogen bonds, non-polar groups and surfactants. Material flow processes: an interpretation of diffusion and osmosis. Some important material examination methods, the interpretation of certain properties based on material structure.
Chemical reactions. Physical and chemical changes. The interpretation of chemical formulae, the explanation of chemical reactions based on chemical bonds and their description using reaction equations; the connection between the equation and the number of particles. The interpretation of activation energy and the heat of reaction. The interpretation of the loss of heat occurring when transforming energy from one form to another. The examination of reaction rate; the concept of the rate of chemical processes; the dependence of reaction rate on temperature; surface area and concentration, catalysts. The role of enzymes in making our food; the explanation of the role of (biological) catalysts at the particle level. The chemical basis of major biogeochemical cycles.

Chemical equilibrium. Generalization of the concept of dynamic equilibrium and its relationship with reaction rate. The analysis of the causes affecting the equilibrium. Understanding the background of one-way, reversible and cyclical processes; recognizing the regulatory steps of cyclical processes. The interpretation of saturated solutions, solution, crystallization and phase transitions as reversible processes tending towards equilibrium. The Le Chatelier-Braun principle. The examination of dynamic chemical equilibrium in a material system. The production of building materials (burning lime, slaking lime) and food and drink making (making seltzer) as a series of linear and circular processes and one-way and reversible processes. Possibilities of regulating industrial processes.
Types of reactions. The interpretation of acid-base reactions (based on the Brønsted-Lowry theory). Indicators, the pH scale. The pH of strong and weak acids and bases and salts; the relationship between pH and concentration; the interpretation of the pH scale. Interpreting of redox reactions based on electron transfer; examining redox reactions. The biological function of oxidation and reduction and acid-base reactions. The pH of blood.
The interaction of chemical reactions and electricity. The interpretation of redox and electrochemical processes (the operation of galvanic cells and rechargeable batteries, electrolysis and galvanization) based on the direction of redox reactions. The examination of electrochemical processes. The interpretation of the concept of corrosion, the generation of electricity and the production of certain metals based on the concept of oxidizing and reducing agents.
Science history. Evidence for atom models, their scope of validity and their practical scope of application. An explanation of the properties of acids and bases and acid-base reactions based on the theories of dissociation and proton transfer. Changes of the explanations of combustion and oxidation. Arguments for and against the various theories. The goals, importance and principles of green chemistry. Possibilities of individual and community action for resolving environmental problems; commitment to action.

2. Inorganic chemistry

The structure of elements and compounds. Recognizing the relationships between the structure, composition and properties of inorganic compounds and applying this knowledge.
The physical and chemical properties of elements and compounds and their interpretation in terms of material structure. The classification of elements and compounds. Strong and weak bonds. The most important inorganic materials in everyday life; their classification, physical and chemical properties and chemical reactions.
The occurrence of elements and compounds. Distinguishing the elements and compounds that are widely used in everyday life. The occurrence of the most important inorganic materials and compounds in everyday life.
Producing elements and compounds in the laboratory and in an industrial setting. Based on examples, following the transformation of materials from raw material into product, then into secondary raw materials.
The most important uses of elements and compounds and their importance. Materials in our environment: the most important components of building materials and metals (alloys). The most important compounds making up the Earth. Chemical processes of fundamental importance in the oxygen, nitrogen and carbon cycles. The chemical composition of some celestial bodies. The occurrence and effects of ozone. Understanding the effects and causes of some environmental problems (accelerating greenhouse effect, acid rain, ozone hole). Carbon dioxide emission allocations. Discovering the chemical aspects of local (settlement-level) problems (e.g. water management, transport, the necessity and/or dangers of using fertilizers, agricultural pesticides, laundry detergents and dishwashing liquids, medicines and certain steroids).

3. Organic chemistry

The structure and classification of organic compounds. Recognizing the relationships between the structure, composition and properties of organic compounds and applying this knowledge. Constitutional isomery. The classification and structure of the most important organic materials and compounds in everyday life.

The physical and chemical properties of organic compounds. The physical and chemical properties of the most important organic materials in everyday life (hydrocarbons, alcohols, oxo compounds, carboxylic acids, esters, lipids, carbohydrates, proteins, nucleic acids) and an explanation of their uses. The biological functions of hydrolysis and condensation.

The occurrence and importance of organic compounds. The most important organic materials in everyday life, their occurrence, production, use and physiological effects. Food additives. The components of detergents and their function. Materials in our environment: the most important components of paper, plastics, cosmetics and foodstuffs. Active ingredients in cosmetics (lipids, glycerine, surfactants). Hormonal compounds. Chemical raw materials for clothing (cotton, linen, wool). The role of protein molecules in movement. Blood sugar level (glucose, glycogen), the pH of blood, haemoglobin. The concept of food safety. Pheromones as chemical means of communication. Teratogenic chemicals. The role of DNA and RNA protein molecules in determining traits; the connection between structure and function. The environmental impact of the use of raw materials as energy sources (nuclear energy, fossil fuels, foodstuffs). Discovering the chemical aspects of local (settlement-level) environmental problems (e.g. water management, transport, the necessity and/or dangers of using fertilizers, agricultural pesticides, laundry detergents and dishwashing liquids, medicines and certain steroids). Environmental disasters. The role of enzymes in making our food, the explanation of the role of (biological) catalysts at the particle level. The production of plastics, problems in waste management.

4. Chemical calculations

Chemical quantity. The use of the concept of chemical quantity and the Avogadro constant. Avogadro's law. The molar volume of gases.

Chemical equations. Chemical formulae, representations of chemical structure, the description of simple chemical transformations using equations.

Solutions and mixtures. Solubility and concentration. Calculations regarding the composition of solutions: dilution, increasing concentration, mixing.

Thermochemistry. The development of the quantitative approach to energy. A characterization of the energy changes taking place in the course of chemical processes; simple calculations.

Chemical equilibrium, the calculation of pH. The relationship between pH and concentration.

II.3.6. THE EARTH – OUR ENVIRONMENT

A) PRINCIPLES AND GOALS

The subject area "The Earth – our environment" helps students learn about the formation of our planet, its characteristics and natural and social geography, the way the major systems sustaining life on Earth work, and the major regions of the planet and their peoples – with a special focus on Hungary and the Carpathian Basin. Students are taught the basic means and methods of finding their way in their local and broader natural and social environment.

Learning the content associated with the subject area "The Earth – our environment" improves students' geographic world view, environmental consciousness and perception of the world at the local, regional and global level. It helps students understand that the Earth and its living world form a unified, continuously changing system. Studying the interactions between natural and social processes highlights the necessity of managing resources in a sensible manner. The topics of this subject area include a wide range of Earth sciences and important elements of environmental and social sciences. Discussing the environmental aspects of global economic and social processes allows students to get to know the way humanity is transforming nature around the globe and find out about the natural, social and ecological problems caused by these changes. This way, they learn about the challenges that force them to place sustainability and the recognition of our global interdependence and responsibility at the centre of their world view.

In addition to enriching students' knowledge of their local and broader environment, processing the content of this subject area also contributes to the development of their abilities. Through the use of the various oral and written learning and evaluation methods, it contributes to the development of mother tongue communication. Learning about the geographic and environmental characteristics of the European Union and remote countries arouses students' interest in the peoples and cultures of our continent and more distant areas. It calls attention to the importance of conserving the values of the various cultures for the coming generations, thus contributing to the promotion of responsible and conscious environmental behaviour. Learning the content of this subject area contributes to a modern view of natural sciences and a modern way of thinking with regard to these areas. In the course of the teaching-learning process, great emphasis is placed on the development of the skills of acquiring and processing information through direct experience (partly in the field), through observation and through the means supplied by the digital world. Learning about the social geography of Hungary and the world improves students' social and civic competence, and it also helps them become entrepreneurial citizens who area also willing to take responsibility for the values and goods of the community.

The groundwork for this subject area is laid with regard to content and ability development in grades 1-4 in accordance with the description in the "Man and nature"subject area . The system of requirements of the higher grades is closely related to the development areas of the "Man and society" subject area – in addition to "Man and nature" – emphasising the integrative nature of the subject area "The Earth – our environment".

B) DEVELOPMENT TASKS

The structure of development tasks

1. Orientation in geographic space
2. Orientation in time
3. Orientation about materials in nature
4. Orientation about interactions in nature
5. Orientation about geographic and environmental processes in Hungary
6. Orientation about geographic and environmental processes in the region and across the globe

The arrows in the tables (►►) mean that the activity in question continues in higher grades, with the additions indicated for the next phase of education.

1. **Orientation in geographic space**

Grades 5-8		**Grades 9-12**
Grades 5-6	**Grades 7-8**	
A gradual expansion of the known space. Orientation at the place of residence and in its direct and broader surroundings, ►►	►► on the continents, ►►	►►basic orientation on the Earth, in the Solar System and in the Universe.
Understanding the relationship between the map and reality, ►► --- Making a schematic drawing about one's home and its surroundings.	►►proving this relationship, ►► ---	►► interpreting the simplified nature of representation in maps. --- Matching up information and facts obtained from aerial photographs and satellite imagery with mapping data.
Orientation on topographic maps, public administration maps, thematic maps and maps of the place of residence. --- Basic map reading under the teacher's guidance (recognition, searching; identification of directions, use of the line grid, estimating distances, measuring distances along straight lines), ►►	The use of various types of maps for learning and orientation in the field. --- ►►reading maps without assistance. --- Reading maps and explaining the features using maps of varying scale, style of depiction and content under the teacher's guidance ►►	Reading the differences and temporal changes of geographic space from maps and map sketches. --- Determining positions, measuring distances and making simple calculations using maps. --- ►► and without assistance.
Recognizing on a map or globe the topographic concepts necessary for orientation in the directly surrounding geographic space, ►►	►►naming them on a map of any style of depiction, associating content elements with them,►►	►► placing them on outline maps and explaining their content.

2. Orientation in time

Grades 5-8		Grades 9-12
Grades 5-6	**Grades 7-8**	
Understanding the differences in time scale between processes of natural geography and historic events, ►►	►► recognizing the differences in temporal scope.	Understanding the differences in time scale between processes of the history of Earth, natural geography, socio-economic processes and environmental processes. Learning the time various Hungarian and international socio-economic and environmental changes took place.
Recognizing the chronology of environmental processes. --- Recognizing the regularity of the repetition of phenomena, ►►	Identifying the temporal order of the previously learned events, phenomena and processes affecting the various continents, ►► --- ►► describing regularly repeated natural, social and environmental changes, ►►	►► establishing the temporal order of events in the history of the Earth and environmental changes and interpreting them. --- ►► applying the astronomical foundations of the measurement of time in practice.
Reviewing short-scale natural, social and environmental processes based on Hungarian examples.	Reviewing short-scale and long-scale natural, social and environmental processes based on examples. Orientation in the time units of the history of the Earth, ►►	►► placing processes and structures in the eras of the history of the Earth. Developing students' evolutionary approach.

3. Orientation about materials in nature

Grades 5-8		Grades 9-12
Grades 5-6	**Grades 7-8**	
Recognizing the organic and inorganic materials frequently used in the Hungarian economy and classifying them based on various criteria. --- Selection among information materials and collections under the teacher's guidance, ►►	Classifying living and inanimate materials and recognizing their importance in nature and in social or economic life, ►► --- ►► on the World Wide Web, ►►	►► providing evidence. --- Recognizing the role of air and water in the emergence of life and its survival in various geographic environments. --- ►► without assistance, by goal and topic.
Discovering the most frequent minerals, rocks and soils, learning about industrial raw materials and fuels, ►►	►► examples for their territorial occurrence and their properties, ►►	►► mineral, rock and soil examinations.
The importance of the fuels and raw materials used in the household. --- Laying the groundwork for energy efficient behaviour,►►	Recognizing the finite nature of the stocks of the raw materials and fuels used by humanity. --- ►► bringing about energy efficient behaviour, ►►	►► understanding the importance of energy efficiency and the tension between the energy demand of humanity and sustainability. Discussing the use of alternative energy sources (as a possible

Grades 5-8		Grades 9-12
Grades 5-6	Grades 7-8	
		solution).

4. Orientation about interactions in nature

Grades 5-8		Grades 9-12
Grades 5-6	Grades 7-8	
The ecological characteristics of the ecosystems of various areas in Hungary; understanding the geographic characteristics and connections of habitats.	Understanding the natural and social characteristics of local areas, countries and continents and the relationships between them. Recognizing the role of natural and economic conditions and traditions in shaping the economic development and world view of peoples, illustrated by examples.	Understanding the relationships and interactions of the natural and social characteristics of groups of countries, regions and the Earth. Recognizing the role of the natural, social and economic factors determining human economic activity in the examples shown.
Interpreting and analyzing weather and climate phenomena based on examples from the Carpathian Basin. --- Unique and regular observations and measurements under the teacher's guidance individually and in groups, ►►	Recognizing and explaining interactions in geographic space based on regional examples. --- ►►investigations, model creation,►►	Recognizing and explaining the interactions within and between Earth's spheres. --- ►►individual and group investigations following the principles of natural, social and environmental science expert science.
Depicting facts and textual information associated with natural interactions, under the teacher's guidance.	►►depicting aspects of natural and social interactions without assistance, ►►	►►depicting aspects of environmental interactions in the format and manner chosen without assistance.
Discussing the direct effects of the natural environment on social and economic processes based on Hungarian examples, ►►	►►recognizing its indirect effects in present-day social and economic processes based on Hungarian and foreign examples, ►►	►►recognizing them in events forming part of social and economic development and in present-day social and economic processes based on examples taken from various (groups of) countries.
Recognizing the human impact on the geographic environment and the resulting problems; trying to find solutions.	Recognizing the natural changes caused by natural and social processes and by the interactions between them. Recognizing the short-term and long-term environmental effects of production and consumption processes based on regional examples.	Evaluating environmental changes, laying the groundwork for the ability to make responsible decisions. Making simple predictions, identifying trends based on known changes, interpreting the predictions occurring in everyday life. Sensitivity to the social problems stemming from differing economic conditions and states of development; active participation in their resolution.
Recognizing the environmentally damaging interactions and	►► learning about them based on examples,►►	►►interpreting their interconnections.

Grades 5-8		Grades 9-12
Grades 5-6	**Grades 7-8**	
processes caused by human activity, ►►	--- Perceiving the Hungarian and international efforts aimed at reducing the impact of environmentally damaging interactions.	--- Recognizing the clashes with economic and social interests that arise in the course of reducing environmentally damaging effects.

5. Orientation about geographic and environmental processes in Hungary

Grades 5-8		Grades 9-12
Grades 5-6	**Grades 7-8**	
Recognizing the effects of the characteristics of the natural environment on economic and social life through examples taken from the place of residence and its surroundings. Illustrating the changes in lifestyle and agricultural activity in the Carpathian Basin with examples from different geographic areas.	A detailed discussion of the land of Hungary, with additional information on the entire Carpathian Basin. A discussion of the geographic characteristics of Hungarian social and economic life based on current events under the teacher's guidance. A comparative geographical analysis of Hungarian regions and areas, naming the causes and consequences of their differing characteristics.	Recognizing the connections between geography and Hungarian social and economic life through the events and processes of everyday life. Analyzing the differences between the levels of development of various areas, identifying the causes.
Using printed and digital information sources under the teacher's guidance (looking for geographic locations and maps, using encyclopedias)►►	►►and using Internet services for the same purpose (facts, data, transport schedules, news, tourism offers►►)	(►►weather reports, route planners, currency converters, simulations, animations).
Recognizing the values and problems of the local (school, settlement) environment with regard to nature, social issues, economic history and the environment based on direct experience.	Collecting information on Hungary's protected natural, cultural, ethnographic and economic history assets. Understanding the connections between geographic location and environmental problems.	Learning about environmental values and problems, understanding their links at the national, regional and global level.

6. Geographic and environmental processes in the region and across the globe

Grades 5-8		Grades 9-12
Grades 5-6	**Grades 7-8**	
Geographic issues at the local, regional and global level		
Recognizing the changes in lifestyles and customs.	Recognizing the direct and indirect effects of the natural environment on the social and economic processes in the past and the present, in Hungary and abroad.	Explaining the effects of natural factors and their relationship with other phenomena in the Carpathian Basin and further afield. Evidence for the necessity of regional social, economic and

Grades 5-8		Grades 9-12
Grades 5-6	Grades 7-8	
		environmental cooperation.
		Recognizing social and economic issues, phenomena and relationships at the global scale.
Europe and the sense of regional identity		
The position of Hungary in Europe.	The geographical characteristics of Europe and its countries, with a special emphasis on neighbouring countries and the member states of the European Union. --- The European Union's main objectives and values from a geographical-environmental perspective,►► --- Recognizing the importance of cooperation,►►	Comparing the geographical characteristics of European countries. --- ►►finding out about the cultural values of European peoples and countries and understanding our interdependence. --- ►►learning about the central concept of integration and the possibilities and ways in which countries can cooperate.
Recognizing the geographical characteristics of the regions of Hungary. Recognizing the similar and differing geographical characteristics of the regions of Hungary, ►►	A comparison of the regional characteristics of continents, their major areas, typical landscapes and countries. --- ►► project work under the teacher's guidance,►►	Distinguishing and describing countries, groups of countries and regions with different roles in the world economy based on their geographical features. Explaining regional differences in development. --- ►►applying this learning to the entire Earth.
Understanding the relationship between social and economic and environmental processes in the place of residence and in Hungary.	Recognizing the effects of the surrounding world on the Hungarian environment through an active learning process,►►	►►interpreting the change processes of the world economy and the environment in problem-centred and discovery-oriented learning processes.
Environmental issues at the local, regional and global level		
Recognizing the fact that different areas, settlements and social groups contribute to the transformation and damaging of the natural environment to varying degrees.	The conscious realization of the differing contributions of different countries to the processes that damage the geographic environment.	The conscious realization of the effects of individual and social actions that have a negative impact on the operation of the unified system of Earth. The concept of sustainable consumption.
Learning about the basic objectives of nature protection and environmental protection based on own experiences, ►► --- Accepting every person's personal liability for the condition and	►►learning about our common and individual responsibilities, ►► --- ►►understanding them through local, regional and global examples.	►►recognizing the factors that make this activity difficult. --- Proving the necessity of international cooperation in preventing cross-border

Grades 5-8		Grades 9-12
Grades 5-6	**Grades 7-8**	
protection of the environment, ►►		environmental damage.
Recognizing environmentally damaging activities at and near the place of residence.	Information about the primary environmental dangers and society's responsibility based on regional examples of the conservation of a natural, healthy environment,►►	►►in ensuring security and sustainable economic activity at the global level.
	Encouraging students' ambition to become environmentally conscious citizens,►►	►►who are active and capable of making responsible decisions.

C) GENERAL COMPETENCES

The groundwork for this the subject area is laid with regard to content and ability development in grades 1-4 as described in the section on the subject area "Man and nature".

Grades 5-8

1. Space and its representation

1.1. Units of space
- Personal space. Geographic space.
- Space hierarchy.

1.2. The depiction of space.
- Space drawings, route drawings, map sketches; travel drawings and drawings of places.
- The depiction of reality in maps.
- Map types.
- Line grids on maps and the geographic coordinate system.

2. Time

2.1. Units of time
- Time units at the scale of the day, the year, human history and the history of the Earth.
- The time scale of geological and geographical processes; examples.

2.2. Chronology
- The chronology of cyclical and linear processes and events of the history of the Earth illustrated by regional examples.

3. The natural environment and its phenomena

3.1. Materials, material systems.
- Minerals and rocks, raw materials and fuels; soil types.
- Environmentally harmful materials and their effects.

3.2. Earth's spheres
- Topographic shapes, surface water and underground water, soil types.
- Elements and phenomena of the weather and the climate; basic atmospheric processes.
- Changes of climate elements, factors affecting the climate, characteristics of climates and their social and economic effects.
- Emergencies.

3.3. Geographic zones
- Natural, social and economic and environmental instances of horizontal and vertical geographic zoning.
- The links between the elements of zoning seen through regional examples.

3.4. Celestial bodies
- The apparent movement of celestial bodies. The movements of the Earth and their consequences.

4. The organization and processes of social and economic space

4.1. The organization of social and economic life

- The territorial distribution of the population; population numbers and what they depend on; regional differences.
- The geographical basis of cultural life (languages, religions).
- Settlement types and their role.
- The natural conditions required for economic activity; changes in the exploitation of natural resources.
- The role of economic sectors in the economy of continents, regions and countries.

4.2. The organization and operation of the world economy.

- The role of continents and countries in the world economy.
- Examples of international economic cooperation and international social and economic organizations; their characteristic activities.
- Finance: revenue and expenditure, currencies (national and common currencies).

5. The regional organization of geographic space

5.1. The geography of Hungary and the Carpathian Basin.

- National culture and the international reputation of Hungarians, intellectual and economic products, traditions, Hungarian specialities.
- The place of residence, regions of Hungary.
- The connections between Hungary's natural characteristics and social and economic life.
- The Carpathian Basin and the mountains surrounding it as a unit of natural and social geography.
- The common and unique geographic characteristics of areas with a Hungarian population outside of Hungary. The national minorities living in Hungary.

5.2. Europe

- The geographic and environmental characteristics of Europe and their cause-and-effect relationships.
- The European Union as an economic organization; the geographic basis of European cultural diversity.
- The geographic characteristics of the various parts of the continent; the shared and unique geographic and environmental characteristics of various different habitats, their reasons and consequences.
- The unique geographic and environmental characteristics of the most important countries of the various parts of the continent, their reasons and consequences.
- The geographic and environmental characteristics of the neighbouring countries, their importance in the world and their social and economic relationships with Hungary.

5.3. Continents, regions and countries outside of Europe.

- The natural geography, social geography and environmental state of Africa, America, Antarctica, Australia and Asia; zoning in natural geography and its effects on social and economic life and the environment.
- The natural, social and economic and environmental characteristics of the typical landscapes of each continent; the exploitation of natural resources by human society; characteristic lifestyles.
- The most important countries of distant continents; the geographic characteristics of groups of countries and their role in the world economy.

6. The local and regional sources of global challenges

6.1. Global problems

- Examples for the differences in quality of life; urbanization, environmental and economic problems.
- Consequences of local damage to the environment.

6.2. Sustainability

- Changes in consumption habits; environmental consciousness, energy efficiency, the generation of wastes, selective waste collection, organic products; individual and communal possibilities for action; conscious consumption behaviour.
- Hungarian and international examples of protected natural values.

Grades 9-12

1. Space and its representation

1.1. Units of space

- The Universe, the Solar System and the Earth.
- Earth's spheres and their constituent parts; functional spaces.

1.2. The depiction of space.

- Tools of getting to know and depicting space.
- The social, economic and environmental importance of space research and remote sensing.

2. Time

2.1. Units of time

- The astronomical foundations of daily and annual time scales; the basis of measuring time at geological scales.
- The time scale and duration of social, economic and environmental processes.

2.2. Chronology

- Geographic and environmental processes, major events in the history of the Earth and their chronology based on examples affecting the entire planet.

3. The natural environment and its phenomena

3.1. Materials, material systems

- The generation and importance of the materials and material systems making up the Solar System and Earth's spheres, and their role in everyday life and the economy.

3.2. Earth's spheres

- The emergence and development of Earth's spheres.
- The structure and division of Earth's spheres and the environmental and social effects of their structure.
- The main processes and phenomena associated with Earth's spheres.
- The flow or matter and energy.
- Flow systems in Earth's spheres.
- The interactions of processes within and between Earth's spheres; their social, economic and environmental consequences and their management. Dangers and disaster situations.

3.3. Geographic zones

- The complex system of geographic zones; the relationships between zone elements.
- Tropical, temperate and polar climatic zones and their characteristics.

3.4. Celestial bodies

- The formation of the Universe, the Solar System and the Earth.
- The most important processes and phenomena of the Universe and the Solar System and their terrestrial impact.

4. The organization and processes of social and economic space

4.1. The spatial organization of social and economic life

- Population structure; the social and economic impact of demographic indicators.
- World languages and world religions.
- The transformation of the structure and role of settlements; settlement networks and settlement hierarchy.
- Managing natural and social resources.
- The structure of the economy, the characteristics of economic sectors, and changes in their role.
- Territorial differences in levels of economic development; the relationship between economic structure and the level of social and economic development.

4.2. The organization and operation of the world economy.

- The formation of the global world economy and world market, their characteristics and operation; transnational corporations.
- Social and economic mobility (workforce migration, capital movement, production transfer); the social and economic effects of such processes.
- Integration processes and levels of integration.
- The way financial capital works; the relationship between securities and the stock market. Typical monetary processes: credit, debt, indebtedness.
- The role of some of the most important international economic, social, environmental and aid organizations, institutions and financial organizations.

5. The regional organization of geographic space

5.1. The geography of Hungary and the Carpathian Basin.

- Hungary in the European context, its place and role in the world economy; territorial differences in the level of social and economic development within the country.
- The geography of Hungary's regions.
- The euroregions of the Carpathian Basin; the geographic logic behind the drawing up of regions.
- World heritage sites associated with the Hungarian people.

5.2. Europe

- The geographic characteristics and policies (agricultural, regional and environmental) of the European Union; social, economic and environmental cooperation in Europe.
- The place of Europe in the processes of the world economy; territorial differences in the level of social and economic development within Europe.
- The geographical foundations of regional cooperation in Central Europe.

5.3. Continents, regions and countries outside of Europe.

- Territorial differences in the level of social and economic development on continents other than Europe, and the consequences of such differences.

- The geographic and environmental characteristics of the typical landscapes of remote continents as they emerged based on their particular natural, social and economic characteristics.
- Countries and groups of countries with different roles in the world economy (e.g. central zones, peripheries); regional examples.

6. Global challenges

6.1. Global problems

- Global social and economic problems on Earth; their reasons, consequences and possible solutions.
- The social and cultural effects of globalization.
- The dangers, processes and problems affecting the natural balance of Earth's spheres.

6.2. Sustainability

- The possibility of mutually enforcing social, economic and environmental considerations in economic activities.
- The consequences of economic growth; conscious consumption and shopping; the sustainable exploitation of resources.
- Possibilities for limiting the damaging effects of their use.
- Tasks in environmental protection and nature conservation, environmental management; examples of protected natural and cultural assets (world heritage sites).
- Responsible environmental behaviour; the social responsibility of the individual.
- Local organizations and regional and international cooperation aimed at sustainability: conventions, guidelines, international organizations.

II.3.7. ARTS

PRINCIPLES AND GOALS

Artistic activities play an irreplaceable role in developing the imagination, empathy, taste and the ability of nuanced self-expression. From early childhood on, these activities are the most effective at developing children's sense for shapes, space, rhythm and colour and improving their motor coordination, and they are indispensable in developing attention, memory, cooperation and communication skills as well.

Artistic activities still have a sense of initiation about them: the encounter with the fates and behaviour patterns represented in works of art is a crucial moment in the individual's socialization, and they guarantee the conservation of a shared culture.

All branches of art pedagogy share a focus on practical issues and activities. The playful learning of the forms and expressions of various branches of art is the most joyful form of skills development. At the same time, art pedagogy also allows for art to shape students' personalities, improving their creativity and their cooperation skills and abilities and helping them consciously adopt moral values. It seeks to find a balance between outstanding cultural assets and the aesthetics present in everyday life: it can discuss works of art, popular culture and aspects of everyday life. Art education contributes to developing a national and European identity and learning about traditional and contemporary cultural assets. A shared body of knowledge and experiences strengthens the sense of belonging. By introducing them to our artistic heritage and contemporary works of art, art education helps children find their way in the culture of their own age.

Visiting art institutions (cinemas, theatres, puppet shows, concerts, museums, exhibitions) and processing such experiences in community is indispensable for the success of art education.

MUSIC

PRINCIPLES AND GOALS

The principal objective of music education at school is to encourage students to love music throughout their lives and to help them get to know and understand it in a manner that gives rise to joyful experiences. The pedagogical significance of the power of musical experience in terms of personality and community formation goes far beyond the activity of making music. Music education is a prioritized element of school curricula. Music is a tool the helps develop emotional intelligence, self-knowledge, empathy and attention control; it develops emotions, openness and attention.

In Hungary, the basis of music education is the practice of music pedagogy that stems from the Kodály method. It is a pedagogical method that develops all aspects of the personality and is focussed on the education of open and creative persons who have general European knowledge, preserve and interpret the Hungarian national tradition and actively participate in community life.

The core of the music study material consists of European classical masterpieces and folk music. It also may include some pieces of non-European music, jazz, and popular and

applied music provided that they serve as useful additional tools for the development of receptive ability. The recognition of the relationship between music genres – along with the study of the diversity of styles – promotes their deeper understanding.

The goal of music education is to create a shared community experience, which, in turn, gives rise to a balance of reception and self-expression, and to the harmony of listening to each other. The general knowledge contents of music history and music theory may be acquired successfully through the experience of and activities related to music and singing. Music writing and reading invariably operate as a tool for the evolution of a proper receptive attitude and of the understanding and love of music, primarily through the application of relative solfege and reading music. A priority objective of music classes is to give rise to a receptive experience of live music; in such situations, the teacher's personal and motivating instruction is of paramount importance. Singing is a basic tool in music education: one of its key objectives is to strengthen the sense of community through shared musical experience. Making music actively − and especially, in community − may offer a more intense experience for the participants than listening to music does. A particularly important element of the curriculum is bringing music and movement together to enhance the experience. As part of this effort − especially in the basic phase of education −, the key role is played by value-centred art education based on active reception and musical experience gained through total attention (a method of Klára Kokas, a pupil of Kodály). Furthermore, music education is in close relation with folk dance education and complex art education at schools.

The cooperation of public education and cultural institutions and organizations is a key factor in music education; for this reason, concert pedagogy is a part of music education at schools.

DEVELOPMENT GOALS

The structure of development tasks

1. Reproduction of music
   1.1. Singing
   1.2. Generative, creative musical activity (based on independent and/or joint creative processes)
   1.3. Reading music
2. Reception of music
   2.1. The development of receptive competences
   2.2. Listening to music

1. Reproduction of music

1.1. Singing

The musical material defined by the curricula may be conveyed with monophonic or polyphonic singing, or accompanied by musical instruments. As an activity supplementing singing, it is recommended that students use easy-to-play instruments and that the workshop activity of music classes be complemented with choir singing. In the lower grades, the learning and presentation of children's songs and play songs must be accompanied by intense movement (rhythmic movement, dance choreography, free movement improvisation).

1.2. Generative, creative musical activity

Music education must attribute an important role to creative activities and activities of self-expression. A frequently applied form of generative musical activity is singing improvisation or improvisation of instrumental music which can be used for a very large range of topics, in various phases of teaching. The depth of musical knowledge is determined by the adequate proportion of acquired musical knowledge and generative skills.

1.3. Reading music

The ability to read and write music is a tool which makes students understand and love music and which introduces them into a code system that contributes to efficient orientation in music-related contents. The elements of development are: elements of rhythm, metrics and form, the development of tonal hearing, skills related to polyphony, and the basic theoretical knowledge required for reading and writing sheet music.

2. Reception of music

2.1. The development of receptive competences

The abilities required for reception are: memory that helps orientation with regard to a given piece of music, concentration, musical imagination, identification with musical processes and content, and the ability to anticipate events in music.

2.2. Listening to music

Listening to music is the second major activity during curricular music classes (the first being singing). In terms of materials, efforts must be made to use rich media content available in the contemporary information communication society (e.g. downloadable multimedia content, the comparison of various interpretations of the same peace). Listening to music is an experience and, at the same time, a conscious activity that encourages intellectual activity. It helps students' orientation in the world of music and familiarizes them with masterpieces that are particularly appropriate for encouraging their aesthetic openness and for deepening their emotions. Connecting listening to music with free movement improvisation – especially in the four lower grades – may serve as a tool for this.

Grades 1-4

The main objective of development is the development of emotional sensitivity. Music is learned through playful participation in joint musical activity in the framework of music classes.

- The acquisition of folk music contents and folk children's games is accompanied by singing, rhythmic movement and folk dance. The presentation of songs with a narrative or musical material with dramatic programme may be accompanied by dramatized presentation.
- The preparation for the teaching of elements of music and calling conscious attention to such elements is done through playful exercises, guided improvisation and coordination exercises that develop attention and concentration.
- Musical imagination is developed with musical games and with free improvisations of rhythm and singing.
- A special role is attributed to learning songs by hearing and to the development of musical memory.
- Another important task is to develop abilities that serve as a basis for inner musical hearing. It requires the recognition of basic rhythmic patterns, bar types and simple tunes, and singing them based on hand signs, letter notation and music notation.
- Development of the sense of forms: recognition of identity, similarity, variation and difference.
- Rhythm instruments, rhythmic polyphony, rhythmic and melodic ostinato, the preparation for polyphony.
- Listening to music must be connected to singing, musical knowledge and experience gained at classical concerts.
- The verbal expression of thoughts and feelings evoked by the music; the visual expression of these thoughts and feelings as inspired by the music (drawing, painting, plastic art).

Grades 5-8

The main objective of development is calling conscious attention to, deepening and developing the knowledge acquired in the first four grades with varied musical activities, primarily with singing.

- Calling conscious attention to musical knowledge, the development and continuous practise of the sense of musical styles and forms with generative exercises.
- Getting to know and using the terminology of simple musical phenomena (terms denoting musical scales, forms, tempo markings, dynamic markings, expressions relating to articulation, names of intervals).
- The basics of the history of and literature of music (eras, major composers, styles, genres), aimed at the development of receptive attitudes and in their wider, community-related and social context.
- In grades 5-8, the number of concert visits is higher than in the first four grades.
- Learning songs by hearing; learning songs with music notation (with preparation); the development of musical memory; polyphonic singing.
- Developing inner musical hearing into a skill. Expected skills: the recognition of complex rhythms, bar types, tonal melody motifs from letter notation and music notation; solfege singing. Development of polyphonic hearing.
- The verbal expression of thoughts and feelings evoked by the music; the visual expression of these thoughts and feelings as inspired by the music (drawing, painting, plastic art).
- Using information and communications technology (ICT) for the purpose of deepening musical knowledge.

Grades 9-12

The main objectives of development are to share the joy of singing and of the ability to play musical instruments with the other members of the community, to shape musical taste and to promote the independent interpretation of music. Interpreting the experience gained at classical concerts; establishing links between students' extracurricular music-related activities and the workshop activities of curricular music classes.

- Folk music and folk dance; the role and function of folk music in the peasant tradition; strengthening the position of folk music within conventional knowledge.
- A comprehensive description of the major eras of the history of music and the presentation of its connection points to other subject areas (history, literature, other arts).
- Identifying the remarkable pieces of music history; identifying connections between musical eras and historical events, and between pieces of music, fine arts and literature.
- Encouraging students to get to know the life and career of major composers and performing artists.
- Connection points of and links between classical and popular styles, genres and forms of music. Differences in reception.
- Illustrating and interpreting the various functions of music and its role and representation in the media and film.
- A basic knowledge of sheet music and markings for performers; vocal and instrumental reproduction.
- Efforts made to convey the message of music with verbal tools or to transcode it into the language of other branches of art.
- Collecting music-related documents; developing skills of systematization and processing with cutting-edge ICT tools.
- Preparing presentations with the use of libraries and the Internet, independently.

GENERAL COMPETENCES

Grades 1-4

Musical material:

- Primarily: folk songs, folk children's games, easy folk song arrangements (recommended: children's songs by Zoltán Kodály and Pál Járdányi).
- Pieces of art music based on folk music themes (recommended: Bartók: For Children, Kodály: Children's and women's choirs), pieces of authentic folk music (accompanying music of major dance types and dance dialects).
- Folk songs of other cultures; their art music arrangements.
- Short pieces of narrative music and programme music (recommended: Camille Saint-Saëns: The Carnival of the Animals, Zoltán Kodály: Háry János, Sergei Prokofiev: Peter and the Wolf, Antonio Vivaldi: The Four Seasons).
- Classical music pieces that support the acquisition of the music material of grades 5-12: canons; excerpts from easy pieces of polyphonic music of homophonic structures (recommended: Zoltán Kodály: Bicinia Hungarica, classic canon works, pre-classical vocal − possibly instrumental − pieces, arrangements of the songs of foreign peoples in Hungarian or, possibly, in foreign language).

Grades 5-8

Musical material:

- old and new-style songs of the Hungarian folk music; old dance music.
- Music of other peoples, with a special emphasis on stylistic elements that are not characteristic of Hungarian folk music. Traditions and folk dances of Hungary's national minorities.
- The classical musical material arranged on the basis of style in the following order: the music of Viennese Classicism, Romanticism, other style eras (the Middle Ages, Renaissance, Baroque, the 20th century, the contemporary period). Instead of a chronological order, an order that follows the natural development of students' musical skills is strongly recommended. In this regard, the development of tonal hearing based on the music of Viennese Classicism must be given preference. This, in turn, will serve as basis for understanding the musical language of Romanticism. The time frame of classes and the study group's level of musical knowledge define the intensity of the studies of the music of other eras.
- Musical instruments; groups of musical instruments; types of human voice. The structure of the orchestra and the choir.
- The music of Classicism: songs, canons, choir pieces, movements of symphonies, other instrumental pieces and pieces for orchestras, excerpts from operas (recommended: Joseph Haydn: Symphony in D major [The Clock], Symphony in E flat major [Drumroll]; W. A. Mozart: The Magic Flute – excerpts).
- Romanticism, national Romanticism; easy Romantic songs in Hungarian translation or, possibly, in the original language (recommended: songs by Franz Schubert), piano pieces recommended for listening (Frédéric Chopin and Franz Liszt), pieces for orchestras (especially symphonic programme music).
- Selected pieces of Renaissance vocal music, canons, mixed choirs, men's and women's choirs and small mixed choirs. Selected pieces of Baroque vocal and instrumental music (recommended: pieces by Johann Sebastian Bach, Georg Friedrich Händel, Henry Purcell, Antonio Vivaldi, Jean-Baptiste Lully).
- Hungarian national music in the 19th century (recommended: Ferenc Erkel: Bánk bán); the art of the two geniuses of 20th-century Hungarian music: Béla Bartók and Zoltán Kodály.

Grades 9-12

Musical material:

- Old Hungarian folk music, ballads, instrumental folk music and their connection with world music. The Hungarian dance house movement; contemporary folk music revival movements.
- Selected pieces from the history of Medieval church music. Secular songs.
- The music of days of remembrance, festivals and traditional celebrations.
- Historical music.

Learning about excerpts from musical literature in a chronological order or on the basis of another, logically defined approach, with the intention of creating synthesis (recommended: on the basis of styles; on the basis of genres; with the intention to establish connections between various branches of art and making references to historical events or literary topics; highlighting a composer and dealing with his or her oeuvre in the context of the history of music and culture, etc.).

- Renaissance masses and motets (recommended: Orlandus Lassus and Giovanni Pierluigi da Palestrina), secular genres (recommended: madrigals and other a cappella genres), instrumental dance music, Bálint Bakfark.
- Baroque: Baroque operas (recommended: Henry Purcell: Dido and Aeneas, Claudio Monteverdi: The Coronation of Poppaea), other vocal-instrumental works (e.g. chorales, J. S. Bach: St. Matthew Passion), pieces for solo instruments and for orchestra.
- Classicism: symphonies (recommended: Ludwig van Beethoven: Symphony No. 9 in D minor, Op. 125 4th movement), string quartets (recommended: Joseph Haydn: String Quartet in C major ("Emperor") Op. 76, No. 3.) other pieces for orchestra and chamber ensemble, vocal pieces, operas (recommended: W. A. Mozart: Don Giovanni), oratorios (recommended: W. A. Mozart: Requiem).
- Recommended Romantic pieces: Franz Schubert: Erlkönig; Robert Schumann: Carnival, Op. 9; piano pieces by Frédéric Chopin and Franz Liszt; Giuseppe Verdi: Aida; Richard Wagner: The Mastersingers of Nuremberg.
- 20th-century and contemporary music: music at the turn of the 19th and 20th centuries (recommended: Giacomo Puccini, Gustav Mahler, Claude Debussy, Maurice Ravel), the Second Viennese School; Igor Stravinsky; avant-garde and experimental music; other 20th-century and contemporary trends of music; electronic music; Hungary: works by Bartók, Kodály (and Ernő Dohnányi, László Lajtha), major Hungarian composers of the second half of the 20th century (recommended: György Ligeti, György Kurtág).
- Beyond classical music: jazz genres from the beginnings until today, beat and classical rock music, world music; musical theatre – rock operas, genres of popular music, film scores and applied music. The styles and trends of contemporary popular music. The importance and music of mass media.

DRAMA AND DANCE

PRINCIPLES AND GOALS

The objective of drama and dance teaching is to enhance knowledge gained though experience and to develop communication, cooperation and creativity. Drama as a pedagogical method may be applied in various subjects and may also be incorporated into the learning process as a separate subject at any level of education.

Drama and dance serves – through the experience of shared activities – as a tool that supports the development of students' creative skills and their skills of establishing relationships, introduces them into concentrated and planned work, improves their safe physical and spatial orientation and develops their sense of time and rhythm. It also contributes to the harmony of movement and correct speech, enriches students' self-knowledge and the knowledge of peers, helps them establish connections in an easier and less stressful manner, and promotes self-expression. It is particularly appropriate for the development of openness, imagination, concentration, tolerance and cooperation. Students' activities promote the expression of thoughts and feelings and help students understand the forms of expression used by drama and theatre.

The methodology and topics of drama and dance may differ between age groups, based on the characteristics and previous knowledge of the given group and local educational goals.

The dance house method, based on a living, creative and improvisational revival of dance and musical traditions may be relied on within the curricular framework, too. While dancing, students get to know the characteristics and tools of expression with movement and dance. In the lower grades, it is recommended that students get to know folk dance and be able to recognize the connection between national dance traditions and contemporary dance. While learning dances, students have the opportunity to familiarize with local (folk) traditions or with those of a given national minority, which, in turn, may effectively enhance their sense of community and of self-identity.

Activities related to movement and dance develop musical abilities, space perception, posture, coordination of movement and endurance.

DEVELOPMENT GOALS

The structure of development tasks

1. Games and representation in groups
2. Improvisation and cooperation
3. The study of the language of drama and theatre
4. Working with stories (within the framework of drama classes)
5. Cognitive and receptive abilities

1. Games and representation in groups

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Establishing the courage needed for play; practicing and accepting being exposed in front of a group. Perception of balance, rhythm, space, colours, sounds, shapes and materials. Imitating and mirroring simple movements and postures. Games and exercises with perception (e.g. games that develop balance and improve coordination). Imitation of movement and sounds. Games which develop memory and concentration. Folk children's games, dramatic plays (rhythmic plays with songs, nursery rhymes, etc.). Group exercises with movement and with sound and space perception. Exercises of using space properly with simple elements of movement technique and basic dance technique. Concentration and memory exercises combined with rhythm, movement and speech exercises.	The acquisition of expressive communication: articulation, tempo, stress and intonation exercises. Games of non-verbal communication. Concentration and relaxation exercises. Simple interaction games. Balance and coordination development games. Exercises that promote the development of trust.	Exercises of speech and breathing technique. Concentration and relaxation exercises. Exercises aimed at conscious observation and the development of perception. Coordination and balance exercises; exercises of the development of space perception and orientation. Exercises focussed on trust. Games of self-knowledge and the knowledge of others. Variations of dance and movement types for pairs and groups.	Speech exercises for the development and maintenance of skill level. Concentration and relaxation exercises. Exercises of self-knowledge and the knowledge of others. The basics of dance theatre and movement theatre techniques.

2. Improvisation and cooperation

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Imitation and imagination games. Creative games with and without objects. Puppet shows; plays with puppets or with objects used as puppets. Improvisation games in groups under the teacher's guidance. Games of imagination with imagined objects and persons, in imagined situations. The improvisation of simple dance steps and movement motifs.	Creating a movement sequence made up of simple elements (starting, stopping, acceleration, slowing, turning, walking, running, holding a posture). Movement improvisation based on a draft story given by the teacher, or the expression of feelings or experience with the use of simple elements of dance and movement. Games with masks and puppets. Games in stage clothes. Games created on the basis of a system of signs defined by the group. Improvisation of various dance and movement types.	Improvisation aimed at the expression of a topic, concept or individual feeling or experience. Analytical and interpretative discussion of the improvisation. Improvisation with the application of tools of other branches of art. Movement improvisation with characters defined by the group previously and with the application of learnt dance and movement elements. Joint dramatization of a narrative piece. Dramatization related to a piece of any branch of art. Organizing improvisations into scene sequences.	Improvisation on the basis of a topic or concept defined by the teacher or a draft narrative (scene drafts) worked out by the group. Improvisation with the organization or creative application of learnt forms of expression. Improvisation with the organization or creative application of learnt forms of expression and with the elements of theatre styles. Movement improvisation using techniques of dance or movement theatre. Planning a movement sequence.

3. The study of the form language of drama and theatre

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Connecting speech, singing and movement in game situations and/or in a rhythmic form. Observing structure in the improvisations of group members (the beginning, culmination and conclusion of a scene, the expression of the beginning and the end, space and time on the stage, etc.). Characters and locations. Observing the formal elements of theatre and puppet theatre and applying them in one's own	Application of simple forms of expression (e.g. verbalization of the thoughts of a character, mimic play, letter and diary, telephone conversation, still image). The knowledge and application of basic concepts (tale, story, plot, intention, tension, conflict, turning point, etc.) during the assessment discussion of students' own plays.	Observing plot, meanings, effect and structure in students' own plays. Differentiating and recognizing basic theatre genres. Observing the elements of theatre language and applying them in students' own plays. Scenery. Stage clothes, props, light and sound effects.	The organization and building up of dramatic forms of expression for the purpose of the expression of the intended content. Using technical terms (e.g. tension, focus, frame, contrast, symbol) during the discussion of plays. The study of theatre genres and styles: historical genres and contemporary theatre genres; the recognition of the characteristics of each theatre genre and their use in plays and drama work performed with the

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
improvisations: simple costumes, props, pieces of furniture, sceneries.			students' participation.

4. Working with stories (within the framework of drama classes)

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Role play with or without props, and using an invented and agreed-upon sign system. Play with puppets, objects that hold a meaning different from their real meaning and using an invented and agreed-upon sign system. Group improvisation games. Playing out a known story or a story made up by the group. Joint dramatization using the puppeteering and movement styles learned, with improvised speech, without speech, with musical elements.	Dramatic improvisations on the basis of the draft stories given by the teacher and/or created by the students, on the basis of works of art, historical events or the intention to express feelings and experience. The analysis of decisions. Dramatic improvisations on the basis of works of literature, fine arts or music. Dramatic representation of customs related to festivals.	Representation of stories, feelings and experience with forms of dramatic expression and representation of complex structure. The expression/representation of stories and experience with the application of various elements of dance and movement technique.	The planning and realization of performances with the use of various tools of theatre, puppet theatre, drama, or dance and movement theatre. Learning about events, figures and eras of the history of theatre and drama.

5. Cognitive and receptive abilities

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Plays and exercises that promote the reception and recital of poems and tales and develop the sense of rhythm and proper movement. Attending a performance of a puppet theatre or a children's theatre. Playful and creative activities that help a multi-faceted reception	Learning about the customs of festivals; paying conscious attention to their drama- and community-related nature (nativity plays, Christmas traditions, etc.). Attending a theatre performance (preferably, the whole group together). Drama-related activity with the use of the concepts acquired	Attending a theatre performance (preferably, the whole group together). Drama-related activity to promote the multi-faceted reception of experience. Conscious use of the concepts learnt previously. Getting to know folk plays and dramatic customs (Shrove Tuesday, Carnival, etc.). The role of dance and	Basic analysis of the work of actors, directors, dramaturgies and of other planning work. Analyzing a performance. Attending performances that represent various theatre approaches. The interpretative analysis of the performances seen. Familiarization with contemporary movements in theatre around the world.

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
of experience. Connecting dance and movement motifs with teacher's assistance and, subsequently, in the form of improvisation. Familiarizing with the drama-related aspects of traditions and ceremonies of customs that are observable in the immediate environment of the students (the Easter tradition of "watering", etc.).	previously, for the purpose of promoting the multi-faceted reception of experience. The playful acquisition and practice of various dance and movement types.	movement in various historical eras and in social relations.	Knowledge of the history and theory of theatre and drama.

GENERAL COMPETENCES

Grades 1-4

1. Perception and expression

1.1. Drama:

- the development of perception, observation, recognition, memory, imagination and representation based on each other;
- encouraging students to talk; verbal and non-verbal communication plays;
- using objects and props: toys, puppets, masks, costumes, face painting;
- visible, audible, perceivable rhythms;
- space, distances, orientation, directions.

1.2. Movement and dance:

- experience-based foundation of movement as a natural language, starting with local dance traditions and the dance traditions of national minorities, gradually extending the scope of styles to be studied;
- body awareness, movement and stillness, the possible movements of each body part;
- orientation in the space of movement or dance; spatial adaptation;
- the perception of measure, tempo and rhythm; rhythm exercises;
- proper posture.

2. Cooperation, social skills

2.1. Drama:

- experiencing the joy of shared play in various interactive situations (safe and stress-free atmosphere in the group; stress management);
- establishing and maintaining connection (with the forms of movement, with tools, with language, etc.);
- listening to each other; the encouragement and development of curiosity during games;
- techniques of creating rules.

2.2. Movement and dance:
- group exercises, moving together;
- dance in pairs and in groups;
- participation in community events related to movement/dance/folk dance;
- folk games, children's games, games of rules.

3. Creative activity

3.1. Drama:
- the interconnectedness of repetition, imitation and re-creation;
- familiarizing with and using the basic elements of a situation (location, the time of the play, persons, relationships, the problem of the play) during the games;
- roles; entering into a role;
- participation in the activities of the group as a whole; activities in small groups; individual activities.

3.2. Movement and dance:
- dance improvisation with the use of the learnt elements;
- connecting music heard and the movement learnt; identifying the musical instruments used;
- remembering the melodies related to dance, movement, learnt folk dance types; experimenting with singing (either alone or in groups) or with acoustic signs.

4. Reception and interpretation

4.1. Drama:
- treating text-based pieces with games, movement or dance (e.g. folk tales, animal tales, poems, nursery rhymes);
- dramatic activity with the use of various techniques of reception.

4.2. Movement and dance:
- dance and movement elements of customs and traditions.

Grades 5-8

1. Perception and expression

1.1. Drama:
- attention, concentration and relaxation during group play (representation);
- clear, audible speech with good articulation; clear forms of expression; adequate language use;
- appropriate and conscious use of non-verbal forms of expression (posture, gestures, facial expressions, look)
- appropriate and conscious use of musical elements in speech (volume, stress, intonation);
- communication using objects and puppets (materials, stylized representation);
- making the experience more powerful for drama audiences; authenticity;
- inventiveness and creativity in dramatic activities.

1.2. Movement and dance:
- extension of the scope of learnt movement and dance types and styles, taking local characteristics into consideration;

- activities related to dance and movement, selected by the specialized teacher (forms of work in dance and movement theatre, historical dance or partner dance, dances of peoples of neighbouring or distant countries, fashion dance, etc.);
- controlled or improvised use of space during dance and movement exercises;
- perception of the metric, rhythmic and dynamic unity of text, music and movement.

2. Cooperation, social skills

2.1. Drama:
- better control of attention;
- adaptation and asserting one's interest during group activities;
- sensitivity, empathy, emotional intelligence in situations related to self-knowledge and to the knowledge of the others;
- organizing groups and spontaneous organization of groups under various conditions;
- cooperation during drama-like activities; techniques of looking for and achieving consensus;
- respect for each other's work.

2.2. Movement and dance:
- efforts made to create a coordinated dance or movement improvisation.

3. Creative activity

3.1. Drama:
- recognition of scene, conflict, dialogue, monologue, type, individual interpretation, contrast and parallel in the course of various drama-related activities;
- applying joint dramatization in the course of various drama-related activities;
- the tools, location and methods of creating tension;
- creative participation in individual or group public performance (primarily, for an audience made up by persons known by the students), as decided upon by the community and the specialized teacher.

3.2. Movement and dance:
- differentiated dance improvisation based on the relatively extensive knowledge of learnt dance, movement and folk dance styles;
- improvised or choreographed movement or dance performance that harmonizes with the group's abilities (primarily, for an audience made up by persons known by the students), as decided upon by the community and the specialized teacher.

4. Reception and interpretation

4.1. Drama:
- learning about various works of literature or art through play or representation;
- encouraging interest in the knowledge of history of theatre and drama (some remarkable artists, major eras of the history of theatre, contemporary works of art, etc.);
- attending a theatre performance; the discussion of the experience.

4.2. Movement and dance:
- identifying basic dance types, dance styles and their accompanying music; differentiating between forms of movement or movement theatre;
- aspects of learnt dances related to the history of music, art history and ethnography;

- familiarizing with the role of dance in cultural life: dance on the stage, dance houses, dance as entertainment, dance and information communication technology; the knowledge of traditions.

Grades 9-12

1. Perception and expression

1.1. Drama:
- intentional and conscious linguistic choices (the verbal expression of style, character, status and emotions);
- independent, conscious and adequate use of various tools of visual and linguistic expression and of the dramatic tools in the course of drama- and theatre-related activity;
- the ability of targeted situation assessment and decision making;
- conveying and expressing thoughts and experience created together and intended to be shared in the course of theatre work;
- communication with movement: abstracted movements, style exercises, character depiction, the expression of concepts and moods.

1.2. Movement and dance:
- looking for and collecting material on movement, dance and dance music;
- creating short dance etudes; basic choreography.

2. Cooperation, social skills

2.2. Drama:
- cooperated joint activity in the course of drama-related, movement-related or theatre work;
- internally controlled task delegation in the course of planning, organization and implementation;
- forming and phrasing independent opinions; respecting others' opinions;
- analytical discussion and evaluation of drama work by the group;

2.2. Movement and dance:
- creating or learning a choreography in the course of individual or joint creative work.

3. Creative activity

3.1. Drama:
- using compression, variation, climax, delay and status situations during various drama-related activities;
- improvisations in movement and speech, adapting various conditions in the course of various drama-related activities;
- performance (e.g. singing alone or with others, the performance of poems, dramatic or epic works alone or in groups, the creation and performance of structured dramatic pieces);
- participation in other performance-related work (scenery, music, sound technology, dramaturgy, visual recording);
- creating and performing movement-centred plays with the use of music, situation, topic, text or visual elements.

3.2. Movement and dance:

- relatively complex dance improvisation; the characteristics of learnt dance styles and their differentiation; knowledge of the possible ways of organizing learnt motifs into a sequence;
- active and creative participation in the creation of a joint choreography or improvisation based on the group's knowledge of movement or (folk) dance.

4. Reception and interpretation

4.1. Drama:

The history of theatre and drama:

- Ancient theatre and drama;
- English Renaissance theatre and drama;
- French Classicist theatre and drama;
- some works of 19th-20th-century Hungarian theatre and drama;
- some works of modern drama and theatre;
- some major trends, artists and authors in 20th-century theatre;
- some major contemporary theatre trends and some works of contemporary drama literature;
- the linguistic, communicative and formal characteristics of certain contemporary ways of artistic expression.

The theory of theatre and drama:

- the characteristics of drama as a major literary form;
- some drama structures;
- basic notions of dramaturgy and theory of theatre;
- integrated aspects of the art of theatre;
- professions in the theatre;
- some theatrical genres (ritual play, tragedy, comedy, realist plays, puppet shows, musical theatrical genres, etc.).

Knowledge of drama performance:

- various types and tools of applied activities; the objectives of their application;
- differences of the methodology and tools of the dramatic plays of various communities (family, peer groups, mixed-age communities, etc.);
- analytical/interpretative/comparative examination of the theatre performances seen by the students.

4.2. Movement and dance:

- characteristic dances of cultural community life and of community events which entail movement or dance;
- genres of the dance and movement theatre..

VISUAL CULTURE

PRINCIPLES AND GOALS

The goal of the teaching of visual culture is to help students experience the phenomena of the visible world and peculiar visual communications and works of the visual arts more deeply and understand them better. It also aims to develop students' abilities, skills and knowledge in order to equip them for practicing visual communication at a higher level, use and shape the visible world and enhance their creativity. This subject area covers more than just the

traditional visual and applied arts: it also includes everyday visual phenomena and everyday visual communication, such as mass communication, the phenomena present in new electronic media and the built environment. The subfields of visual culture (visual arts, visual communication and object and environment culture) have differing motivational effects for different age groups – and even for each individual – and they are suitable for the development of different abilities; therefore, this area offers an especially good opportunity for differentiation. The primary goal of the subject is not art education; in visual education, art is not the objective but the tool. The effective teaching of visual culture provides a crucial knowledge gathering and processing tool, aiding the teaching of other fields of general knowledge, and it also affects development potential in those fields.

Development in keeping with age characteristics requires a spiral structure. This document will only mention newly introduced activities, but this does not mean that the activities that had been introduced earlier are not continued in successive phases of education. For instance, freehand drawing is an important element throughout all phases. As – similarly to other fields of general knowledge – the goals of visual education are complex, the general competences listed cannot be considered a list of knowledge elements to be learned in this case, either.

DEVELOPMENT TASKS

The structure of development tasks

1. Cognitive and receptive abilities
   - *1.1. Processing first-hand experiences*
   - *1.2. Knowledge acquisition, learning, orientation in space*
   - *1.3. Communication abilities*
2. Creativity
   - *2.1. Ability to create*
   - *2.2. Ability to solve problems*
3. Self-knowledge, self-assessment, self-control

1. Cognitive and receptive abilities

1.1. Processing first-hand experiences

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Experiencing various materials directly; describing the experience orally. Orientation at and around the place of residence based on visual elements. Observing and describing objects, buildings, works of art and natural views; describing their aesthetic	Observing phenomena based on prescribed criteria, aimed at improving directed attention. Consciously realizing identical and different elements based on observable properties. Describing simple spatial situations, representing	Choosing the criteria of directed observation independently with regard to views and phenomena. Orientation in an unknown urban environment. Orientation based on a map. Creating a representation of a view using images and sculpture.	Describing and creating representations of works of art and the experience of architectural and natural spaces. Analyzing the composition of works of art. Trying out new techniques; assessing the potential of a given technique. Constructing scale models

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
qualities. Working materials without tools and with manual tools. Freehand drawing and painting.	them in a plane or in space. Making a drawing of a known route. Creating representations of experiences of motion. Observing and creating representations of temporal processes. Using simple hand tools (art and modelling tools). Trying out various painting techniques.	Analyzing and judging the correct proportions of shapes. Observing and creating representations of movements. Using various drawing techniques of expression and conveying messages. Trying out the work processes of craftsmanship techniques.	and models. Using one's own works and collections in electronic image manipulation.

1.2. Knowledge acquisition, learning, orientation in space

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Collecting objects and materials based on predetermined criteria. Comparing the external features of different objects. Classifying objects, buildings and works of art based on various criteria. Analytic conversation about works of art. The creative use of visual signals and symbols. Describing images, views and events; creating their representations on a plane or in space based on the description.	Visually recording various movements; creating their representations on a plane or in space. Collecting information about objects, buildings, phenomena and works of art. Analyzing the relationship of form and function through objects and buildings found in the immediate environment. Formulating questions without assistance about the topics discussed. Answering oral or written questions via drawings or in writing. Describing images, views and events, creating their representations on a plane or in space based on the description. Getting to know simple techniques of expression and making objects.	Reconstructing a spatial arrangement based on a graphical representation. Creating precise representations of observed and imagined spatial arrangements. Surveying, analyzing and interpreting objects, buildings and phenomena through drawings, following predetermined criteria. Creating freehand drawing sketches, also using visual memory. Dividing up temporal processes in their visual representation into stages in order to depict the process comprehensibly. Analyzing the visual devices used in advertising. Artwork analysis based on characteristics of form. Examining the stylistic hallmarks of eras of art history. Taking notes of the teacher's lecture independently.	Parallel research of works of literature, music, drama, film and the visual arts. Comparative object analysis (e.g. comparing the objects used in different cultures for the same activity). Comparative artwork analysis. Preparing a written summary using the collected information and pictures; drawing conclusions. Independent research of a topic. Classification of works of visual art, genre classification. Analyzing the means of expression of some of the most noteworthy works of art and artists. Learning about the art of a non-European culture, including its ties with history and art history. Using technical terms. Analysis of contemporary works of art.

1.3. Communication abilities

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Interpreting and creating simple, visually understandable signals, phenomena and informative drawings. Interpreting human gestures.	Interpreting and creatively using the most important visual cues, signals and symbols. Following and creating pictorial instructions. Classifying, reading, interpreting photographs, pictures taken from newspapers, images taken from advertisements.	Depicting non-visual information (the composition of the population, family trees, etc.) using charts and graphs in illustrative ways. Using elements of the visual language of two- and three-dimensional expression (lines, planes, shapes, colours) in compositions with various purposes in the manner consistent with children's age characteristics. Classification of various types of visual communication. Characterizing and analyzing views and images through drawings, orally and in writing.	Preparing simple inscriptions. Choosing and using basic space depiction methods in accordance with the purpose. Classification of modes of mass communications. Learning about the image generation methods of technological media. Analyzing visual advertisements.

2. Creativity

2.1. Ability to create

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Creating visual representations of stories, poems and invented things. Creating visual representations of events the student has experienced, imagined or heard about. Performing a dramatized story using puppets made together. Trying out new techniques.	Free association games. Using sound and sight together (e.g. in shadow play). Reflecting on literary, musical and film experiences through own expressive works. Creating a simple object. Creating design plan sketches. Decorating surfaces.	Expressing thoughts, emotions and moods using the tools, methods and techniques learned by studying the genres of graphic and plastic art. Modifying an object to serve a different purpose. Using natural models when designing objects.	Rearranging interior spaces without assistance, focusing on various functions. Designing simple spaces and objects, taking into account both practical and aesthetic considerations. Experimenting with new materials and techniques. Using various aesthetic qualities in images and plastic works.

2.2. Ability to solve problems

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Interpreting the tasks received with assistance and independently. Completing certain work phases and solving certain problems with the teacher's assistance. Completing subtasks independently.	Preparing and completing practical tasks independently. Making improvised tools. Practicing economical material use.	Phrasing one's own questions with regard to a given problem. Creating sketches based on one's first ideas. Choosing and implementing the appropriate solution. Adequately applying forms and technical solutions seen elsewhere in one's own expressive works.	Rephrasing the assigned task. Planning the process of problem solving. Reviewing the possible solutions and conditions. Justifying the choice. Establishing a reasonable, economic order of work processes. Documenting the process of problem solving. Analyzing and evaluating the process.

3. Self-knowledge, self-assessment, self-control

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Carrying out creative activities in a way that reflects visual and aesthetic preferences.	Consciously considering personal preferences. Assessing own abilities. Comparing and evaluating own works and the works of others with the teacher's assistance. Working in pairs.	Evaluating own works and the works of others. Assessing own values. Self-criticism. Cooperation in a team.	Carrying out creative activities in a way that reflects visual, aesthetic preferences. Voicing one's own opinion in a nuanced way when analyzing works of art. Analyzing and consciously owning up to personal preferences. Accepting patterns deemed attractive, and overruling patterns. Analyzing one's own good and bad decisions made in the course of the creative process. Analyzing and evaluating one's own works and the works of others.

GENERAL COMPETENCES

Grades 1-4

1. Visual language and techniques

- Using and telling apart the basic elements of visual language (point, line, shape, tone, colour) and their relationships.
- Creating compositions out of image elements; the precise distinction of composition principles.
- Using at least two graphic and two colour techniques; modelling and material shaping using simple materials and tools; making simple prints; construction; modelling; craft techniques.

2. Expression, visual arts

Creative activity

- Visually representing experiences and previously heard, seen or imagined stories in a plane, in space and in time.
- Self-expression and expressing emotions in a variety of ways: verbally, visually, using gestures.

Reception

- Knowledge of the main distinctive features of branches of art and visual arts.
- Describing, analyzing and comparing works of art, own works and visual phenomena.

3. Visual communication

Creative activity

- Elements that serve simple visual communication: designing signals, layout plans, maps.
- Representing processes and movements using simple tools: flow charts, phase drawings.

Reception

- Interpreting the communication and expression tools of non-verbal communication.
- Knowledge of the ways of achieving a visual impact.
- Technological imaging: the importance of photography and video.

4. The culture of objects and the environment

Creative activity

- Preparing a scale model of a building, shaping the environment using simple tools.
- Simple object creation.

Reception

- Observing, describing and analyzing the spaces, buildings and objects in the immediate environment as to their function, material use and shapes.
- Knowledge of the possibilities for environmental consciousness in visual culture.
- Knowledge of the role of museums based on direct experience.
- Knowledge and analysis of the most characteristic examples of folk material culture and folk architecture.
- Recognizing the most important national symbols (national colours, the coat of arms, the national flag, the building of Parliament and the Holy Crown).

Grades 5-8

1. Visual language and techniques

- Conscious use and precise interpretation of the basic elements of visual language and their relationships.
- Distinguishing visual qualities using various different tools.
- Knowledge and use of the basics of colour theory.
- Knowledge and use of shape simplification.
- Knowledge and use of composition suited to the intended message.
- Knowledge and use of methods of representing space (projection, axonometric projection, perspective).
- Using at least four different graphic and colour techniques in creative work; shaping objects with a free use of materials; making models and scale models; using at least one craft technique; photography. Recognizing the most important features of techniques: graphical techniques; painting techniques; sculpture techniques; craft techniques; digital imaging.

2. Expression, visual arts

Creative activity

- Creating visual representations of personal experiences, imagined stories and emotions using a variety of methods.
- Observing the spatial position, proportions, plasticity and colours of models and depicting them in various different representation systems.

Reception

- Differentiating knowledge of everyday and artistic forms of visual communication.
- Knowledge of the main characteristics of branches of visual arts, architecture and design.
- Basic knowledge of the most important style periods and movements of art history through the most iconic artists and works: prehistoric art (recommended: Stonehenge), ancient Eastern art (recommended: the pyramids of Giza), Greek and Roman art (recommended: the Acropolis in Athens, the Colosseum in Rome); Byzantine art, the age of the Conquest of the Carpathian Basin (recommended: the Nagyszentmiklós treasure), Romanticism (recommended: Ják Church), Gothic art (recommended: Amiens Cathedral, Giotto), Renaissance (recommended: Leonardo da Vinci, Michelangelo Buonarroti, Raffaello Santi), Baroque (recommended: Esterházy Castle, Pieter Pauwel Rubens, Rembrandt Harmenszoon van Rijn), Classicism (recommended: Mihály Pollack: National Museum), Romanticism and Realism (recommended: Imre Steindl: the Parliament of Hungary, Mihály Munkácsy), Impressionism (recommended: Edouard Manet, Claude Monet), the movements of the turn of the 20th century, 20th-century modern art and contemporary art.
- Visiting museums (public collections); knowledge of their purpose and role.

3. Visual communication

Creative activity

- Designing presentations aimed at more complex visual communication.
- Depicting changes taking place in time and space through series of images.
- Using text and images together to serve a variety of purposes.

Reception

- Differentiating and interpreting the visual communication signals and compressed image communication occurring in everyday life.
- Precisely interpreting explanatory drawings, pictorial user manuals, graphs and diagrams.
- Analyzing the way advertising affects people.
- Knowledge and understanding of technological imaging possibilities (photography, video).
- The visual interpretation of means of expression in video.

4. The culture of objects and the environment

Creative activity

- Designing, redesigning and modelling simple objects.
- Simple spatial planning and shaping space with various tools.

Reception

- Knowledge, analysis and interpretation of the possibilities for environmental consciousness.
- Knowledge of the most important options for supporting structures, covering space and using layout arrangements in architecture.
- Knowledge and analysis of the most important considerations in home and living environment design.
- Describing and analyzing the material environment of historical eras, European and other societies and modern societies with examples.
- Analysis of the architectural characteristics, clothes and crafts of a folk culture close to students' place of residence.
- Knowledge of the most important symbolic objects and buildings of the nation.

Grades 9-12

1. Visual language and techniques

- Knowledge of the similarities and differences of expression with images, plastic arts, space, words and music.
- Complex interpretation of the tools of visual language; using them in different contexts.
- Basic knowledge and application of tools of spatial creation (space, mass, material, structure, shape, proportion, rhythm, contrast, light and colour).
- Presenting complex proportions; arrangement of shapes; the recognition and conscious use of the golden ratio.
- Recognizing shape simplification and using it independently in creative ways.
- Consciously using and interpreting the principles of composition.
- Using methods of depicting space in accordance with the communicative purpose; knowledge of the main properties of each method.
- Using at least four different graphic and colour techniques in creative work; shaping objects with a free use of materials; making models and scale models; using at least one craft technique; using at least one digital imaging technology. Recognizing the most important features of the techniques.

2. Expression, visual arts

Creative activity

- Expressing experiences, abstract thoughts, emotions and moods.
- Association-based visual processing of artistic (musical, literary) experiences.
- Depicting the spatial position, proportions and colour arrangement of models (objects, shapes) in various ways.
- Making reconstruction drawings using the depiction systems learned.

Reception

- Interpreting the relationship of the visual arts with other arts.
- The recognition of the most important works and artists representing the main artistic style periods; understanding their importance (recommended: the Venus of Willendorf, the Temple of Ramesses, The royal family: Akhenaten, Nefertiti and their children, Knossos Palace, The Spear-bearer, the Charioteer of Delphi, Laocoön and his sons, Pantheon, Augustus of Prima Porta, Santa Sabina, The Mother of God, the Dome of Pisa, the Notre-Dame of Paris, the stained glass panels of the Chartres Cathedral, the Avignon Pieta, Palazzo Farnese, Donatello, Massaccio, Michelangelo Buonarotti, Leonardo da Vinci, Raffaello Santi, Jan Van Eyck, Albrecht Dürer, Lorenzo Bernini, Pieter Pauwel Rubens, Rembrandt Harmenszoon van Rijn, Diego Velázquez, Vermeer van Delft), and identifying the major movements based on typical examples (recommended: Francisco Goya, Eugene Delacroix, Pál Szinyei Merse, Edouard Manet, Claude Monet, Paul Cézanne, Vincent van Gogh, Paul Gauguin, Antonio Gaudí, Auguste Rodin, Gustav Klimt, Edvard Munch, József Rippl-Rónai, Tivadar Csontváry Kosztka, Henry Matisse, Pablo Picasso, Marcel Duchamp, Marc Chagall, Salvador Dalí, Lajos Kassák).
- Using methods of art analysis that are appropriate for the given genre and theme.
- Thematic representations: an analysis of the most important changes in the representation of man, space and movement.
- Comparing the most important visual characteristics of different cultures.
- Basic knowledge of the main characteristics of the most important style periods and movements in art history: prehistory, Antiquity, Middle Ages, Renaissance, Baroque, Classicism, Romanticism, Realism, Impressionism, Post-Impressionism, Historicism, Art Nouveau, Symbolism, avant-garde movements, abstract movements, Modernism and Postmodernism, intermedia art, photography, cultures outside of Europe.
- Well-founded evaluation of aesthetic qualities.
- Visiting at least one Hungarian museum or one contemporary collection; nd learning about and analyzing their profile and a few important pieces.

3. Visual communication

Creative activity

- Designing a presentation aimed at complex visual communication.
- Visual communication through text and image for various purposes.
- Designing a simple video communicating a message.
- Designing a complex visual or audiovisual item (image, light, sound, movement) communicating a message.

Reception

- Knowledge and interpretation of the tools and means of mass communication.

- Knowledge and understanding of the genres of technological imaging (photography, video).
- Knowledge and analysis of the tools used in communication by video.

4. The culture of objects and the environment

Creative activity

- Designing objects based on predetermined criteria.
- Shaping space in simple ways, assessing the environment and redesigning it to fit a predefined purpose.
- Documenting the design process visually and verbally.

Reception

- General knowledge of the development of architecture; its comparative analysis with examples from modern and contemporary movements in architecture.
- Analyzing various aspects of the objects and architecture of societies from various periods in history, within and outside of Europe, and modern societies.
- Knowledge and analysis of the relationships between design and consumer habits.
- The interpretation and analysis of the concept of fashion (clothing, personal objects).
- Knowledge of at least two ethnographic areas within the Carpathian Basin.
- Knowledge of the role of environmental protection and the protection of historic monuments in visual culture.

VIDEO CULTURE AND MEDIA LITERACY

PRINCIPLES AND GOALS

The goal of teaching video culture and media literacy is to provide students with a basic media education, especially improving their understanding of text in video and their knowledge of the role of media in society and its modus operandi. This is a set of tools for developing students' abilities and personalities, allowing students to find their way and make their choices in the world of traditional and new media and to become knowledgeable, critical, equal participants in the communication that is taking place in new arenas in society. Responsible citizens of a media democracy need to be familiar with how the media works.

The content elements and development goals of this subject area include components from the fields of art pedagogy, communication, social studies and mother tongue culture.

In developing critical media consciousness – in accordance with European Union recommendations on developing levels of media literacy, child protection and value-based education – the following issues enjoy priority:

- differentiating between direct experiences and the virtual world of technological reproductions;
- knowledge of valuable audiovisual works, especially European and Hungarian films; the protection of the audiovisual cultural heritage of Hungary;
- developing critical faculties, choosing media content consciously;
- being conscious consumers of commercial communication and advertising;
- conscious and creative participation in online communication;
- conscious knowledge of the issues surrounding data security, information about one's rights and avoiding addiction and other dangers;

– learning the ethical rules governing the generation of shared content; becoming more responsible and well-informed.

These goals can be achieved by taking into consideration the age characteristics of students and using the toolset of activity-based, creative media teaching, creating experience-rich situations with playful, creative or disputative tasks, discussing works and programmes and assigning creative tasks for individual or group work.

DEVELOPMENT TASKS

The structure of development tasks

1. Reading and comprehension, analysis
2. Knowledge acquisiton
3. Communication
4. Critical thinking

1. Reading, comprehension, analysis

Grades 1-4	Grades 5-8	Grades 9-12
Improving reading skills and vocabulary using texts taken from the media. Remembering texts taken from the media. Understanding the reality status of media content. Recognizing and observing simple aspects of location, time, characters and conflicts. Observing the behaviour of people in reality and in films or television programmes.	Recognizing the various function of the media. Remembering texts from video material; using video memory. Developing a conscious awareness of the linguistic characteristics of media texts; recognizing the basic toolset of telling stories and conveying content: – observing the behaviour of people in reality and in films or television programmes; identifying similarities and differences, – recognizing whether a given text is fictional or documentary in nature; – recognizing more complex aspects of location, time, characters and conflicts.	Recognizing the author's point of view, frameworks provided by the author's approach and the genre in question; recognizing programme types; identifying the audiovisual communication methods used by each. Studying the means of storytelling used by various creators and in various genres based on examples from classic and contemporary films. Recognizing intertextuality. Comparing the divergent media representations of the same event.
	Interpreting the human communication observed in a video context; discussing it orally and in writing. Oral and written interpretation of simple image and sound relationships shaping space and time observed in a video context. A conscious consideration of the fundamental characteristics of new	The toolset of storytelling in film. Oral and written interpretation of associative and intellectual image relationships and status plays observed in a video context. Analyzing non-linear texts. Identifying stereotypes and conventions in the media. Comparing the divergent media

	media. Identifying stereotypes and conventions in video works.	representations of the same event.

2. Knowledge acquisition

Grades 1-4	Grades 5-8	Grades 9-12
Conscious realization of the presence and influence of media in our everyday environment. Learning about the peculiar types of activities that characterize the generation of media texts. Discussing experiences related to the generation, linguistic characteristics, transmission, reception and interpretation of audiovisual texts and programmes. Learning about safe Internet use.	Learning the basics of the use of media tools. The most important events in the history of communication and public discourse. The most important facts about the media as a means of public communication. Collecting facts and materials on the way the media works using a search engine. Conscious consideration of the rules of safe Internet use.	Learning about the facts and models characteristic of mass communication and media as a means of public discourse. Learning the most important concepts and logical relationships associated with the production, linguistic characteristics, transmission and interpretation of audiovisual texts and programmes. Learning and practicing the criteria of filtering information sources.

3. Communication

Grades 1-4	Grades 5-8	Grades 9-12
Observing and developing a conscious awareness of signals in direct communication and means of indirect communication. Recognizing and using basic codes of text creation in video media: video reception and creation.	Recognizing and using the language and means of expression of video media in the reception and creation of video media in accordance with age characteristics. Designing and possibly implementing the video representation of simple events students experienced, imagined or heard of, at a level consistent with age (e.g. storyboard, animation, interview). Familiarization with the tools used in animation. Participation in network communication.	Recognizing and using specific codes of text creation in video media (writing and reading video media). Representing and dividing up more complex actions (actions that are temporally or spatially distributed). Designing and implementing with simple methods the video text or other media text representation of an event students experienced, imagined or heard of. Participation in local public discourse in accordance with the norms of ethical behaviour, while paying conscious attention to the representation of the issues of privacy, the right of informational self-determination and the interests of the community. Using e-services (e.g. e-commerce, e-banking, e-administration) in accordance with rules on copyright and privacy.

4. Critical thinking

Grades 1-4	Grades 5-8	Grades 9-12
Studying one's own media consumption habits, playing games based on them, choosing works and programmes to consume. Conversation consistent with age characteristics and the expected level of familiarity with the world's affairs on the role and modus operandi of the media based on observations made about the use of the media, covering especially: − the role and use of advertising; − the credibility of the media as a source of information.	Conscious choice of works and programmes based on the critical observation of the media consumption habits of the general population. Highlighting the main information in written, seen and heard texts. Discussion consistent with age characteristics and the expected level of familiarity with the world's affairs on the societal role and modus operandi of the media based on observations made about the use of the media, covering especially: − addictions related to media use; − the representation of breaches of norms (e.g. overt or covert racism, violence in the media, body image norms); − issues surrounding media financing; − processes taking place in media technology, convergence; − sharing own content, the protection of personal data. Asking own questions about the topic under discussion, collecting arguments for and against the propositions.	Studying the reception of media texts. Highlighting the main information in written, seen and heard texts. Interpreting and discussing opinion pieces, debate programmes and Internet analyses about the media and media phenomena. Formulating questions without assistance about the topics discussed. Discussion on the societal role and modus operandi of the media, consistent with age characteristics, using arguments and examples consistent with the expected level of familiarity with the world's affairs, covering especially: − addictions related to media use; − the representation of breaches of norms (e.g. overt or covert racism, gratuitous sexuality); − the effects of the media, manipulation and the relationship of financial and political power and the media; − processes and convergence taking place in media technology; − sharing one's own content; applying moral and legal standards; − the issues surrounding the principles and practices of media regulation. Preparing one's own case study on the use and effects of the media. Collecting arguments for and against the hypotheses. Collecting arguments against various positions voiced by others regarding the subject. Text-writing exercises based on a conscious analysis of the conflicts, behaviour patterns and solutions occurring in the works and based on knowledge of reality. Preparing for the writing of short, nuanced and precisely worded media texts in accordance with students' age characteristics; the composition of such texts.

GENERAL COMPETENCES

Grades 1-4

1. Expressive devices used in the media

- Some characteristics of various types of media. Establishing contact in traditional media and new media.
- Translating simple stories into various media formats, using drawing, writing and role-play. Establishing contact, expressing opinions and self-expression in online communication.
- Basic techniques of using video and sound recording equipment. Designing and creating simple picture series and sound recordings; editing a fairy tale.

2. The role of the media in society, the use of the media

- Reality, imagination, fiction. The media reality as a fictional world Direct and transmitted experience.
- Orientation on the World Wide Web. Online communities; the point of established habits. Conscious awareness of the risks and problems associated with media use. Promoting safe Internet use.
- Learning about media texts: works intended for the age group in question, especially fairy tales and animations.

Grades 5-8

1. Expressive devices used in the media

- The primary means of controlling attention, setting the mood and depicting things. Story structure. Some characteristic means of organizing space and time.
- The adaptation of verbal content to image or audiovisual format; consciously considering means of expression through making changes that affect the meaning of the media text.
- Characterizing newspapers according to content and form; comparing print and online newspapers. Press genres.
- Getting to know the works and programmes intended for the given age group; analyzing and comparing their structure and mode of expression. Text types in traditional media and new media.
- Becoming conscious of the differences of the real world and the virtual world. Designing a self-presentation. Collecting material and writing an audiovisual text based on online sources.

2. The role of the media in society, the use of the media

- Basic events in the history of communication: writing, printing, telecommunication, imaging, Internet and web communication.
- Actors in the creation of media content, the goals of writing media texts, the creator's intention, target groups.

- Media use habits: media audiences and possibilities of interactivity. Main characteristics of the Internet and mobile communication, possibilities of social participation. The effects of network communication on lifestyle.
- The depiction of social groups and events of public life in the media (stereotypes, representation, thematization).
- Violence in the media; interpreting the phenomenon and becoming aware of its effects.
- Media ethics: the responsibility of users in written and electronic media. The rights of individuals and communities.
- Safe Internet use.

Grades 9-12

1. Means of expression in the media

- The primary means of controlling attention, setting the mood and providing interpretation (point of view, distance, light, movement, role play, montage) and their mode of action, seen through the example of various works and exercises.
- Recognizing, dividing up, interpreting and creating non-linear texts and texts with a complex action.
- Everyday forms of communication (chat, SMS, forum) and their linguistic characteristics. The representation of identities in cyberspace. The characteristics of the structure of Internet texts; analyzing and writing blogs, social sites, etc.
- The representation of reality and authenticity in media texts.
- Getting to know works and programmes (genre films, *auteur* films, television programmes, video games and Internet content); analyzing them, examining archetypes, understanding the way they work, expressing personal interpretative opinions.
- Writings, criticisms, analyses and studies written about media texts.

2. The role of the media in society, the use of the media

- The transformation of public discourse, network communication. The community organizing functions of the media.
- Mass communication and democracy: the freedom and responsibility of public speech; media and power; the value of news. Content regulation, censorship, media laws. Moral norms, media ethics.
- The way the media industry works; the way commercials affect people; strategies for increasing ratings; infotainment (providing information in an entertaining format and programmes that intend to combine information and entertainment).
- Culture and mass culture.
- Phenomena in the media: violence (reasons, effects, management); stars and sensations; the representation of gender roles; virtual reality. The depiction of social groups and events of public life in the media (stereotypes, representation, thematization, including texts in current discourse).
- Communities and the individual in the information society. The effects of the online lifestyle on personality development, social relationships, studies, work and leisure.

II.3.8. IT STUDIES

A) PRINCIPLES AND GOALS

Information and its use have a central role in the life of contemporary societies. Obtaining the knowledge and skills necessary for acquiring, understanding, processing and creatively using information is essential. The development and spreading of intelligent and interactive network technologies and services have expanded the possibilities of communication, which, in turn, has a significant impact on interpersonal social and cultural relationships. Students need to gain experience in using various communication technologies in order to have an understanding of the dynamically changing communication environment and use the possibilities for information gathering and interactivity consciously and responsibly. Therefore, the education system needs to make it possible for students to learn about information technologies and the legal and ethical rules of information management.

The use of IT resources and information sources is not without dangers. Students need to learn about the relationship of information and thought, the health effects of the IT environment, the harms of excessive use and the legal framework of the use of information technology.

Multimedia plays an ever greater role in communication; therefore, IT education needs to focus on audiovisual content as well as written text.

Information technology is now an organic part of everyday life. The inequality of opportunities stemming from geographical location and financial differences can be significantly reduced through the use of IT solutions and library services. Making information public and available to all can help strengthen democracy.

The goal of the teaching of information technology is to teach practical user knowledge, develop skills and abilities and teach students how to think in logical, algorithmic ways and solve problems. One important goal of this subject area is to prepare students to use IT resources and information sources both individually and in groups.

The development goals of this subject area can be achieved if the teaching of individual subjects and fields of general knowledge and non-classroom school activities are coordinated and organically integrated with information technology. Thus, teaching the various elements of this subject area, developing the relevant skills and applying IT knowledge are all things that need to be carried out as part of all fields of general knowledge.

B) DEVELOPMENT TASKS

The structure of development tasks

1. The use of IT resources
2. User knowledge
   - *2.1. Creating electronic written and audiovisual documents*
   - *2.2. Data management, data processing and displaying information*
3. Solving problems using IT resources and methods
   - *3.1. Choosing the methods and resources to use for solving the problem*

3.2. Algorithmization, data modelling
3.3. Modelling simple processes

4. Infocommunication
   4.1. Information search, information transmission systems
   4.2. Forms of communication based on information technology
   4.3. IT in media
5. The information society
   5.1. The legal and ethical aspects of information management
   5.2. The role and use of e-services
6. Library IT

The arrows in the tables (►►) mean that the activity in question continues in higher grades, with the additions indicated for the next phase of education.

1. The use of IT resources

When the development tasks were set, emphasis was placed not only on second nature, routine use but also on the knowledge of the potential of the various tools and their conscious, creative use.

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Learning about the given IT environment.	Conscious use of the given IT environment.	Orientation about various different IT environments.	Conscious shaping of the IT environment.
	Learning about the health effects of IT resources, ►►	►► deepening previously acquired knowledge.	Setting up a healthy working environment.
Interactive communication via computer using well-known programmes, ►►	►► and describing and using the most vital peripherals.	Using and learning the basic operational principles of IT equipment.	Learning about computer peripherals, starting to use them, learning the physical basis of their operation.
Learning how to use applications.	The basic operations of the operating system.	Using the basic services of the operating system and the computer network.	Learning about and using the operating system, the computer network and other associated services.
		Choosing hardware and software resources from known resources for solving a given task.	Learning about the considerations to be taken into account when choosing resources for complex jobs.
			Safe data storage.

2. User knowledge

Areas that receive special emphasis: word processing, image, photo and video editing, multimedia development, preparing presentations, spreadsheet editing, database use.

2.1. Creating electronic written and audiovisual documents

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Creating simple personalized documents with drawings. Using drawing tools correctly, ►►	►► creating documents that contain both text and drawings, editing them, formatting them, saving them. Carrying out text operations.	Creating, editing and formatting documents that contain text, drawings and tables. Learning about document types.	Creating, editing and formatting complex documents. Generating end products in various formats, choosing a format based on practical considerations.
Creating and using simple musical applications and animations.	Making multimedia documents out of existing basic elements, ►►	►► and creating such basic elements. Preparing lectures and presentations.	Preparing multimedia documents. Preparing interactive materials and presentations.
Using the applications necessary for carrying out the task, ►►			►► choosing applications and using them in complex ways.

2.2. Data management, data processing and displaying information

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Selecting some characteristics of the people and objects around us and recording them.	Learning about tools that help illustrate, interpret and analyze data, ►►	►► learning about tools and methods, ►►	►►using the tools.
Grouping and interpreting data, ►►	►► inserting it into tables, ►►	►► creating graphical representations of the tabular data, drawing conclusions, ►►	►► calculating statistical characteristics, drawing conclusions.
Learning about some public-benefit information sources, ►►	►► using them.	Learning how to obtain information from databases.	Learning how to obtain information from databases and computer networks.
	Looking up data in a digital knowledgebase system (Sulinet Digital Knowledgebase), ►►	►► recording, interpreting and processing the obtained information.	Setting up a simple database for storing the data.
	Learning the basics of map use, ►►	►► looking them up on the Internet.	The basics of geographic information systems.

3. Solving problems using IT resources and methods

We create models in order to understand our natural and social environment; such models can also be created and studied using computers. We use data structures and plan series of activities and communication processes and information research processes. The aim is for students to learn the methods of planning and executing computer-aided problem solving, and to be able to choose the hardware and software tools that are best suited to each problem. If several tools are used for solving the problem, students need to be able to arrange data transfer between them.

3.1. Choosing the methods and resources to use for solving the problem

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Expressing information with speech, written text, drawings and signs, ►►	►► learning about characteristic use cases.		
The concept of algorithm as used in colloquial language.	The concept of algorithm as used in IT terminology.	Learning about the tools and methods necessary for solving problems, ►►	►► learning how to use them in complex ways.
Solving problems, with and without the teacher's assistance.	Solving problems individually and in guided teamwork, ►►		►► in a workgroup. Planning problem solving activities.
Creating drawings using turtle graphics.	Learning the basics of robotics, ►►	►► solving simple control problems.	

3.2. Algorithmization, data modelling

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Recognizing, verbalizing and executing simple algorithms.	Verbalizing and implementing on the computer the algorithms necessary for solving a given task, ►►	►► planning and implementing algorithm elements and algorithms aimed at solving the task, ►►	►► analyzing algorithms.
	Determining the results based on the known data in the course of problem solving.	The relationship between the data necessary for solving the problem and the result, ►►	►► planning and interpreting it.
		Differentiating and managing basic and complex data, ►►	►► using them. Data modelling; knowledge of simple models.
Using a simple automated development system.	Solving tasks using a simple automated development system.	Solving robot control and graphics tasks using a development system.	

3.3. Modelling simple processes

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Examining a model used by students in everyday life based on various parameters.	Observing the effects of regulatory elements in teaching software.	Learning about the models of random events, observing the effects of changing the parameters.	Measurements and simulations; the effects of changing parameters; formulating laws, creating models of simple activities.

4. Infocommunication

In order to ensure their effective participation in private, official and public communication, students need to know the differences between the various forms of communication, their differing functions and effects and the means of their technological implementation.

4.1. Information search, information transmission systems

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Phrasing questions about simple situations.	Defining search terms.	Advanced searches using search forms.	
Guided information research ►►	►► and interpreting the results.	Obtaining information in effective, targeted ways.	Obtaining information without assistance.
	Guided information source choice, ►►	►► examining authenticity; selection.	Transforming information in accordance with communication goals; recognizing manipulation.
		Preparing documents intended for printing and for publication on the web.	Learning publication methods.

4.2. Forms of communication based on information technology

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
	Sending and receiving information.	The communication model. Using infocommunication tools; learning about mobile communication devices.	Learning the ways in which devices capable of communication can be connected to each other.
The possibilities and risks associated with widespread infocommunication devices.	Establishing relationships using infocommunication devices. Responsible behaviour online. Protection from the dangers of online communication.	Choosing media in accordance with communication goals. The tools ensuring communication with and between people with disabilities.	Examining the effects of infocommunication devices on everyday life.

4.3. IT in media

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Learning about the possibilities of using IT resources in the media.	Using Internet portals and textual and visual information sources.	Learning about the publication of traditional media in modern formats; using such media outlets to obtain information.	Non-traditional media using IT channels; using such media outlets to obtain information.

5. The information society

Students must learn about the ethical, psychological, sociological and legal issues arising in connection with the use of infocommunication technologies so that they can correctly

interpret the impact of technological advances and the information explosion in general and on their lives in particular.

5.1. The legal and ethical aspects of information management

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
The concept of personal information and personal data.	Information security issues; abuse affecting data – especially personal information – , dangers and consequences, ►►	►► protection against them; protection methods and issues to consider. The authenticity of information; how to check information.	Learning about basic data protection concepts and techniques for conserving the authenticity of information.
The basics of netiquette.	Behaviour norms with regard to infocommunication. Distinguishing sources and one's own thoughts.	The major ethical issues associated with the use of IT resources. The ethical use of information sources.	Basic copyright concepts. Infocommunication publication rules.
		The effects of information and IT on human relations.	Learning about the effects of information and IT on the economy, the environment, culture and people's personality and health.

5.2. The role and use of e-services

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Learning about the most widespread electronic services aimed at children.	Learning about the role of e-services in everyday life.	Learning the use of e-services in a targeted manner, ►►	►► finding out about their advantages, risks and security aspects. Recognizing techniques used in the media with the aim of influencing consumer behaviour.

6. Library IT

Libraries provide information sources and service that give them a central role in learning and teaching as learning resources and open workshops. They can only play this role if students are well versed in library use, including the use of IT resources to find information in libraries.

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Orientation in the spatial layout of the school's library and the structure of its collection.	Distinguishing library types. Internalized use of the tools available in the school's library.	Internalized use of the tools available in the local library at the place of residence.	Learning about the functions of various information institutions, electronic libraries and databases.

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Knowledge of basic library services, observing library use rules.	Learning about library services based on traditional and new information tools.	Guided use of library services in learning and orientation.	Actively using the services provided by the library's information system as part of learning.
Learning about the characteristics of the form and content of widespread document types and electronic sources and differentiating them; the basics of their use.	Reliable use of the information sources designed for the age group in question. Choosing appropriate sources for solving a problem related to the student's studies.	Choosing handbooks and educational materials independently and using them for studies.	
Finding the identifying data of the sources.	Using the basics of citing sources, understanding its ethical implications.	Using correct bibliographic references with regard to the most often used document types.	Writing lists of references and bibliographies. Creative use of sources in accordance with ethical norms.

C) GENERAL COMPETENCES

Grades 1-4

1. The use of IT resources

- Basic IT resources.
- Interactive communication using a computer.
- Computer software and games aimed at skills development.

2. User knowledge

2.1. Creating electronic written and audiovisual documents

- Simple documents containing drawings and text.
- Basic computer drawing tools.
- Educational multimedia computer games and applications.

2.2. Data management, data processing and displaying information

- Characteristics and possible classifications of people and objects around us.
- Information sources and databases.

3. Solving problems using IT resources and methods

3.1. Choosing the methods and resources to use for solving the problem

- Means of transmitting information: speech, sound, writing, drawing, signals.
- Basic turtle graphics concepts.

3.2. Algorithmization, data modelling

- Simple algorithms that occur in everyday life.

3.3. Modelling simple processes

- Simple models that occur in everyday life.

4. Infocommunication

4.1. Information search, information transmission systems

- Methods for searching information sources consistent with students' age characteristics.

4.2. Forms of communication based on information technology

- Sending and receiving information.
- The potential of infocommunication tools and the risks of their use.

4.3. IT in media

- The possibilities of using IT resources in the media.

5. The information society

5.1. The legal and ethical aspects of information management

- Simple, everyday examples related to data security and data retention.
- The concept of personal information and personal data.
- The basics of netiquette.

5.2. The role and use of e-services

- The most widespread electronic services aimed at children.
- How to recognize real, authentic electronic services.

6. Library IT

- The spatial layout of the school's library and the structure of its collection.
- Basic services available in libraries; rules of library use.
- Characteristics of the form and content of document types; their differences and identifying data.

GRADES 5-8

1. The use of IT resources

- The most widely used IT devices and computer peripherals.
- Using a keyboard.
- Open source and closed source software.
- The basic services of operating systems; device management, file management.
- What to consider when changing IT devices.
- Basic services of computer networks.
- The health effects of IT devices.

2. User knowledge

2.1. Creating electronic written and audiovisual documents

- Document types and various associated services: text operations, document formatting, grammar checking.
- Documents containing drawings and text.
- The basic elements needed for generating multimedia documents: text, drawings, sound, photos, animated images, video.
- Simple presentations and animations.
- Presentations made with live speech; devices to use.
- The application environment necessary for making presentations.

2.2. Data management, data processing and displaying information

- The concept of data.
- Natural and artificial features, base data and derived data, grouped data.
- Services provided by digital knowledgebases.
- Tools aiding the recording, demonstrating, interpretation and examination of data.
- Tabular data storage, graphical data representation, the aesthetics of data display.
- Simple operations (calculations) aiding data processing.
- Route planning and map search software.

3. Solving problems using IT resources and methods

3.1. Choosing the methods and resources to use for solving the problem

- The concept of algorithms in the IT context.
- Simple IT devices and methods assisting problem solving.
- IT devices aiding algorithmic thinking; the basic concepts of robotics.

3.2. Algorithmization, data modelling

- Algorithm elements and algorithms associated with solving various problems.
- The elements of algorithmic abstraction; methods of describing algorithms.
- The principle of step-by-step refinement.
- Basic concepts associated with automated development systems.
- Basic concepts in robot control.

3.3. Modelling simple processes
- The effects of regulatory elements in teaching software.
- Models of random phenomena.

4. Infocommunication

4.1. Information search, information transmission systems
- Lack of information and search terms; the search process.
- Database in the local library and other widely used databases aimed at the students' age group.
- Expectations regarding texts and images to be made public; selection criteria.
- Documents and systems intended for printing and for publication on the web.

4.2. Forms of communication based on information technology
- The communication model.
- The communication tools of sending and receiving information; their functions and selection criteria.
- The basics of e-mail.
- Mobile communication devices.
- The tools and forms of communication with and between people with disabilities.
- The traffic rules of cyberspace.
- Communication mediums and their role.
- Social networks and their dangers.

4.3. IT in media
- Internet portals and textual and visual information sources.
- Traditional media in modern formats; applications.

5. The information society

5.1. The legal and ethical aspects of information management
- IT security issues; data abuse and related dangers.
- The authenticity of information and how to verify it.
- The main ethical rules and codes of conduct related to the use of information resources and IT resources.
- The effects of information and IT on human relations, illustrated by examples; the past, the present and what to expect in the future.

5.2. The role and use of e-services
- The role of e-services in everyday life and their security aspects.

6. Library IT
- Library types and the services they offer, their role in learning and in public benefit information supply.
- Storage organization system.
- The school's library: available tools, reference library, catalogue.
- The presentation, information value and use of various types of sources.
- What to consider when choosing sources.
- Source material processing, ethical rules, references.

Grades 9-12

1. The use of IT resources

- A healthier IT working environment.
- Digitizing devices.
- The main tasks and services of operating systems and computer networks.
- The physical principles underlying the operation of IT devices.
- Secure data storage: hardware and software.
- Hardware and software tools available for solving problems.

2. User knowledge

2.1. Creating electronic written and audiovisual documents

- Text documents.
- Large documents.
- Various document objects: headers, footers, footnotes, lists of contents, breaks.
- Styles within documents.
- Mail merge.
- Document print settings.
- Multimedia documents.
- Managing graphical data.
- The basics of making websites.
- Document formats, basic selection criteria, format conversion.
- The principles of choosing and combining applications for solving the task.

2.2. Data management, data processing and displaying information

- Devices and methods for storing and efficiently processing large amounts of data.
- Relationships between pieces of data.
- Local databases; the basics of data mining.
- Storing data in a database.
- Grouping data, graphically representing data, aesthetic data display.
- Statistical data analysis.
- The basics of geographic information systems: how to connect maps and databases.

3. Solving problems using IT resources and methods

3.1. Choosing the methods and resources to use for solving the problem

- The complex IT devices and methods necessary for solving problems.
- Planning and organizing problem solving activities.

3.2. Algorithmization, data modelling

- Fundamental and complex data; data types.
- Typical algorithms.

3.3. Modelling simple processes

- Measurements and simulations; the effects of changing parameters; laws; creating models of simple activities.

4. Infocommunication

4.1. Information search, information transmission systems

- Information searching strategies and information dissemination systems.
- Content-based searches and logical relationships.

- Information and communication goals.
- The rules and methods of publication.

4.2. Forms of communication based on information technology
- Forms of communication using infocommunication resources.
- Joining means of communication.
- The effects of means of communication on everyday life and society.
- Behaviour patterns and risks in cyberspace.

4.3. IT in media
- Non-traditional media formats; applications.

5. The information society

5.1. The legal and ethical aspects of information management
- Basic data protection concepts and the Data Protection Act.
- Basic copyright concepts and the Copyright Act.
- Basic rules of behaviour and publication established in the world of infocommunication.
- The effects of information and IT on the economy, the environment, culture and people's personality and health.
- The global information society.

5.2. The role and use of e-services
- Characteristics, advantages and risks of e-administration and e-commerce.
- Techniques used in the media in order to influence consumer behaviour.

6. Library IT
- The role of self-learning, general knowledge about world affairs and reading habits.
- The function of information institutions and their methods for transmitting information (with a special focus on the local library).
- Services of the library information system.
- Media and types of information transmission: reliability, aesthetic value.
- The criteria of critical source material use.

II.3.9. WAY OF LIFE AND PRACTICAL SKILLS

A) PRINCIPLES AND GOALS

This subject area gives students an opportunity to explore their artificial (technological) and social environment through direct experience, and especially to acquire practical knowledge that is necessary for everyday life. Thus, it contributes to providing students with competences in natural sciences and technology, helping them learn effectively on their own and develop their social and civic competence, as well as their ability to take initiatives and their entrepreneurial spirit. It strengthens students' commitment to a health-conscious and environmentally conscious lifestyle. Its main areas are: preparation for family life, household skills, health improvement, transport culture and technology culture. The "Way of life and practical skills" subject area focuses especially strongly on the development of the skills and abilities necessary for practical activities, teaching the competent use of tools, basic technological processes and an appreciation of work – and, ultimately, a positive, constructive approach. Learning about the objects that surround us in our everyday life helps instil a responsible, environmentally conscious attitude and critical consumer behaviour in students.

Familiarizing students with activities, professions and careers lays the foundations for subsequent career choice. Experience in solving problems and overcoming difficulties helps students succeed in the labour market. This subject area employs realistic tasks and procedures, building a bridge between learning at school and the world outside of school.

B) DEVELOPMENT TASKS

The structure of development tasks

1. The environment of human activities
2. Career orientation and the world of work
3. Planning, execution, verification
   - *3.1. Using the information sources of activities*
   - *3.2. Planning*
   - *3.3. Execution*
4. Habits and attitudes in work and study
   - *4.1 Order, rule compliance*
   - *4.2 Health consciousness, environmental consciousness, frugality, efficiency*

1. The environment of human activities

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Collecting experience from the environment; putting experiences into words and recording them. Developing individual interests toward the examination of elements and characteristics of the environment; complementing it with experience. Accepting and applying one's own responsibility in shaping one's immediate environment.			Accepting the value and self-interest associated with sustainability; conscious and active participation in conserving and improving our environment.
Mutual attention and adaptation to peers during activities. Cooperation with peers, adaptation, aiding peers during joint/group activities.		Coordinated activity in accordance with the directions and cooperation rules given to the group, identification of the possible solutions of conflicts, assisting peers.	Taking on tasks, showing activity appropriate for the situation, conscious cooperation, willingness to compromise and take responsibility in joint work.

2. Career orientation and the world of work

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
	Forming opinions about particular professions and work activities.	Characteristics of one's planned career; comparing them to personal plans; correct assessment of opportunities; realistic self-assessment.	
		Becoming conscious of the indispensable components of fitness for a job that provides one's livelihood (specialized knowledge, learning, work ethic).	Accepting the importance of dedication to work and activity, lifelong learning and specialized and general knowledge; acting accordingly.

3. Planning, execution, verification

3.1. Using the information sources of activities

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Targeted search for information in the form of texts, drawings, images and sound recordings related to individual activities and plans through experience and in printed and electronic sources. Examining the technological properties of the materials used.		Choosing and using the information necessary for the activities. Filtering, evaluating, combining information from various sources, expanding their scope of validity.	Independently researching information necessary for carrying out the activity/completing the tasks; choosing them from specified sources.

3.2. Planning

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Planning the steps of task execution by following an example; estimating the necessary time, material and amount of work.	Preparing blueprints of a specified end product and planning the steps of task execution.	Preparing blueprints and process plans for making a specified end product, taking into consideration the needs that may arise, the end product's purpose, the procedure, the chosen material, the structure and the tools and methods to use.	

3.3. Execution

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Organization, time management, space use, order			
Trying out activities related to certain professions and getting to know them through games. Carrying out simple instructions and plans contained in the descriptions (texts, drawings or photos) used for the activities.		Determining the order of operations, time schedule and spatial order of simple individual and group activities, then observing these constraints within the framework of the algorithms/procedures in question.	Modifying complex activities on the fly within the given framework; organizing them; arranging conditions and resources. Recognizing and countering hurdles.
Safety of activity			
Recognizing and mitigating the accident risks and other safety risks present in work, the environment, transport and activity; methods and tools of prevention; learning about and practicing possible assistance measures.			
Discussing accidents affecting children; identifying the causes; discussing and practicing possible prevention; management and assistance measures. Attention and prudence; developing a sense of danger regarding planned and currently performed activities; increasing safety. Learning and applying the basics of safety and disaster protection.		Implementing the conclusions drawn from the analysis of accidents, instances of damage, negative health effects and other dangers. Methods and tools of prevention; learning about and practicing possible assistance measures. Developing a real sense of danger in relation to imagined and modelled activities, judging in advance whether the conditions for the safety of an activity are in place. Identifying and analyzing the negative health effects of one's own activities and the activities of others in the environment.	
Productivity of activity			
Carrying out productive activities, such as shaping materials, making food, making and transforming objects, doing repairs and construction, shaping the condition of elements of the environment, looking after plants and animals, carrying out tasks related to oneself and one's peers, and trying out and practicing the elements of such activities in a playful format.		Carrying out productive tasks and work processes associated with a given job or duty, and collecting information about such tasks and work processes through observation.	Carrying out productive activities after planning and preparation in the framework of project work, while collecting all information necessary for success and safety.
Using tools safely, in	Recognizing the role of the parts or components of activities (e.g. dexterity, ability		

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
accordance with the objective and their purpose. Dexterity, motor coordination, good posture, appropriate application of force.	to work hard, theoretical knowledge) in various professions. Choosing tools; learning about their structure, operation and rules of use; operating them safely, as carefully as needed at one's level of experience, independently – if necessary, after information gathering, learning and practice.		

4. Habits and attitudes in work and study

4.1. Order, rule compliance

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Desire for a neat environment: order and cleanliness in the spaces of learning, practical work, play and free time.			Perseverant, disciplined work; dedication to a purpose as part of work behaviour.
Improving the level of dedication in carrying out tasks and activities; taking on tasks in the interest of others and the community.			

4.2 Health consciousness, environmental consciousness, frugality, efficiency

Grades 1-4	Grades 5-8		Grades 9-12
	Grades 5-6	Grades 7-8	
Practical, frugal, health conscious and environmentally conscious use of materials, energy and time in accordance with rules and instructions, making an effort to do work efficiently. Protecting one's learning environment and objects and tools in one's own use.	Recognizing the opportunities for efficiency and economy that are directly related to one's activities; estimating quantities, developing the ability to assess quantities.	Assessing the task, the investment it requires, the result and the benefit together; identifying possible savings; implementing health consciousness and environmental consciousness in everyday activities.	Considering the effects of efficiency on the environment and human health. Emphasizing moderation, health consciousness and environmental consciousness as expressed in consumer habits.

C) GENERAL COMPETENCES

Grades 1-4

1. The family and the household

- The family. The family home, the scene of family life. Tasks in the family; division of tasks.
- The role of internal and external spaces and pieces of furniture.
- Home appliances, tools, pieces of furniture and their function.
- Safe home: accident prevention at home, first aid.
- Healthy lifestyle: nutrition, clothing, personal hygiene, exercise.
- Saving water and energy, selective waste collection, recycling.
- Looking after plants and animals in and around the home.

2. Objects, technologies, production

- Practical order at work; cleanliness, economy.
- Characteristics of objects, materials, tools and technologies observed in practice.
- The function and properties of objects used by children on a daily basis; sources of danger, accident prevention, first aid.
- Creating objects and the quantitative concepts associated with creating objects; determining quantities based on estimation, counting, measurement and calculation.

3. Transport

- Walking, cycling and local public transport; norms of behaviour.
- Types, classification, characteristics and function of means of transport.
- Environmentally conscious and health conscious transport.
- The dangers of transport; preventing traffic accidents and first aid.

4. Career orientation, community roles

- Taking on community tasks in class, in school and at the place of residence.
- Characteristics of the most widely known professions.

Grades 5-8

1. The family and the household

- Relationships and generational connections in the family. Caring for infants.
- The family home, the scene of family life.
- Living environments and lifestyle characteristics (major cities, cities, villages, natural, built and human environment, economic and social differences).
- Home supply systems, public utilities.
- Managing the family budget; economy.
- Preparing food. Other work in the household and around the house. Looking after ornamental plants, the garden, pets and farm animals.
- Division of tasks in the family. Time management; daily and weekly schedules.
- The safe use of home appliances and devices.
- Preventing accidents at home; first aid and nursing the ill at home.

- Healthy lifestyle, nutrition, bathing, dressing, hygiene, illness prevention, addiction prevention, assisting persons with a disability.
- Conscious shopping, saving water and energy, waste management, recycling, environmentally friendly methods in the household and in housework.

2. Objects, technologies, production

- The purpose and usability characteristics of objects. Creating objects, structures and models. The physical and technological characteristics of objects and of the materials used for making them.
- Rules for the proper, safe and accident free use of hand tools, devices, small machines and equipment.
- Characteristics of an appropriate, healthy and safe working environment. Economy, practical order and cleanliness at work, and the role of persistent, disciplined and careful work in ensuring efficiency.
- Our everyday objects: industrialized and custom manufacturing; reparation, refurbishment.

3. Transport

- The rules of pedestrian and bicycle traffic as listed in the Highway Code; the system and equipment of public transport; civilized transport.
- Using timetables and other information sources; the cost of transport in terms of time and money.
- Analyzing traffic situations; analyzing and preventing dangers and accidents; providing assistance and first aid.

4. Career orientation, community roles

- Undertaking community tasks in class and in school.
- Possibilities and importance of volunteer work in the interest of the broader community (school, settlement); active participation in accordance with the student's abilities and opportunities.
- Work for pay: characteristics of types of professions. Preparation for profession and career choice.

Grades 9-12

1. The family and the household

- The household as an economic unit. Division of tasks in the family.
- Health conscious and environmentally conscious shopping and consumption; consumer protection.
- The safe and environmentally conscious use of home appliances, tools, equipment, public utilities, systems and materials.
- Healthy lifestyle, hygiene and clothing styles. Rules of handling and storing food; conscious food purchasing decisions.
- Time management; the biological rhythm.

2. Objects, technologies, production

- The activity, structure, environmental relationships and information environment of the work organization(s).

- Participation in the activities of a work organization (assigned, chosen or created for a project); characteristics of the activity, the material and human resources necessary for the work, its health and environmental conditions and effects.
- The process of the solution of a chosen problem from the time the demand or need arises up to the solution of the problem and the assessment of the effects. Arranging materials, tools, models, methods and resources in a functional order within the framework of the task.

3. Transport

- The transport system of a given settlement; connections between the transport infrastructure and the lifestyle of the population and the economic potential of the area.
- The effects of the transport situation at the settlement on personal lifestyle; the social impact of the availability of public transport.
- The Highway Code, abiding by rules, accident prevention, assistance.

4. Career orientation, community roles

- The goals, possibilities and importance of non-governmental organizations; the activity of some well-known national and international non-governmental organizations.
- The possibilities and importance of carrying out voluntary work in the interest of the broader community (school, local community, settlement); public service. Basic disaster protection, civil protection and national defence knowledge.
- Career planning; further studies in the system of vocational training or higher education; work domestically and abroad.
- Profession-independent aspects of life as an employee.
- Basic information on taxes, insurance, health, pension and social insurance, finance and economics; arranging administrative issues.

II.3.10. PHYSICAL EDUCATION AND SPORTS

A) PRINCIPLES AND GOALS

Physical education and sports – involving physical exercise and a special set of knowledge, values and functions – is a subject area of peculiar complexity. Physical education and sports at school is an especially important part of the comprehensive programme of health development and talent support at school aimed at promoting students' physical, motor, psychological, intellectual, emotional and social development. One of the priority goals of this subject area is to ensure that physical exercise plays an important role in the life of all students and that students grow up living a lifestyle that involves health consciousness and physical exercise throughout their life. Regular physical activity that is consistent with age, interests and physical fitness generates a demand for independent exercise, sports and self-expression through motor activities and learning about and developing a sense of one's own body (which plays an important role in self-knowledge and self-assessment).

Within the subject area of physical education and sports, student-centred personality development enjoys priority. Taking into account the natural differences of children's individual physical, mental and social condition and development helps ensure equal opportunities. Physical education and sports play a major role in managing learning difficulties – the development of children with special educational needs, disadvantaged children and children exposed to risks – and in social inclusion. The aim of motor activities and motor teaching is to raise individuals with good physical control and a wide basis of physical skills and abilities that they can apply in a variety of circumstances, use consciously in a planned manner and integrate into their everyday life. Physical education and sports also play an important role in developing problem solving, critical thinking and creativity in the course of motor activities. It develops students' personal skills and abilities, such as self-knowledge, self-control, rule-abiding behaviour, fighting spirit, a desire for success, stress tolerance and monotony tolerance. Physical education and sports improve and enrich social skills and cooperation, teach people to fight for shared goals and allow them to experience shared successes. Exercise, which plays an important role in the primary prevention of numerous widespread non-infectious diseases that have a major impact on quality of life (overweight, obesity, cardiovascular, musculoskeletal and psychological illnesses, eating disorders, body image disorders and addictions) has a very important role to play in the future of Hungarian society. In this regard, the development of fitness and coordination, which can lay the groundwork for later fitness at the organ system level (circulation, skeletal muscles, bones, joint mobility) is crucial. Security of motor action and motor learning play an important role; they also help students become better at cooperation and establishing new relationships in task-related situations. Students learn to assess their own fitness level, draw up and implement an exercise programme that matches their level, abilities and interests and helps them develop. Regular physical education and sports helps students handle stress and physical, mental and intellectual challenges better, become able to reliably follow rules and accept norms, patterns, tests and assessment.

Reaching the above goals requires familiarity with the culture of games and sport and a desire to attain and maintain a healthy and aesthetic body, biomechanically correct posture, relaxation and health-focused activities. Through physical education and sport, students obtain practical, applicable knowledge about the advantages and effects of regular physical activity, improve their health and fitness and learn to appreciate the effort needed for success.

Learning about the traditions and values of Hungarian and universal sport and the exemplary achievements of our elite athletes helps develop students' sense of national identity and their appreciation for human achievement; following Hungarian and international sports competitions promotes moral values, the spirit of fair play and a sense of belonging to the European and world community.
The priority goals of the subject area "physical education and sports" are:

- Developing motor skills, improving fitness, which is closely tied to regular preventive physical activity (natural movements, establishing and maintaining correct posture, improving motor skills, the components and importance of physical workload, body mass index, nutrition and health conserving habits).
- Developing motor skills, fitness and coordination abilities, resulting in improving skill in various specific sports (technique, tactics).
- Improving knowledge in the areas of physical education and sports (warm-up, workload, the components of development, practice, measurement and assessment; knowledge of the rules of games and sports, sport history knowledge).
- Participation in recreational sports, student sports and competitive sports; choosing a sport; through the selection and the training of a new generation of athletes acquiring skills and abilities that result in lifelong physical activity.
- Personality development, developing and strengthening social and emotional abilities (processing success and failure, victory and defeat, developing one's social network, adaptation, conflict management, the emotions of being part of a team, strengthening the sense of belonging; body image).
- Developing preventive and health conscious habits (habits of satisfying the need for exercise, consciously avoiding unhealthy motor activity, values and habits associated with the needs of a healthy lifestyle, health habits associated with sports activity).

B) DEVELOPMENT TASKS

The structure of development tasks

Motor ability development: fitness	Motor skills development: learning movements
Play	Competition
Prevention, lifestyle, health improvement	

Motor ability development: fitness — Exercises for general and special ability development and fitness improvement or conservation. — Ensuring conscious awareness of the role of the development of motor abilities.	**Motor skills development: learning movements** — General and sport-specific technical and tactical learning individually, in pairs and in groups. — Improving cognitive, affective and social abilities through motor learning.
Play — Playful physical exercises carried out individually, in pairs and in groups. — Games involving movement aimed at preparation for a particular sport. — Productive and cooperative games. — Improving cognitive, affective and social abilities through play.	**Competition** — Sport-specific competitions carried out individually, in pairs and in groups. — The role of competition in cognitive, affective and social abilities.

Prevention, lifestyle, health improvement

— Preventive sports and recreational sports.
— Individual, social and group activities that affect one's way of life, lifestyle and quality of life.

C) GENERAL COMPETENCES

Grades 1-4

This is the most important period when it comes to the development of motor abilities and motor skills, with a view to establishing health-conscious physical education (and later, sport) habits and learning to enjoy sport.

1. The culture of physical activity

Motor ability development: fitness

- — Ability development and fitness improvement exercises without equipment or with various pieces of equipment.
- — Simple strengthening and stretching gymnastics exercises.
- — Special exercises aimed at establishing and maintaining biomechanically correct posture.
- — Motor tests, condition assessment

Motor skills development: learning movements

- — Natural movements: changing place, changing position, manipulation.
- — Using, practicing and developing natural movements:
  - through gymnastics exercises;
  - through athletics exercises;
  - through basic technical and tactical exercises in sports games;
  - through self-defence and fight exercises;

- through water safety and swimming exercises;
- through children's dances.

Play

- Games played individually, in pairs and in groups, with and without equipment.
- Role play, rule-based games, task games.
- Productive, creative and cooperative games.
- Simple games in preparation for sports games.
- Folk children's games.

Competition

- Specialized sports competitions in competitive situations with simplified rules.
- Team competitions and relay races.
- Simplified sport competitions.

Prevention, lifestyle, health improvement

- Habitual preventive health-improving motor activities carried out individually, in pairs and in groups.
- Basic relaxation exercises.
- Conscious application of hygiene knowledge.
- Accident prevention, handling minor injuries occurring in the course of motor activities.

2. Knowledge and personality development

Motor ability development: fitness

- Regular measurement of motor abilities using tests; their effects on self-esteem and self-control.
- The role of correct posture in self-image and body image.
- The effects of regular exercise on the constitution; taking responsibility.
- Fitness and performance in everyday life and in sport.
- Ability development with and without equipment.

Motor skills development: learning movements

- Spatial awareness (position in space, direction of movement, horizontal planes, routes, size).
- Conscious energy investment (time, speed, time, endurance).
- The role of spatial, temporal and dynamic aspects with regard to equipment and peers.
- Communication: rules, forms and signals.
- The role of cognitive, emotional and social functions in learning movements, perceiving movement and in creative activities.

Play

- Playful tasks aimed at controlling emotion and motivation.
- The effects of game rules on decision-making, the observation of rules and rule consciousness.
- Game types, game strategies, experiences, the pleasure of social activities.
- The role of personal and social processes in play and in conflict management.

Competition

- Basic knowledge of sports and the application of this knowledge.
- The basic rules of various sports and the rules of sport competitions.
- Fair play and sporting role models.

Prevention, lifestyle, health improvement

- Basic hygiene as a system of responsible habits.
- Correct posture, spine protection and health consciousness.
- The basics of health, sports and lifestyle; environmental consciousness.
- Safety, accident prevention and basic first aid.
- The basics of relaxation, stress management and stress relief.

Grades 5-8

A good coordination and fitness training serves as a basis for student sports and recreational sport, and, in the case of talented and dedicated students, for technical and tactical training within the framework of competitive sports with a view to training a new generation of athletes.

1. The culture of physical activity

Motor ability development: fitness

- Fitness and coordination ability development based on natural motion individually, in pairs and in groups without equipment and with different types of equipment.
- General and sport-specific fitness and coordination ability development.
- Aerobic and anaerobic ability development.
- Gymnastics routines, gymnastics using hand apparatus.
- Gymnastics aimed at establishing biomechanically correct posture.
- Mobilizing, stretching, strengthening and relaxing muscles.
- Motor tests, condition assessment.

Motor skills development: learning movements

- Using natural and non-natural forms of motion.
- The technical and tactical elements of sports that can be practiced individually, in pairs and in groups.
- Technical, tactical and competition elements of specific sports, individually, in pairs, in groups and in teams:
  - through gymnastics exercises;
  - through athletics exercises;
  - through tasks leading up to sport games;
  - through self-defence and fight exercises;
  - through swimming-related water sports;
  - through sports that can be practiced in alternative environments;
  - through elements of sports that can be practiced individually, in pairs and in groups;
  - through cycling;
  - through learning dances and dancing.

Play

- Tactical and strategic elements of physical education and sport games.
- Creative and cooperative games aimed at preparation for a specific sport.
- Children's games, folk games, traditional activities involving exercise, and leisure activities that can be practiced throughout life.
- Ball exercises and physical education games with balls (using hands, feet and simple equipment) aimed at preparation for sports games.
- Using the learned techniques and tactics of a specific sport in a game situation.

- Using techniques in a game situation and in a competitive situation.
- Motor games based on students' creativity.

Competition
- Competitions in sports that can be practiced individually, in pairs and in teams.
- Practicing specific sports in accordance with competition rules, technique and tactics in competitive situations and outside of competition in accordance with competitive rules.

Prevention, lifestyle, health improvement
- Motor activities aimed at ensuring and improving health, practiced individually, in pairs, in groups and in teams.
- Relaxation exercises.

2. Knowledge and personality development

Motor ability development: fitness
- The interpretation and application of physiologically optimal workloads.
- Motor ability development and its effects on self-knowledge, self-control and self-esteem.
- The effects of motor tests, condition assessment and motor measurements on fitness, motivation and monotony tolerance.
- Developing preventive motor culture through practical activities.
- Body image, the role of one's own body and equipment in fitness and joint mobility.

Motor skills development: learning movements
- Recognizing the relationship between spatial consciousness, consciousness of energy investment (time, speed, force, endurance) and motion in natural movements and in the basic techniques of specific sports.
- Goal-oriented motor activity, thinking and creativity in motor learning.
- Recognizing internal and external information and signals; comparing them and selecting them based on the image of movement.
- The role of movement-specific communication rules, forms, signals and organizational procedures in self-reflection and self-control.
- Understanding and applying the system of various techniques and tactics.

Play
- The rule system of physical education games and sport games; following rules.
- The relationship of game rules and game types with decision making and responsibility.
- Game strategies using adaptive techniques, tactics and conflict management.
- Sport history, the history of the Olympic Games, role models.
- Creative and cooperative games aimed at preparation for a specific sport.
- Dances, folk games and traditional motor activities individually, in pairs and in groups.
- Learning about personal and social processes, the focus on success and conflict management in games.

Competition
- The basic rules of specific sports; rule systems and fair play.
- Sports, events and performance systems.

- Basic knowledge of the history of the Olympic Games and specific sports; the conservation of traditions and following examples.
- The experiences of famous Hungarian and international athletes; examples and role models.
- Equal opportunities, fair play and performance.

Prevention, lifestyle, health improvement

- Basic lifestyle principles and habit systems: diet, biological rhythm, hygiene, media consciousness, addictions.
- The role of primary prevention in lifestyle and accident prevention.
- Physical fitness levels: healthy diet, daily routines, preventing obesity.
- The relationship between correct posture, spine protection, motor abilities and health.
- Improving one's knowledge of and skill in physical activity in general.
- The effects of regular exercise and sport on the constitution, channelling aggression and self-control.
- Safety and environmental consciousness.
- Different forms of relaxation.

Grades 9-12

This phase is characterized by conscious, regular education and individual activity; alongside motor activity at school, recreational physical activity becomes more and more prevalent, as does elite sport for talented athletes.

1. The culture of physical activity

Motor ability development: fitness

- Quality-focused motor activity practiced individually, in pairs and in groups, with and without equipment.
- Fitness and coordination ability development developed for specific sport activities and movement types.
- Planning and executing general and sport-specific warm-up exercises.
- Fitness and coordination ability development and planning individually, in pairs and in groups using various pieces of equipment and without equipment.
- Motor tests, condition assessment.
- Biomechanically correct posture.
- Bodybuilding – the comprehensive and systematic development of all muscle groups with the aim of achieving optimal body structure – observing the rules of spine and joint protection.

Motor skills development: learning movements

- The use of natural movements with relation to specific sports.
- The technical and tactical elements of individual, pair and group sports; reaching a high level of reliability.
- Developing conscious situation analysis and task solving skills and abilities by learning new movements.
- Gaining experience about the techniques and tactics of historical and modern Hungarian and foreign sport games.
- Dance, folk dance, art performance, historic dance, ballroom dance and contests with motor tasks.

Play

- Game types, rules and the practical application of strategies.
- Tactical and strategic elements of physical education and sport games.
- Games promoting inclusion.
- Cooperative, creative physical education and sports games.
- Preventive games and activities in water.

Competition

- Practicing competitive situations in specific sports.
- Competitive experience in student, elite or recreational sports.
- Peak performance in student contests or other competition systems.

Prevention, lifestyle, health improvement

- Motor activities aimed at ensuring and improving health, practiced individually, in pairs, in groups and in teams.
- Establishing a healthy, exercise-rich lifestyle.
- Lifestyle: conscious awareness of regular physical activity and its effects.
- Managing and controlling physical workloads.
- Achieving and maintaining optimal body mass, ideal body weight and fitness parameters.
- Stress relief and relaxation exercises.

2. Knowledge and personality development

Motor ability development: workloads, fitness

- Criteria of fitness, physiological characteristics and characteristics related to training theory; application, self-evaluation.
- The physiological and psychological interpretation of physical workloads.
- Training plans and fitness; how to measure them and how they affect development.

Motor skills development: learning movements

- Recognizing the relationship between spatial consciousness, consciousness of energy investment (time, speed, force, endurance) and motion in natural movements and in the basic techniques of specific sports.
- Knowledge of the technical and tactical repertoire of the movement set of a sport; fields of application and evaluation based on efficiency.
- Knowledge of new sports and systems from European and other countries.
- The use of dance, art performance and alternative motor activities for self-reflection and self-expression at a level that matches the level of abilities.
- Studies of the body culture; the thematic system of the study materials of physical education and sports.
- Teaching partnerships and tutoring in motor programmes and exercises.

Play

- The rule system of physical education and sport games and their critical assessment with a view to community building and teambuilding.
- The relationship of game rules and game types; awareness of rules and their application. Game strategies using adaptive techniques and tactics; assessment.
- Individual and social processes in learning, assessment, assertiveness and focus on success.

Competition

- The rule systems of specific sports, and the ability to apply them.
- Organizing sports competitions; age group systems.
- Fair play, focus on success and failure tolerance in and outside of sports.
- The system of specific sports and events; fields of application in self-fulfilment.
- Using the knowledge of the history of the Olympic Games and specific sports; the application of various systems; acknowledging performance.
- Successes and evaluation systems in Hungarian and international sport.

Prevention, lifestyle, health improvement

- The theoretical background, history and development possibilities of the culture of physical activity.
- The links between primary prevention and lifestyle: habits, health improvement.
- The links between regular exercise and health consciousness: obesity, modern diet, healthy lifestyle, harmful addictions and performance-enhancing drugs.
- The effects of regular physical activity and sport on the constitution and correct posture.
- Safety, accident prevention and environmental consciousness.
- Emotion and tension control and aggression prevention through motor activities; relaxation.
- Individual responsibility and decisions in implementing a healthy lifestyle and recreational activities.

PART III

GLOSSARY

Terms and definitions pertaining to content regulation

The goal of this chapter is to assist those whose work involves applying the National Core Curriculum, preparing framework curricula, local curricula and textbooks or developing programmes by establishing a unified interpretation of the terms, definitions and basic concepts required for work in the field of content regulation. The terms and definitions and their meanings occurring in the NCC are meant exclusively as an aid to understanding the elements of content regulation.

Attitude

An individual's lasting approach towards or assessment of an object, person or abstract concept. It is made up of emotional (affective), intellectual (cognitive) and action-related (conative/behavioural) components. These express a positive or negative relationship with the object (or person or abstract concept) and consist of the individual's knowledge of it and behaviour towards it. All this has an effect on absorbing information from the environment and on interpreting goals – and allows the individual to react to specific situations quickly and reliably. Attitudes are learned, and they are relatively permanent and difficult to change.

Competence, key competences

> A competence is an amalgamation of knowledge and skills that, if accompanied by the right attitudes, ensures that the individual is able and ready to act effectively and successfully in a given situation. In the interpretations and key competence recommendations of the European Union, "competence" means a dynamically shaped complex cognitive and psychological structure made up of a system of knowledge, abilities, skills and attitudes that enables the individual to carry out certain activities. The curriculum includes competences, development tasks (→), activities (→), abilities and skills (→). A system of knowledge (→) is always assumed to be associated with them.

Among the various competence systems (→), the Hungarian National Core Curriculum (→) is based on the EU convention, the so-called key competence system. On the one hand, these key competences (→) provide an overview of required general knowledge (→); on the other, they define a modern approach to education.

Core curriculum

A type of curriculum, which determines the compulsory uniform goals of education taking place in the framework of general education (→) for one particular school system, to be applied throughout the whole education period in all schools with regard to all students. The National Core Curriculum interprets the key competences (→) adopted by the European Union in the context of Hungarian public education, establishes the relationship of the general educational views of schools and other

closely related institutions (kindergartens, dormitories, vocational training institutions, public cultural institutions, etc.) and lays the groundwork for the quality management work associated with the core curriculum. It focuses especially on the development tasks (→) and general competences (→) that form the basis of education work and are to be implemented in each specific phase of education. It defines the main areas of education – the so-called fields of general knowledge (→) – and development areas (which are cross-cutting in that they span fields of general knowledge) and educational goals (→). It serves as a guideline for authors of framework curricula (→) and educational programmes, textbook authors and editors, authors of auxiliary educational material and tools, experts who work out the requirements of state examinations (→) and the tools of national measurement and assessment, and, above all, teachers. It coordinates central and local curriculum policies (→) and the activities of the actors involved in schools (students, teachers, parents and maintainers).

Cross-curricular element

Cross-curricula are common development tasks (→) that span fields of general knowledge (→) and subjects (→). A cross-curricular topic is one that is not taught and learned (→) as part of one subject area (→) or subject (→), but by coordinating several. Common requirements (→) help break down the barriers between subjects (→) and ensure a unified approach in teaching/learning (→), thus contributing to the development of students' personalities. Essentially, development fields (→) and key competences (→) belong in this category, but the new National Core Curriculum adds content elements to cross-curricular requirements (→) as well.

Curricular content

Curricular content means the knowledge (→) to be acquired in the course of teaching and learning, chosen by the curriculum authors and arranged in accordance with didactic principles. Curricular content usually has two levels. The first level is the curricular content that defines the primary data, themes, topics, concepts, formulas, place names, persons, works, grammatical rules, etc. of the field or subject (→) in question in the form of a detailed list (the "canon"). The second level includes content that represents the combination or juncture of several topics; it focuses on logical relationships and key concepts (→) that are relevant for transmitting general knowledge (→).

Development fields – educational goals

Development fields – educational goals (→) span fields of general knowledge (→), and – along with key competences (→) – they pervade almost all elements of education in schools, promoting the strengthening of cross-**curricular** links (→), the unification of attitudes to teaching and learning (→) and the development of students' personalities

Development task

A form of activity (→) assigned by the teacher and carried out by the student, aimed at improving the student's abilities and competences, usually taking place in the course of processing study materials (→). The NCC encourages personality development in education by establishing the development tasks that serve the development of the abilities of students. The development tasks

(→) define the areas of ability development. They specify which key competence (→) should be developed in each of the phases of education. Goals may be defined at different levels of abstraction, and may place emphasis on different aspects of the teaching process. They are often presented as descriptions or indications of activities in the field of the organization of learning (→); in other cases, they list student activities (→) to be carried out in the interest of development. Key development tasks (→), which pervade all elements of school education, play a special role in the regulation of curricula. They promote the strengthening of cross-curricular links (→), the unification of attitudes to teaching and learning (→) and the development of students' personalities.

Differentiation

Differentiation means that different students may not be taught the same content in the same way. It is about personalized teaching: adaptation to the individual student. Differentiation can involve the content taught, in which case the student's abilities (→) and interests play a role in choosing study materials (→). Differentiation can also involve the methods and tools of teaching and learning, the various competence areas (→) and requirements and the schedule of progress (→) in meeting those requirements, which means a differentiation between students who progress quicker and those who progress slower, but it cannot involve an increase of the gap.

Examination requirements

A system of criteria at the borders of the major phases of the education system, with the aim of facilitating the comparison of the performance of individual students with the legally established levels. In the Hungarian education system, this role is traditionally assigned to the secondary school leaving examination. The competence-based (→) approach to teaching and learning prioritizes the application of knowledge (→) acquired in the course of school education when assessing student performance. The examination requirements prescribed by legislation (e.g. the requirements of the secondary school leaving examination and the professional and examination requirements) are based on the National Core Curriculum (→).

Subject area

General knowledge content elements of education, chosen from the domains of national and universal culture based on social, pedagogical, psychological and logical considerations. The National Core Curriculum – taking into account the integrative nature of modern culture with respect to the theory of science and didactics – describes overarching fields of general knowledge. The fields of general knowledge provide a framework on the basis of which separate or integrated subjects (→) can be created by framework curricula (→), local curricula (→) and curricular programmes (the latter always specify subjects (→) by nature).

Framework curriculum

The minister responsible for education approves and issues elective framework curricula regarding each phase of education based on the National Core Curriculum (→), containing content elements and serving as the basis for local implementation. The precondition of approval is that the

framework curriculum needs to be suitable for implementing the development tasks (→) and general knowledge contents (→) defined in the National Core Curriculum (→), and it needs to be possible to attach to it detailed educational programme packages which provide specialized help for the application of the framework curriculum as the school's local curriculum (→). Framework curricula define the system of subjects (→), the time frame (number of classes) of each subject (→), the structure of study materials (→) and their distribution among grades, as well as the exit criteria of the last grade of the phase of education in question and the basic content of textbooks. Each framework curriculum may also offer optional alternatives regarding all these elements within their own system. Within the specified limits, each school adapts the framework curriculum to its own situation. Framework curricula are made for one specific school type (basic school, secondary grammar school, vocational secondary school, vocational school, etc.).

General education

The teaching of fundamental general knowledge in school, and the optimal development of the associated competences. Its organizational framework is supplied by the period of schooling that focuses on teaching general knowledge. The knowledge and skills acquired in the course of general education enables students to solve specific tasks and problems, laying the groundwork for specialized trainings at various levels. Here, fundamental general knowledge means a system of interrelated elements: learning abilities, basic cultural techniques, key competences (→) and socially accepted general knowledge (→).

General knowledge

A system of basic knowledge regarding man, human groups and communities, the systems of relationships that characterize human society, science, technology, the world of the economy and labour, the natural and built environment, arts, communication, behaviour, culture itself, its acquisition (learning), further development and application. This basic knowledge manifests itself in one's values, motivations, knowledge (cognitive structures) and activities. General knowledge covers and combines into one harmonious whole all the major areas of human culture, and it supplies the common base knowledge everyone needs for their general education (→) and vocational education as well as for any organized or self-taught learning after the end of schooling. The system and level of expected general knowledge varies by time periods and cultures. Today in Hungary, the backbone of general knowledge is made up of elements of Hungarian, European and global universal knowledge built onto each other. Its main characteristic is the harmony of traditions, interest in the issues of the present and attention towards the future, openness to the changes affecting the structure of culture, and relevance in all areas of social life. In the context of public education, general knowledge means a system of key competences (→) and knowledge that is generally expected from educated people (people who completed secondary education).

Lifelong learning

The goal of lifelong learning is to meet the requirements of the knowledge-based society when it comes to professional skills and knowledge, as well as ensuring full-scale participation in social and economic life. Lifelong learning ensures self-development that results in the further development of skills as required by new technologies and the challenges of the labour market and modern society. Lifelong learning can also be interpreted in a broader way to include formal, non-formal and informal learning in all areas of life.

Local content

The term "local content" means: *a)* the elements of the – everyday and festive – culture, geographical, natural, historical and economic environment, traditions and vision of the future specific to local society surrounding and using the school (local culture); and *b)* the unique needs and demands of the characteristic student groups learning in the school, declared by the student groups themselves or discovered in the course of the school's educational activity (→). Accordingly, the local content appearing in local curricula (→) in the curriculum programme may be an addition or it may be reinterpretation to a certain extent.

Local curriculum

The lowest of the three levels of curricular regulation, and the one with the greatest practical importance. Local curricula are compiled by schools in accordance with the goals set out in their pedagogical programme (→) and fundamental principles. Schools' local curricula are generally created by the teaching staff by choosing one of the framework curricula (→) approved by the minister responsible for education in accordance with local characteristics, and adapting it to their own needs within the established limits. A basic requirement for local curricula is to be in harmony with the selected framework curriculum (→) on the basis of which they were created and fill the available time (10% on average) with teaching and learning contents (→) and activities (→) consistent with the local content (→) and the profile of the school in question. The scheduling of requirements (→) and study materials (→) and the system of associated tools meet the expectations and development notions of the school's traditional partners, in accordance with the school's deed of foundation. Its local nature is ensured by the fact that its legitimacy is partly supplied by the agreement of the local affected parties, the approval of the teacher body, the support of the various participants and partners and the approval of the maintainer. As a secondary but not insignificant feature, it also contains elements of local culture up to an established limit. Local culture is understood to include the traditions of local society and its vision of the future.

National Core Curriculum

The NCC is the fundamental document of the regulation of Hungarian national public education. It is not a curriculum in the traditional sense of the word, as it does not prescribe subjects (→), class numbers or the distribution of the study materials (→) among grades. It is more of a basis for drawing up framework curricula and local curricula (→), subject-level programmes, examination requirements(→), textbooks and other study aids. The core curriculum (→) is national in nature because it transmits and promotes shared national values, contributing to the conservation of national traditions and the development of the sense of national identity. The National Core Curriculum is issued by the Government by decree. As required by the Act on National Public Education, the core curriculum is periodically reviewed.

Requirements

The term "requirement" means, on the one hand, the totality and system of the development tasks that allows public education institutions to best develop students' personalities within the time frames prescribed by law. On the other hand, it also refers to the unified system closing each phase

of public education, set up by the framework curriculum (→) and the local curriculum (→) in the form of curricular requirements. It is a structured system of norms and criteria serving as the basis of assessing student performance and determining whether the student can enter a higher grade.

General competences

General competences mean acknowledged, relevant knowledge (→) that holds value to the community; it includes, among other things, the skills, abilities (→) and competences necessary for cooperation. It includes a sense of community and personal values, a national and European identity and the shared moral norms that make it possible to fully experience these identities. It is also characterized by critical thinking, liberty, responsibility and a drive towards sustainability, conservation and renewal.
The fundamental elements of (national) general competences are:

- acknowledged, relevant knowledge (→) that holds value to the community;
- skills, abilities (→) and competences (→) necessary for cooperation;
- a sense of community and personal values, a national and European identity;
- shared moral norms;
- critical thinking, liberty, responsibility;

sustainability, conservation and renewal.

Skill, ability

A skill is an automated, often "overlearned" component of activities (→) that requires no conscious control and can be executed without direct monitoring by the attention-execution system. This basic characteristic of skills does not preclude skills from functioning as the automated component of conscious activities (→). Obtaining or forming skills requires the learning of rules and their extensively repeated application (e.g. spelling). Abilities are innate and change in accordance with the interaction of the programme of biological development and the environment; their result is the capability for some type of action or performance. Abilities form over long time periods, starting inexorably at a certain point in childhood and puberty (e.g. the appearance of the ability to think logically); this provides a foundation for the teaching of skills. The teaching and learning of skills requires a sufficient level of basic ability. Abilities are innate but they can be developed. Biological and environmental (family, school etc.) influences supply the natural environment of ability development; a person's set of abilities changes and develops in the course of human activity (→). There are certain general abilities (intelligence, creativity, the components of the knowledge acquisition system) that are expressed in a wide range of activities (→); there are also specialized abilities that are only employed in certain special fields (dexterity, musical ability, vivid imagination, the ability to do well in certain specific sports). Abilities and skills are closely related: abilities supply the foundation for skills; at the same time, skills and knowledge are two crucial and mutually required and determinative components of the same thing, determining competences together.

Student activity

Student activity refers to the system of activities in the course of which – with the teacher's advice, guidance and evaluation – students process and learn the requirements (→) associated with the study material (→) defined by the curriculum that can or must be learned in school.

Learning outcomes

Learning outcomes are outcome requirements (→); concrete goals that are to be reached by the end of the educational course as a result of the teaching-learning process by completing the education. Learning outcomes to be achieved by students are usually described competences made up of a combination of 1) knowledge, 2) abilities and skills and 3) attitudes, commitments, views, responsibilities and behaviours.

Teacher activity

Pedagogical procedures aimed at improving the efficiency of student activities (→); they include motivation, organizing access to information, helping students along their individual learning paths, promoting group cooperation during studies, carrying out diagnostic, formative and summative evaluations and preparing diagnoses and prognoses.

Teaching-learning process

The teaching-learning process is a series of communicative and interactive activities (→) taking place between the students and the teacher and among students. It involves the active processing and effective learning of the study material (→) (general competences[→]) and the development of students' competences, and it teaches students how to learn on their own, become conscious of their own cognitive processes (metacognition) and acquire a high level of motivation for learning. In this process, differentiated, pedagogically established units of content are taught while taking into account the laws of the learning process, using continuous feedback, appropriate motivation and the active participation of students.

The distribution of curricular time

The distribution of the taught time prescribed by legislative acts (taking into account financing and mental health issues in broad context) in accordance with pedagogical objectives among subjects (→) and grades. Traditionally, curricula included weekly hours; recently, they switched to listing annual hours, indicating that epochal solutions (project weeks, modules (→) and shorter specialized courses, etc.) are also didactically acceptable.