

DIATHEMATIKON PROGRAMMA
CROSS-THEMATIC CURRICULUM FRAMEWORK
FOR NATURAL SCIENCES

1. Teaching/learning aim

The aim of teaching Science is incorporated in the general aims of education, which are the well-rounded and balanced development of the individual through the development of critical thinking abilities and a positive attitude towards creative action on a personal and a social level.

In order to define the teaching aim of each individual subject of the science group of subjects, the age of the pupils and their respective needs were taken into account as well as their cognitive development and background knowledge, their skills and expectations, their social environment and needs. Moreover, the allocated time and the facilities available to the teacher were also taken into account.

Considering all the above, the teaching of Science in compulsory education should aim to:

- the acquisition of knowledge related to the theories, laws and principles pertaining to each individual subject of science, whereby pupils are facilitated to ‘interpret’ the natural, chemical, biological and geological-geographical phenomena as well as the situations (e.g. geographical distributions) or processes related to organisms and their relationship with the environment in which they live;
- the personal development of the pupils, through the development of independent thinking and reasoning abilities, a positive attitude towards work and communication and cooperation abilities;
- the development of the ability to recognize the unity and continuity of knowledge in the various fields of science and the ability to recognize interrelationships and interconnections between the different fields;
- pupils’ familiarization with scientific thinking and scientific methodology (including observing, collecting and utilizing data, forming hypothesis, experimenting, analyzing and interpreting data, drawing conclusions, making generalizations and constructing models) and information and communication technology, so that they are fully prepared as future scientists to carry out research and technological planning;
- the development of the ability to evaluate scientific and technological applications, so that pupils, as future citizens, will be in a position to make judgments about their positive and

negative effects on personal and social health, the administration of natural resources and the environment;

- the acquisition of aesthetic values in relation to the environment;
- the development of awareness of Natural Sciences contribution to the improvement of human life quality;
- knowledge acquisition in relation to the organization and the processes taking place in the environment (natural and social) and the acquisition of participation skills in relation to the efforts made for solving social problems, relying on the knowledge and skills they have already acquired;
- the development of communication and cooperation skills and the ability to collect and exchange information and present their line of thinking and research results;
- the acquisition of essential knowledge, specialized information, methods and techniques that facilitate understanding of geographical space structure, understanding and interpretation of the interaction and interdependence relationships between the geophysical and social factors and recognizing the need for a harmonious relationship between humans and the environment;

In Primary School the various topics studied in the sub-fields of Natural Sciences (including Physics, Chemistry, Biology, Geology and Geography) are all but one integrated in the subject called 'Studies of the Environment' taught in the first four grades and in the subject called 'Explore the Natural World' taught in the last two grades; the exception is Geography which it is taught as an independent subject in the last two grades of Primary School.

Each one of these two subjects consists an independent field of study in which basic concepts of the Natural Sciences are developed in combination with concepts applying to the field of Social Sciences, as far as the subject of 'Studies of the Environment' is concerned. This horizontal linking between the Natural and the Social sciences can help pupils acquire a holistic view of the world around them, preventing at the same time the fragmentation of knowledge.