Language Across the Curriculum

Network processing and material production in an international context

Editors:

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Introduction

Preparing students for life in a United Europe is one of the most important challenges that faces schools and teachers. In order to meet this challenge teachers need support in various areas. One of the most important aspects is teaching material. What better way to produce exciting new challenging material for the classroom of tomorrow than to bring experts from many countries and ask them to work together to produce international (sample) teaching material.

The following publication plots the course of a network, which was initiated to produce, in particular, (sample) teaching material for Language Across the Curriculum.

Basically, the publication is divided into three parts:

- the development and logistics of the network;
- the results of the network co-operation;
- the sample teaching materials.

The members of the Language Across the Curriculum Network would like to acknowledge all the help that was given by the European Centre for Modern Languages in Graz. Without this support the work of the network and interim results, which are represented in this publication would never have been possible.

Language Across the Curriculum

Language Across the Curriculum

The original usage of the term Language Across the Curriculum (LAC) was in English as a mother tongue context. It is now used widely in ELT circles. Its relevance can be traced by looking at three aspects:

- the developmental aspect,
- the motivational aspect,
- and the teaching aspect.

The Developmental Aspect

Trends and theories in language teaching have developed rapidly in the last thirty years. The following brief overview plots the course of the development of some of the major theories.

It can be said in general that there has been a very clear shift of emphasis in the development of linguistic theory.

The pre-1960s: up until the 1960s prevalent theories of learning influenced language learning and emphasised the need for the mastery of a set of linguistic structures.

The 1960s: theories of learning began to change and accordingly affected the perception of language learning. Language was now seen as something 'out there' which could be conquered by developing a pattern of very clear linguistic habits.

Since the 1970s: socio-linguistics began to influence theories of language learning and language was seen as something which individuals used for the purpose of communication; 'communicative competence' and 'the communicative approach' become the new 'cult' words.

From the Communicative Approach to Language Across the Curriculum: some of the most salient notions of the communicative approach, which have direct relevance for LAC, are as follows:

- process rather than product,
- message rather than medium,
- learner potential rather than teacher input,
- the information gap or language learning through tasks.

Summarising:

pre-1960s	1960s	1970s - 1980s	1990s
grammar-translation	**behaviourism**	**communicative approach**	**Language Across the Curriculum**
- theories of learning dominate language learning - language learning = mastery of a set of linguistic structures	- language perceived as something 'out there' - developing a pattern of clear linguistic habits	- socio-linguistics - language for the individual purpose of communication	- a new approach to language teaching - process rather than product - message rather than medium - learner potential rather than teacher input - the information gap

Milestone: the Bullock Report:

to underline this development, Chapter 12 of the Bullock ***Report A Language for Life*** **(1975)** emphasised three essential elements:

- language crosses the curriculum
- every teacher is therefore by definition a language teacher
- every school should have a (whole) language policy.

Of course, the Bullock Report looked mainly at language in the context of the mother tongue. However, in many cases, the conclusions can be applied to the foreign language context, in particular the notion that language crosses the curriculum.

LAC is a further logical step in the methodological development of foreign language teaching.

The Motivational Aspect

In a normal context, a child will be confronted with the necessity of learning a language twice in the course of childhood and adolescence. The first and main learning phase is when the child learns his or her mother tongue. The second time is normally in an academic context when the child or young person has to learn a foreign language at school.

Usually the question of motivation and motivational problems is only found in the context of the second experience, learning a foreign language:

'Of the child learning his mother tongue it could be said ... that he has the best of all possible motives for learning the language. It enables him to get what he wants.'[1]

Learning the mother tongue is of the utmost importance to the child because through the use of the language the child grows into the society around and can take part in it. At school the scene changes when the child becomes the student and is expected to learn a foreign language in classroom conditions. For a variety of reasons the motivational drive found in learning the mother tongue is missing. Apart from an initial period of interest for the 'new' subject the student often fails to see the necessity for learning the particular language.

It is essential that the student feels that what he or she is learning is meaningful. LAC offers such an opportunity.

The Teaching Aspect

'Normal' teaching: as the key words suggest this is the 'normal' kind of language learning with a clear schedule and a coursebook which follows a very definite language progression. The emphasis is most definitely on LANGUAGE and the acquisition of skills. 'Normal' foreign language teaching is prone to all the kinds of motivational pitfalls which have already been mentioned.

Project teaching: often teachers leave aside the coursebook in order to spend more time on a particular topic of interest (e.g. environment, health, etc.). They develop their own materials so that their pupils can study the topic in the target language. In project teaching the emphasis is on both LANGUAGE and CONTENT. This approach certainly raises the level of motivation and encourages students to use language in a meaningful way.

Language Across the Curriculum: based on what has already been said about the developmental and motivational aspects of language learning, LAC offers a different approach to language learning.

There are perhaps two basic and intertwining principles behind LAC:

'Language is central to learning. Learning involves language not just as a passive medium for instruction but as the principal means of forming and handling new concepts.'[2]

Learning (also language learning) is most successful in a meaningful context. In the LAC classroom the emphasis moves away from language as the subject to be studied and is placed on CONTENT and PROCESS, in short on KNOWLEDGE, knowledge in

1 Wilkins, D.A.: Linguistics in Language Teaching, London, 1972

2 Marland, M.: Language Across the Curriculum, Heinemann, 1977 (quoted in Language Across the Curriculum in Second Language Educational Contexts, Moon, J.: in English Studies, Issue 6, Summer 1991, British Council)

a scientific or mathematical or geographical or historical or musical or artistic context. The language used in search of this knowledge becomes a 'tool'.

Summarising:

'Normal teaching'	concentrates on	language
Project teaching		language and content
LAC		content and process = knowledge (language as a tool)

In short, LAC is *'… a whole-language approach so that children can build up their knowledge of language without specific practice of skills ... in this way, language arises with a purpose ...'*[3]

Implementation

'… In this way, language arises with a purpose': how can this be achieved in the classroom context? A two-fold approach is suggested:

1. comprehensible linguistic input,
2. possibilities to implement this linguistic input in other fields of the curriculum.

In the primary curriculum this could mean introducing the desired input through a short story, song, chant, or rhyme and then using the related language in:

- art,
- craft, design and technology,
- physical education,
- music,
- maths,
- topic subjects.

In a similar way, in the secondary curriculum this could mean introducing the desired input in similar ways then using the related language in any field:

- biology and environmental studies,
- geography and economic studies,
- history and social studies,
- maths, chemistry and physics,
- music, art, design and technology,
- religion / ethics,
- physical education.

[3] Yates, I.: Language Activities, Scholastic Publications, 1990

Conclusion

Like every other development in the field of foreign language learning, LAC is not and cannot be a panacea but it is an exciting new way of looking at language learning.

Like in all areas of foreign language teaching there should be an eclectic and well-balanced approach. In order to do this teachers need the necessary ‘hardware’, i.e.:

- progressive curricula,
- appropriate teaching materials.

Network Process

Development of the LAC Network

Initial Phase

In March 1997 the Council of Europe (European Centre for Modern Languages, Graz) and the Polish Educational Publisher (WSiP) held a joint Workshop 4/97 in Warsaw. The theme was *'Towards Common Principles of Foreign Language Learning ...'* involving European educators and, as something quite unique, representatives of Central European educational publishing houses.

One of the topics presented at the workshop was Language Across the Curriculum. Colleagues from different countries showed definite interest in the formation of a network to continue the work that had been started in Warsaw. Based on Council of Europe policy, a small committee within the network formulated a proposal regarding the future development of the work, which was circulated to the network members for approval and subsequently submitted to the European Centre for Modern Languages, Graz in May 1997.

Proposal: Language across the curriculum network

Introduction

International Network

One of the concrete results of the ECML Workshop No. 4/97 '*Foreign language teaching and learning in Central and Eastern Europe: Towards common principles for European foreign language curricula for children of age 9-11'* which was held in Debe, Poland from 5-8 March 1997, was the setting up of four international networks to continue work on the ideas that developed from the workshop.

One of the networks set up was the *Language Across Curriculum* network. At present there are 11 participants from 7 countries – Austria (1), Latvia (1), Netherlands (1), Poland (1), Romania (4), Russia (1) and Ukraine (2):

Austria: Stuart Simpson,
Latvia: Guna Martinsone,
Netherlands: Hetty Mulder,
Poland: Ewa Kołodziejska,
Romania: Ecaterina Comisel, Simona Rosetti, Elena Teodorescu, Bianca Popa,
Russia: Vladimir Kuzovlev,
Ukraine: Valentin Moshkov, Galina Stepenko.

General aims

At the inaugural meeting in Debe and in the first written feedback after the workshop the network participants formulated the general aims as:

- co-operation on the production of 'stand alone' LAC material for countries where this type of teaching is possible,
- co-operation on the production of supplementary LAC material to support existing or planned language textbooks and which, in this form, could also be introduced in educational systems that still follow traditional methods, and where LAC teaching is not yet possible,
- co-operation on the development of the specific methodology needed for the LAC classroom,
- co-operation on the production of specific scientific and technical vocabulary for the use in the LAC classroom, which could also represent a suggested core vocabulary for future LAC materials.

Overview

LANGUAGE ACROSS THE CURRICULUM presents an exciting new approach to FL teaching at primary and secondary level. In more and more countries in Europe the potential of LAC is being explored, and in increasingly more cases it is

becoming possible to implement LAC because appropriate provisions are being made in the national curricula.

Despite this growing interest there is a definite lack of LAC material and a documentation of specific LAC methodology. It is therefore essential at this crucial stage that extensive trans-national co-operation be initiated to survey, develop and produce LAC material and the relevant methodology for primary and secondary FL teaching.

It is therefore proposed to initiate an extended period of network co-operation, which consists of the following elements:

Work plan

Preparation phase

May to September 1997: participants analyse national curricula in history, geography and biology for grades 3, 4 and 5 (age groups 9/10, 10/11, 11/12) and summarise (in English) the main curricular requirements.

1st Network meeting: Budapest - 12 to 14 September 1997 (suggested meeting place and data) collation of the various national curricular requirements and development of trans-national LAC material for history, geography and biology for grades 3, 4 and 5.[1]

Work phase 1

September 1997 - June 1998: participants analyse national curricula in art, music and maths for grades 3, 4 and 5 (age groups 9 - 10, 10 - 11, 11 - 12) and summarise (in English) the main curricular requirements.

2nd Network meeting: Warsaw - June 1998: (suggested meeting place and time) using the available LAC material for history, geography, biology, art, music and maths discussion will take place regarding the development of specific LAC methodology.

Collation of the various national curricular requirements and development of trans-national LAC material for art, music and maths for grades 3, 4 and 5.

Work (documentation) phase 2

June 1998 - December 1998: participants analyse national curricula in history, geography and biology for grades 6, 7 and 8 (age groups 12 - 13, 13 - 14, 14 - 15) and summarise (in English) the main curricular requirements.

The work on the production of specific LAC methodology will be continued.

1 It is suggested that, as often as possible, the four networks plan their meetings so that they take place at the same time and place, optimising efficiency, avoiding overlap and possibly cutting costs.

First product: A small team will document and produce the first booklets of history, geography, biology, art, music and maths material for grades 3, 4 and 5.

3rd Network meeting: Place to be announced - January 1999 (suggested time) using the available LAC material for history, geography, biology, art, music and maths, discussion will continue regarding the development of specific LAC methodology.

Collation of the various national curricular requirements and development of trans-national LAC material for history, geography and biology for grades 6, 7 and 8.

Work phase 3

January 1999 - May 1999: participants analyse national curricula art, music and maths for grades 6, 7 and 8 (age groups 12 - 13, 13 - 14, 14 - 15) and summarise (in English) the main curricular requirements.

The work on the production of specific LAC methodology will be continued.

4th Network meeting: Venue to be announced - June 1999 (suggested time) using the available LAC material for history, geography, biology, art, music and maths discussion will continue regarding the development of specific LAC methodology.

Collation of the various national curricular requirements and development of trans-national LAC material for art, music and maths for grades 6, 7 and 8.

At this stage, work could start on the production of a glossary of specific scientific and technical vocabulary.

Work (documentation) phase 4

June 1999 - December 1999

Second product: A team will document and produce further booklets of history, geography, biology, art, music and maths material for grades 6, 7 and 8.
Another team will document and produce a booklet of specific LAC methodology and a further team will collate the glossary of scientific and technical vocabulary.

Product

In accordance with the stated aims of the network the following products are to be expected:

- LAC teaching material in English for various areas of the curriculum (for grades 3-8) which will meet the curricular requirements of the countries represented in the network and which could be made available to other interested parties through the ECML.
- A manual of specific LAC methodology in English (with the option of translation and adaptation into other languages)
- A glossary of specific scientific and technical vocabulary in English and in other languages.

Funding

Funding will be necessary for the following aspects of the network co-operation:

- travel and accommodation expenses for the four network meetings
- expenses incurred in the preparation of the publications (typing, lay-outing, printing, distribution, etc.)

Stuart Simpson (network co-ordinator) – Ewa Kołodziejska (associate co-ordinator)

Vienna – Warsaw

2 May, 1997

The state of the project

First Network Meeting

Based on the original proposal (see above) the ECML indicated its willingness to support the initial work of the network. In the course of this phase, due to constantly changing external influences, the actual work of the Network (dates, venues, etc.) had to be accordingly adapted.

So the first network meeting took place in Vienna and not in Budapest as proposed, from 14-16 September 1997. It was financed by ECML and hosted by the Europe Office of the Vienna Board of Education (Stadtschulrat für Wien). The aim of the meeting was to draw up English summaries of national curricula for the age group 10 – 12 years in three subjects: history, geography and biology. On the basis of these summaries the aim was to identify common curricular areas and to produce exemplary teaching units for the above mentioned age group and common curricular areas.

The results of this network were published in a Newsletter, which was compiled by Ewa Kołodziejska, the joint co-ordinator of the LAC network. A copy of the Newsletter was sent to everyone in the network and to the ECML.

Second Network Meeting

The second network meeting took place in Graz from 12-15 June 1998. It was financed and hosted by the ECML. The aim of this meeting was similar to the first meeting i.e. to draw up English summaries of national curricula for the age group 10 – 12 years in three further subjects: maths, art and music and to identify common curricular areas. A further aim was to finalise the sample teaching units for history, geography and biology and to decide on the new topics for exemplary teaching units in maths, music and art.

ECML Publication I

Based on the results of the first (Vienna) and second (Graz) network meetings the first ECML publication of the LAC Network was planned (this present publication). Its publication is planned to coincide with an ECML workshop devoted to networking, which is to be held in Graz mid-June 1999.

Network process

In preparation for the first meeting the participants were invited to bring English translations of their national curricula for biology, geography and history for age 10 - 12.

The basic steps behind the network process can be summarised as follows (see diagram):

- Individual members of the network prepare translations of their national curricula for pre-agreed subjects and age group.
- The translations are presented at the network meeting.
- The network forms subject sub-groups which compare subject curricula from various countries and prepare condensed summaries of the common topic areas and common skills to be found in all the curricula.
- One of common topic areas is chosen by the sub-group as the topic of a sample teaching unit. The sub-group members prepare the scheme, schedule and lines of communication during the work phase between the meetings.
- After the network meeting the interim report is prepared by the network co-ordinators and distributed to all network members and interested parties.
- The subject sub-groups continue to develop their sample teaching units.
- Curricular translations, condensed summaries and sample units with teaching notes are compiled and edited by the network co-ordinators to form the final network publication.
- The next network cycle of work begins with translations of national curricula for different age groups, respectively subjects.

It goes without saying that successful networking depends on the individual commitment of the members, who despite their normal daily workload are willing to put in the extra time and effort that is necessary in order to fulfil the requirements of the network.

LAC Network Process

Long term plans

Third Network Meeting and ECML Publication II

The third network meeting was scheduled to take place in Budapest at the European Youth Centre from 12-15 March 1999.

The aim of this meeting was similar to previous network meetings with the compilation of English summaries of the national curricula for the age group 13-15 years in the following six subjects: history, biology, geography, maths, physics and chemistry. On the basis of these summaries common curricular areas were to be identified and exemplary teaching units produced. Also the exemplary teaching units decided upon at the second network meeting in Graz for maths, art and music were to be finalised. The topics to be dealt with are:

- **maths** – properties of addition and multiplication, polyhedrons and mathematical problems in everyday context (banking, saving, credits, dividends, VAT etc.),
- **art** – elements of the history of art (Ancient Times),
- **music** – musical genres: basic knowledge and repertoire; recognition and differentiation of the most popular genres; music and text (illustrative function of either) and lullabies, dances, singing games, folk songs.

The results of this meeting would form the basis for the second ECML publication on LAC.

The ECML helps to launch numerous projects but the continuation of such projects requires additional funding from other sponsors. At present the network is looking for further financial support in order to complete the aims set out in the original proposal. (It was therefore not possible to hold the above mentioned Third Network Meeting at the time scheduled.)

In the long term it is planned to cover the history, biology, geography, maths, physics and chemistry curricula all the way through to school leaving age (in most countries to 18 years). This would then present a comprehensive coverage (10-12 / 13-15 / 16 -18) of the secondary school system in most European countries. In this context further publications are planned with curricula summaries, lists of common curricular areas, exemplary teaching units and accompanying methodological guidelines.

We think that this would be a very meaningful and important contribution to FL teaching in Europe.

Each publication would mean one full network meeting (one in 2000 and one in 2001) i.e. two in total and two further editorial meetings with 2 or 3 members of the network.

For the next phase of the project until 2001 the following meetings will be necessary:

Date	Network meeting	Editorial meeting
1999	3rd Network Meeting	
		2nd editorial meeting – to finalise 2nd publication
2000	4th Network Meeting	
		3rd editorial meeting – to finalise 3rd publication
2001	5th Network Meeting	
		4th editorial meeting – to finalise 4th publication

Publications*:*

As already mentioned an essential part of the work of the network is the publication of the results. According to the long term plans, four publications have been scheduled.

	Age group	Subjects
Publication 1	10 - 12	biology, geography, history
Publication 2	10 - 12	maths, music, art
Publication 3	13 - 15	biology, geography, history, maths, physics, chemistry
Publication 4	16 - 18	biology, geography, history, maths, physics, chemistry

Workshop*:*

A further aspect of the network would be to hold a workshop under the auspices of the ECML, Graz, for teacher trainers, decision-makers, authors, publishers, etc. to investigate and work with the LAC Network materials which will already be available.

Network Results: BIOLOGY
Grades 4 - 6 / Age group 10 - 12

Austria ● Latvia ● Netherlands ● Poland ● Romania ● Ukraine

Translations of the national curricula

Austria

Subject contents

There are three main topic areas that serve as a basis for teaching input throughout the grades five and six (age group 10 - 12).

Topic areas	Content
The human body and health studies	**The body and movement** (grade 5); - The basics of movement and the parts of the body involved with movement; **The body and sight and hearing** *(grade 6);* - The basics of seeing and hearing and the structures and function of ears and eyes; - Aspects of verbal and non-verbal communication and the difficulties of inter-personal communication because of disability; - Problems caused by environmental influences (e.g. noise, UV-rays, etc.). **The body and sexual development** - In accordance with the awakening interest of the students the following themes should be studied: - Development, structure and function of the sexual organs; - Menstruation; - Physical and emotional development during puberty; - Prophylactic behaviour and precautionary measures.
Animal and plant studies	An understanding for the place and importance of the individual organism in the larger ecosystem is to be developed using examples from the regional or national environmental species of animals and plants. Particular emphasis should be placed on forests, woodlands, rivers and lakes.
Ecology and environmental studies	An understanding of the interdependency of the individual elements of an ecosystem is to be developed using examples from regional or national forests, woodlands, rivers and lakes. Also the positive and negative influences that human beings have on forests, woodlands, rivers and lakes should be analysed and discussed.

Subject skills

In the course of grade five and six (age 10 - 12 years) the students should develop the following subject skills:

1. Making scientific observations; comparing and organising data;
2. Working with instruments and sources (e.g. magnifying glass, microscope, computers, and scientific literature);
3. Working with and presenting information;
4. Identifying and presenting solutions to environmental problems;
5. Carrying out simple experiments and measurements.

Latvia

Subject contents

The lower secondary school curriculum (grades 1- 4 / age group 7 - 10 and grades 5 - 9 / age group 11 - 15) is being updated and discussed.

The curriculum for grades 1 - 4 have biology and geography integrated into it together with other school subjects.

The curriculum for grades 5 - 9 has a separate section on biology for each grade.

There is no geography for grade 5 in the school curriculum.

There is a strong tendency in Latvia's education at present to make each school subject contribute in some way to all the learning areas in the teaching of its particular subject content.

Thus we can clearly see that the principle Language across the curriculum is quite important in the Latvian educational contexts.

Grade 4		
Topic areas	**Content**	**Skills (troughout the grades)**
Our planet: the Earth	Gathering and understanding information about the Earth using maps, the globe and pictures: - Oceans of the Earth, the flora and fauna there; - Climate of the Earth; - Different geographical regions and the peculiarities of the flora and fauna there; - The Sun and its influence on the climate and the plant and animal world.	**1.** Analysing, interpreting and understanding textual and graphic information (pictures, diagrams, topographical and thematic maps); **2.** Presenting data verbally and graphically; **3.** Making simple scientific observations; comparing and organising data; **4.** Working with simple instruments (e.g. magnifying glass, microscope) and sources; **5.** Carrying out simple experiments and measurements; **6.** Identifying environmental problems.

The nature of Latvia	*Gathering and understanding information about Latvia:* - Geographical position; - Cities, ports, the capital; - Life and work of the people living near the sea; - Relief; physical map of the country; - Rivers and lakes; - Natural resources; - Nature parks and nature protection; - Regions; their cultural and ethnographic features; - Folklore.	

Grade 5		
Topic areas	**Content**	**Skills**
Environmental studies; Man's place in the environment	- Objects of nature; - Man's interaction with objects of nature.	
Diversity of animals and plants	- Classification of animals and plants; - Different species and their adjustment to different natural conditions; - The structure of plants; - The cell; - The structure of animal cells; - Cell division.	
The basic elements in nature; their meaning in the life of plants and animals	- The Sun; - Air; - The Earth; - Water.	

Ecology and environmental studies	- The main groups of ecological factors; - The most wide–spread ecological systems in Latvia.	
Human beings and ecological systems	- Positive and negative influences human beings have on ecological systems.	

Netherlands

Age group 10 -12

Subject contents

Education in nature study, including biology, is aimed at teaching students to:

- gain pleasure in exploring nature with a critical and inquisitive attitude towards and concern for a healthy living environment;
- acquire knowledge, an understanding of and the skills people require to interact with nature in the correct manner;
- acquire an exploratory and appreciative attitude towards nature and to develop a healthy living environment.

Fields	Attainment Targets	Basic Skills
Human body	- The students should be able to describe the structure, functions and parts of the human body used for the purpose of perception and movement and should be able to indicate the similarities with and differences between the body structure of mammals; - The students should be able to describe the primary needs of people for a varied diet, continuous breathing and protection against external influences, as well as the function of internal and external parts of the body; - The students should understand that the differences between people can be attributed to differences in hereditary predisposition and environmental factors; - The students should be able to illustrate, with the use of examples, that, to a certain extent, the human body is able to correct the effects of physical exertion and external influences. The students should be able to relate this to certain types of illness.	**1.** The students should be able to select and use the following aids and measuring instruments at a level appropriate to their age and level of ability: determination tables and thematic maps, a compass, a magnifying glass, thermometer, ruler, stopwatch, measuring glass, weighing machine, rain gauge, spring balance and wind direction meter. **2.** The students should be able to formulate an exploratory question relating to the phenomena of materials and organisms in their immediate environment and be able to set up and conduct an appropriate series of observations and experiments and indicate which conditions should remain the same for their correct implementation.

Plants and animals	- The students should be able to place plants and animals in a simple systematic classification; - The students should be able to describe, in broad terms, the structure of seed plants and the form and function of the most significant constituent parts; - The students should be able to identify frequently occurring plants and animals in their own region, and explain which type of biological habitat they belong to; - The students should be able to mention, with the use of examples, several specific characteristics of organisms whose adaptation is evident from their nutrition, from the way they are protected against being eaten, from environmental factors and from seasonal changes; - The students should be able to distinguish various ways in which organisms reproduce; - The students should be able to mention, with the use of examples, the forms of competitive relations and dependence, which may exist between organisms in their living environment. They should know that green plants are found at the beginning of every food chain, and should be able to describe the role played by fungi and bacteria in the food cycle; - The students should be able to mention, with the use of examples, domesticated animals and cultivated crops whose living conditions are controlled by humans. They should be able to indicate how humans benefit from these animals and plants, explain how these animals and plants must be cared for in the home and they should be able to provide these plants and animals with proper care in school.	

Materials and phenomena in nature and technology	- The students should be able to distinguish phenomena and materials in their own environment based on their specific characteristics and by performing simple experiments; - They should be able to indicate how the specific characteristics and properties of these materials determine how they are applied in products in their own environment; - The students should be able to illustrate, by conducting simple experiments, how some characteristics of objects are related to the size and shape of those objects; - They should be able to recognise the relationship between these characteristics and the function of tools, utensils and machines in their own environment; - The students should be able to give examples of characteristics of materials that can change under the influence of forces, heat and their interaction with other substances; - The students should be able to construct an electrical circuit with lights, a battery and switches and describe the similarity between these and electrical circuits in their own environment; - The students should be able to recognise situations, materials and substances in the home that can be hazardous and they should know how these should be treated and used safely; - The students should be able to indicate which source of energy is used for heating, lighting and for producing movement in their own environment and must be able to give examples of appliances and devices that are used for transforming energy.	

The environment	- The students should be able to understand and apply such aspects as air pressure, precipitation, wind speed, wind direction, cloud and temperature -when describing the weather; - The students should be able to explain the movements of the moon in relation to the Earth and the movement of the Earth in relation to the Sun and, in doing so, explain: 1. the rhythm of day and night; 2. that the moon has four different phases; 3. why days are longer in the summer than they are in the winter; 4. why the Sun is higher in the summer than in the winter. - The students should be able to give examples to illustrate that humans are able to influence the occurrence of plants and animals in their environment and produce changes in the environment; - The students should be able to give examples of human activities, which result in the pollution of the air, the soil and water. They should be able to explain how these forms of pollution can affect other living organisms.	

Poland

Grades 4 - 6 / Age group 10 - 12

Subject contents

In the new Polish core curriculum for all subjects there is a very strong stress put on the interdisciplinary approach.

Note: In September 1999, school reform was introduced in Poland. One of the elements of the school reform is 'block teaching' in grades 4 - 6, in other words integrated teaching of several subjects. Biology is integrated with geography, history with Polish and culture. As far as Foreign Language Teaching is concerned – the core curriculum states that one of the tasks of schools is to encourage interdisciplinary approach to language teaching.

Topic areas	Content
Human beings	**Grade 4** - Family and its functions; - What a human being needs to live (water, food, air, temperature, air pressure etc.); - Co-relation between human beings and the environment; - Introduction to the methods of collecting data (observation, experiment, documentation, written sources, drawings, etc.).
Animal and plant studies	**Grade 4** - How animals protect their young ones; **Grade 5** - Life of animals and plants on land (– how animals and plants adjust to different conditions, animal/plant structure, diet, colour, sight etc.; – food chains; biogenesis: forests / meadows / fields); - Viruses, bacteria, fungi (structure, positive and negative sides of ...); - 'Green plants' (– how a plant cell is structured; algae, moss, ferns – their structure and importance for the ecosystem; seed plants – photosynthesis; - Water life (plants, animal life); - Water biogenesis (lake, pond). **Grade 6** - Unicellular organisms;

	- Invertebrates; - Vertebrates (fish, amphibians, reptiles, birds, mammals);
Ecology and environmental studies	**Grade 5** - Interdependence between human beings / animals and plants; - Responsibility of human beings for protection of flora; - Plants as an element of our and animals' diet; - Cultivated plants; - Variety and richness of floral forms / systems / biogenesis.
	Grade 6 - 'Ecosystem' (animals and plants of more important ecosystems: desserts, seas, steppe etc.; interrelation between various organisms in ecosystems); - Interdependence between human being and animals (taming of animals, breeding, the man and animals in different cultures); - the reasons / causes of extinction of certain species, examples of regional, European and non-European extinct species; - Methods of protecting animals; - Men's responsibility for environment protection.

Subject skills

1. Carrying out simple experiments;
2. Making scientific observations;
3. Organising and comparing data;
4. Working with instruments and sources: magnifying glass, microscope, if possible – computer, scientific literature (grade 6);
5. Analytic / critical thinking and drawing conclusions;
6. Presenting information/collected data in various ways: descriptive, charts, graphs etc.

Romania

Subject contents

Grade 2 / Age group 8 - 9

Biology in included in science until grade 4 inclusive

Topic Areas	Sub-areas	Subject skills
The Natural Environment (in the local geographical space)	- Plants and animals	**1.** Recognising plants and animals; **2.** Making simple plant and animal observations; **3.** Describing plants and animals children are familiar with; **4.** Comparing and contrasting; **5.** Classifying plants and animals according to size: large / small.

Grade 3 / Age group 9 - 10

Topic areas	Sub-areas	Subject skills
The Human Being	- The human body; - Body movement; - The five senses and their role in communication; - The functions of the human body; - The hygiene of the human body and a healthy environment.	**1.** Observing and describing the human body; **2.** Associating stimuli to senses; **3.** Understanding interaction between the human body and the environment; **4.** Knowing abstract biological terminology; **5.** Understanding the role of the body functions in the maintaining of life; **6.** Developing hygienic behaviour (the body and the environment).

Grade 4 / Age group 10 - 11

Topic areas	Sub-areas	Subject skills
Human interaction with nature	- Human being as a part of nature; - Human activities and the nature; - Maintaining the ecological balance.	**1.** Developing the feeling of belonging to nature; **2.** Identifying positive and negative effects of human activities on the environment (taking responsibilities).

Grade 5 / Age group 11 - 12

Topic areas	Sub-areas	Subject skills
Plants and their natural environment	- Natural environment and its characteristics; - Nature complexity.	**1.** Observing and identifying plants in the area they live in; **2.** Making simple observations and describing plants;
The structure and function of plants	- Cell, tissue, organ, organism; - Root, stem, leaf, respiration and perspiration; - Flower, the functions of a flower, seeds; - Plants' movement and plants' sensitivity; - Plant = a living thing.	**3.** Developing the skill of observing plants; **4.** Knowing abstract biological terminology and understanding biological concepts; **5.** Understanding processes in nature; **6.** Recognising similarities and differences in nature;
The soil as a source of mineral substances for plants	- Characteristics of soil; - Soil-plant-soil relationship.	**7.** Explaining biological phenomena according to the principle of cause and effect;
Main groups of plants	- Bacteria - the smallest plants; - Seaweed - the simplest green plants; - Funguses – plants which are not green; - Noxious and useful micro-organisms in natural environment;	**8.** Understanding relationships between plants and the soil; **9.** Classifying plants according to their complexity; **10.** Developing an awareness of the complex relationships in nature.

The variety of plants	- Lichens, mosses, ferns; - Gymnosperms – conifers; - Angiosperms: dicotyledon (apple trees, beans and other vegetables, vine, cabbages, potatoes etc.) and monoctyledon (tulips, wheat and maize); - Complex relationships in nature; - Plants growing in Romania; - Plants growing in the world; - Plants modifications due to changes within a day and to seasons.	

Ukraine

Grade 6 / Age group 11 - 12

Subject contents

Topic areas	Content
Introduction	- Biology as a system of sciences about animated nature; its place among other sciences; its importance for medicine, agriculture, practical activity of people; basic characteristics and variety of animate organisms; systematisation; basic taxonomy.
CELLULAR STRUCTURE OF ANIMATE ORGANISMS	- Magnifying instruments: magnifying glass, microscope. Structure of cells, their activities.
BACTERIA	- Bacteria; their structures, nutrition and reproduction; their importance in biosphere and in the life of people.
PLANT KINGDOM	
General principles of the kingdom: **Water plants**	- Different types of water plants: their importance in biosphere and in the life of people.
Higher cryptogamic plants	- Mossy plants: club-mossy, horse-tailed and filicinae plants; their origins, variety and ecological and practical importance.
Seed plants	- Different types of seed plants: their structure and characteristics; vegetative reproduction; - Flowers – their structure; - Different types of flowers – unisexual and bisexual, monoecious and bicecious; - Inflorescence; - Pollination and fecundity.
BASIC FUNCTIONS OF VEGETABLE ORGANISMS	
Photosynthesis	- General pattern of photosynthesis and its importance in the life of plants and biosphere.
Mineral nutrition	- The role of mineral matters. Macro- and micro-elements. Soil as a source of nutrients.
Transport of matters in plants	- Transport of matters in a plant. Roots, their structure, functions, pressure. Stalk, its structure. Transpiration

Respiration	- Respiration of cells, roots, stalks, seeds.
Reproduction	- Evolution of a plant reproduction; alternation of generations; vegetative reproduction and its importance; metabolism; plants as integral organism.
FUNGI KINGDOM	- Different types of fungi – lower and higher, parasites, edible mushrooms and poisonous ones. Ecological and practical importance of fungi. Lichen: structure, nutrition, reproduction
ANIMATED ORGANISMS, ENVIRONMENT AND SPACE	- Notion about environment of plants; ecological factors of animate and inanimate nature; anthropical factors and their effect on nature; plant groups, bio-coenosises, ecosystems. - Problems of biosphere protection.

Subject skills

In the course of grade six the students should develop the following subject skills:

1. Making scientific observations; analysing, comparing and organising data;
2. Working with instruments and sources (e.g. magnifying glass, scientific literature);
3. Working with and presenting information;
4. Understanding and using scientific biological terminology;
5. Identifying and presenting solutions to environmental problems;
6. Carrying out simple experiments.

Condensed summary

Sub-group members:

The Netherlands – Hetty Mulder
Romania – Simona Rosetti
Ukraine – Valentin Moshkov

Common topic areas and subject skills

The biology group observed that the common ground was to be found in the range of common skills.

TOPICS (the following broad division of subject matter could be defined)	**COMMON SKILLS**
5th Grade – botany 6th Grade – zoology 7th Grade – anatomy 8th Grade – ecology with a growing interest and special focus on nature education and environmental studies	**1.** Using instruments (thermometers, microscopes, etc.); **2.** Making scientific observations; **3.** Formulating scientific questions; **4.** Setting and carrying out simple experiments; **5.** Drawing conclusions from scientific observations and experiments.

The sub-group material project is:

SUB-GROUP	**MATERIAL ON:**
Biology	PLANTS IN THEIR ENVIRONMENT IN DIFFERENT REGIONS OF EUROPE **1.** The weather in different regions of Europe and its influence on plants (animals and people). **2.** How plants grow, feed and move.

Sample teaching material – BIOLOGY

Plants, plants, plants

Written by Hetty Mulder, Simona Rosetti, Valentin Moshkov
Illustrated by Timothy Simpson

Unit 1: Plants, plants, plants

In this unit you will learn about:

- the main parts of a plant
- how the parts of a plant help it to grow

1.

How many plants or flowers do you know? Write down their names.

.....

.....

.....

.....

.....

.....

.....

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.....

.....

.....

More than 10 names = you are a PE (Plant Expert)
5 names = you are very good
less than 5 names = keep trying!

2.

Think of three reasons why plants are important for us. Maybe you can find more.

1. .....

2. .....

3. .....

LOOKING AT THE OUTSIDE OF A PLANT

All the plants you have named have some things that are the same. They all have plant parts called: roots, stem, leaves, buds and flowers.

3.

Look at the drawing and label the main parts of a plant.

a) roots

b) stem

c) leaves

d) buds

e) flowers

Every part of a plant is important for the plant. They all have a function like the parts of our body.

4.

Think of some of the parts of your body. What functions do they have? (The phrases below will help you).

Your feet .....

Your bones .....

Your lungs .....

- *help to get air (oxygen O_2) in to your body*
- *help you to stand on the ground*
- *make your whole body stand up straight*

Look at the drawing of the plant again and think about the main parts of a plant – roots, stem, leaves, buds and flowers.

5.

What are their main functions? The text below will help you.

A plant takes in _____ and minerals through its roots. The roots also keep the plant _____ in the soil. The stem gives the plant _____ . The water and minerals _____ up the stem to the _____ . In the leaves the plant produces the _____ it needs. The buds and the flowers help the plant to _____ new plants.

Water – reproduce – move – strength – food – rooted – leaves

6.

Make your own classroom plant house.

a) You need:

- soil
- large glass jar
- small plant

b) What to do:

- Fill a jar about one quarter full of soil.
- Put a small plant into the soil in the jar. The roots should be completely under the soil.
- Flatten the soil around the roots and stem.
- Water the plant.
- Take care of your plant. Look at it every day.

LOOKING AT THE INSIDE OF A PLANT

Now we know something about the outside of a plant. Let's become very, very small and go inside a plant and see what it is like inside.

7.

Look at the drawing of a plant at the beginning of the unit again and also look at your plants in your classroom plant houses. Then look at the three pictures on the next page. They show different places in a plant. But where? (Read what the little girl says in the pictures, it will help you to decide).

A B C

The little girl in Picture A is in .....

The little girl in Picture B is in.....

The little girl in Picture C is in .....

8.

Now colour the way that the little girl moved through the plant on the drawing at the beginning of the unit.

Extras for Plant Experts

Now you are becoming a PE (Plant Expert).

9.

Think back to what you have learned in this unit and answer the questions:

a) Name the five main parts of a plant.

b) Name two important functions of the roots.

c) Name two important functions of the stem.

d) Like every living thing a plant needs food. Where does the plant produce its food?

e) What is the main function of the buds and flowers?

5 correct answers = you ARE a PE (Plant Expert). Congratulations! 3 – 4 correct answers = you are ALMOST a PE less than 3 correct answers = keep trying!

Unit 2: How a plant makes its food

In this unit you will learn about:

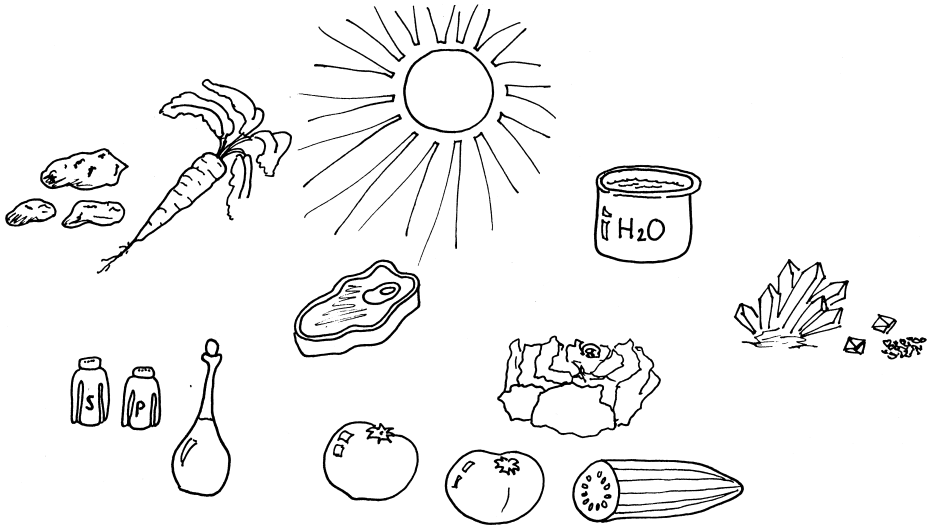
- leaves
- how leaves help to make food for the plant

Food, food, food

Let's make a meal with meat, vegetables and a salad. What will you need to make it?

1.

Look at the drawings. They show some of the things you will need. Circle them then tick off the words on the checklist (total = 5, some of the things you will not need; both human beings and plants need one of the things shown).



water (H_2O)	vegetables (potatoes, carrots)	spices (salt, pepper, vinegar)	minerals
meat (beef, meat, pork)	sunlight	salad (lettuce, tomatoes, cucumber)	

These are the things we use to prepare the food we need.

2.

Look at the list again. You can divide it into two groups:

a) Where we get our food from

b) What we need to prepare our food

Make two groups and then answer the question: 'Where do we get our food from?'

Plants are different! They don't 'eat' animals and they don't 'eat' other plants. So where does the food come from?

3.

Colour the words that you didn't tick off (total = 3).

A plant uses these things to produce the food it needs. (A plant's food is called sugar.) But how does a plant produce sugar?

The 'Sugar Mystery'

In the first unit we learned that the roots of a plant take in water and minerals (= no sugar). But we also learned that the leaves produce sugar.

4.

Let's carry out an experiment. Ask your teacher to help you.
Look at your classroom plant houseplants again. Carry out the following steps:

a) Cover one leaf on the top and bottom with a strip of aluminium foil.

b) Leave it like that till late afternoon.

c) Then cut off this leaf and another leaf.

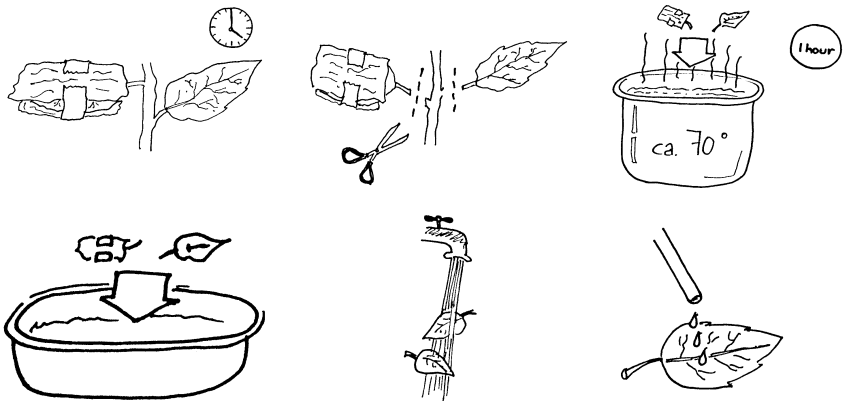
d) Put them into very hot water.

e) One hour later put them into methylated spirits. The leaves are no longer green.

f) Wash the leaves in running water.

g) Pour iodine solution over both leaves.

What do you see? (Help for the PE = Plant Expert: Iodine colours sugar blue.)



5.

Look at the words you coloured again. Which things did your plant have before you started the experiment? By late afternoon it had produced sugar. So what is the mystery? If you can't guess ask your teacher.

6.

Now let's write up the experiment. (The phrases below will help you.)

Experiment Report

First of all we.....

Then we.....

In the late afternoon we.....

Then we.....

After an hour we.....

OBSERVATION

Then we.....

Finally we .....

OBSERVATION

.....

CONCLUSION

.....

left the leaf covered till late afternoon

put both leaves into very hot water

put the two leaves into methylated spirits

cut off this leaf and another leaf

covered a leaf on the top and bottom with a strip of aluminium foil

the leaves had washed the leaves under running water

poured iodine solution over both leaves

the leaves lost their green colour produced sugar

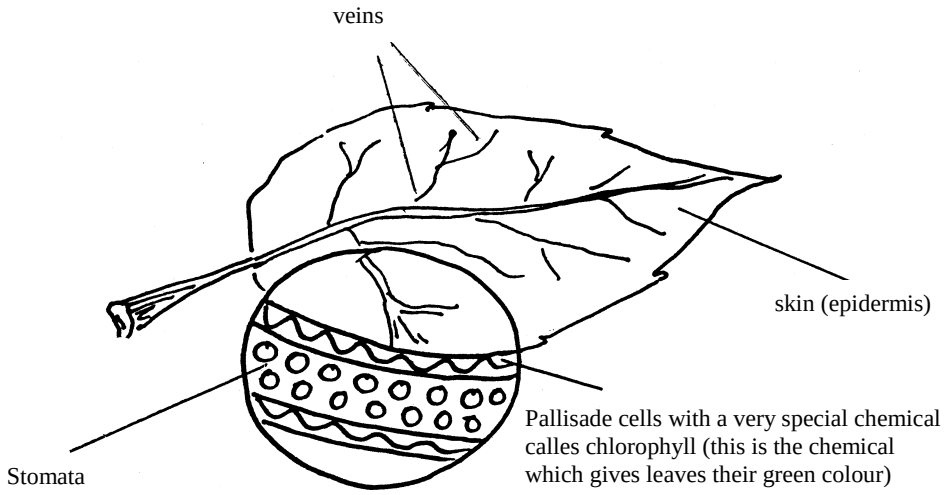
the leaves turned blue except for the place where the strip of aluminium was

OUTSIDE AND INSIDE A PLANT

We prepare our meals in the kitchen.

Now we know that a plant produces the sugar it needs in its leaves.

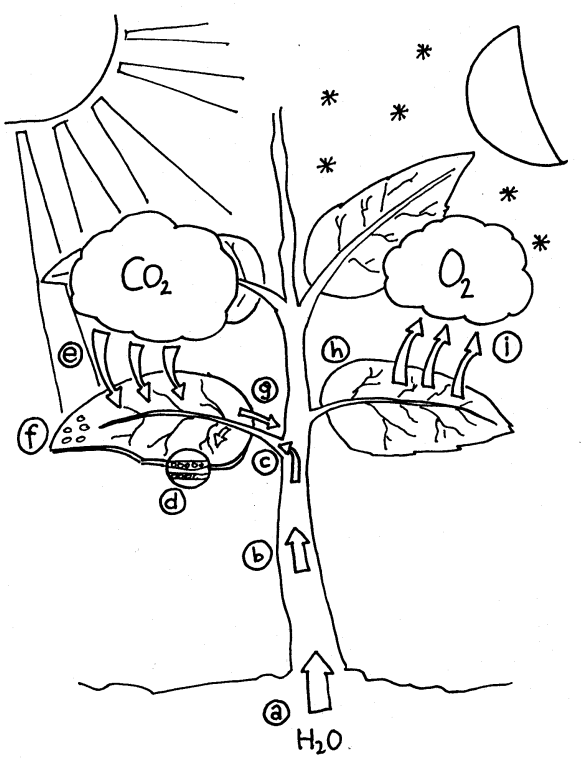
Let's look at a leaf.



How does a leaf produce sugar?

7.

Look at the dawing called *'Producing Sugar'* and listen carefully to the tape.



a) Water (with minerals in it) enters the plant through its roots.

b) The water rises up through the stem.

c) The water flows through the leaf through the veins.

d) The water flows to the pallisade cells under the epidermis.

e) A gas from the air called carbon dioxide (CO_2) enters the leaf through the holes (stomata) in the leaf skin (epidermis).

f) During the day sunlight shines on the chlorophyll in the pallisade cells.

g) The sunlight is very, very important. It gives the energy so that the chlorophyll can combine water and carbon dioxide into sugar.

h) The plant needs sugar to live.

i) The plant produces sugar during the day and gives off oxygen (O_2) back into the air through the holes (stomata) at night.

A plant can only produce sugar during the day. It needs light. This is called 'photosynthesis' which means 'building up by light'.

8.

Now read the text for yourself and underline the key words.

Extras for Plant Experts

Now you are becoming a PE (plant expert).

9.

Think back what you have learned in this unit and answer the questions:

5 correct answers = you ARE a PE. Congratulations!
3 - 4 correct answers = you are ALMOST a PE.
less than 3 correct answers = keep trying!

a) Name the four most important parts of a leaf.

b) Name the four most important things that a plant needs to produce sugar.

c) When does a plant produce sugar?

d) Why does it produce sugar at this time?

e) What happens at night?

Glossary

English	**Mother tongue**
(to) combine	
(to) give off	
air	
bones	
buds	
chemical	
chlorophyll	
epidermis	
flowers	
functions	
human beings	
iodine solution	
leaf, leaves	
lungs	
methylated spirits	
minerals	
oxygen O_2	
pallisade	

photosynthesis	
plant parts	
produces	
reproduce	
rooted	
roots	
running water	
soil	
stem	
stomata	
strength	
strip of aluminium foil	
sugar	
sunlight	
vein	

Sample teaching notes

Unit 1: Plants, plants, plants

1.

Impulse:

Visual materials about the plant world (pictures, slides, paintings, OHs, video – eg. 'Microcosmos')

Brainstorming in class about the names of plants. First of all in English and after the students have exhausted their vocabulary they should use a dictionary to add to their list. Results should be written on the board.

Possible answers (most common plants): *rose, daffodil, thistle, tulip, primrose, pansy, lilacs, grass, ivy, etc.).*

2.

Brainstorming in class

Possible answers (most common reasons): *they are beautiful; they provide food for animals and human beings; they are a source of oxygen.*

3.

Students should discuss the names before they complete the drawing. It would be important to practise pronunciation of these basic words. For translation of words consult glossary or dictionary.

4.

Visuals (pictures, skeleton, video). Class discussion about the function of the parts of the body.

Solution:

Your feet *eep you sta d g o t e g o d*

Your bones *a e you w o e body sta d p st a g t*

Your lungs *e p to get a (oxyge O_2) to yo ody*

5.

Students should discuss the text and if necessary by a process of elimination (from the known to the unknown) fill in the text.

Solution:

A plant takes in **water** and minerals through its roots. The roots also keep the plant **rooted** in the soil. The stem gives the plant **strength**. The water and minerals **move** up the stem to the **leaves**. In the leaves the plant produces the **food** it needs. The buds and the flowers help the plant to **reproduce** new plants.

6.

The classroom plant house will help the students to have a plant near to them and will be used again and again for observation and later for an experiment.

7.

Students should combine the various sources to find the solution to this activity. The texts in the pictures are important and should be discussed.

Solution:

The little girl in Picture A is in **the stem.**

The little girl in Picture B is **in the roots.**

The little girl in Picture C is **in a leaf.**

8.

Students should colour the drawing of the plant on the first page marking the points A, B and C.

9.

Revision:

Before the students answer the questions the whole unit should be orally revised.

Solution:

a) Roots, stem, leaves, buds, flowers

b) The roots keep the plant firmly rooted in the soil. Secondly, the plant takes in water and minerals through the roots.

c) Water and minerals move up the stem to the leaves. Secondly, the stem gives the plant strength.

d) A plant produces its food in the leaves.

e) A plant reproduces new plants through the buds and flowers.

Unit 2: How a plant makes ist food

1.

Impulse:

Asking students about their favourite meals. Students could carry out a class survey to find out what is the most popular meal in the class.

Students circle the things needed and tick them off on the checklist.

Solution:

- water (H_2O)
- vegetables (potatoes, carrots)
- spices (salt, pepper, vinegar)
- meat (beef, meat, pork)
- salad (lettuce, tomatoes, cucumber)

2.

The purpose of this activity is to make the students aware that human beings and animals are different to plants. They feed from something that is already there i.e. animals, plants. But plants produce their own food.

Solution:

a) meat (beef, meat, pork), vegetables (potatoes, carrots); salad (lettuce, tomatoes, cucumber)

b) water (H_2O); spices (salt, pepper, vinegar)

We get our food from animals and plants.

3.

In order to emphasise the point that plants are fundamentally different to human beings and animals as far as nutrition is concerned the students should 'see' this difference by colouring the words.

Solution:

water (H_2O), minerals, sunlight

4.

This experiment should make the students aware that plants can transform very basic things (water and minerals) into sugar. This will be demonstrated by the colouring of the leaves by the iodine solution. The various steps should be talked through first before the students begin with the experiment.

5.

Brainstorming in the class: *'What is the mystery element?'*

The air (= carbon dioxide CO_2) combined with chlorophyll makes the transformation. (At this stage it is not necessary to introduce the formula: (energy) + 6H2 + 6CO2 = C6H12O6 + 6O2)

6.

Using the given text students should write up the experiment in a chronologically ordered way.

Solution:

Experiment report

First of all we covered a leaf on the top and bottom with a strip of aluminium foil.

Then we left the leaf covered till late afternoon.

In the late afternoon we cut off this leaf and another leaf.

Then we put both leaves into very hot water.

After an hour we put the two leaves into methylated spirits.

OBSERVATION

The leaves lost their green colour.

Then we washed the leaves under running water.

Finally we poured iodine solution over both leaves.

OBSERVATION

The leaves turned blue except for the place where the strip of aluminium was

OBSERVATION

The leaves had produced sugar. Light was important for this experiment.

7.

Although it is a difficult concept to understand and the vocabulary is difficult it is still essential that it be presented to the students. Based on what they already know, the written and spoken text and the drawing the student should understand and know about the process of photosynthesis.

8.

Students should now make up their own personal word list of key words and phrases.

9.

Revision:

Before the students answer the questions the whole unit should be orally revised.

Solution:

a) stomata, epidermis, pallisade cells (with chlorophyll) and veins.

b) A plant needs: sunlight, water, minerals and air (carbon dioxide)

c) A plant produces sugar during the day (sunlight).

d) Light is needed to build up sugar (photosynthesis).

e) At night a plant gives off oxygen back into the air.

Network Results: GEOGRAPHY
Grades 4 - 6 / Age group 10 - 12

Austria ● Latvia[1] *● Netherlands ● Poland ● Romania ● Ukraine*

1 Biology and geography are integrated in one curriculum.

Translations of the national curricula

Austria

Subject contents

Using examples from Austria and Europe in particular and other parts of the world in general an understanding should be developed that society and economy are regionally structured.

There are four main topic areas that serve as a basis for teaching input throughout grade five (ages 10 - 11).

Grade 5 (Age group 10 - 11)	
Topic areas	**Content**
Looking at the Earth	- Gathering information about the Earth using the globe, atlas and pictures.
How people live in different geographical regions	- Understanding that people adjust to their regional and cultural conditions and that their way of life is subject to gradual change; - Understanding that economic systems are influenced by natural and societal conditions and that man uses varying techniques of production; - Understanding how people cope with natural hazards.
How people mine and use minerals and raw materials	- Understanding how minerals and raw materials are produced and made available to the consumer; - Understanding how sources of minerals, energy and raw materials are unevenly distributed over the world and that they are of limited supply and that their use can often mean environmental pollution.
Initial overview	- Understanding the basic structures of simple economic forms; - Understanding that there is a global regularity of climatic patterns.

There are four main topic areas that serve as a basis for teaching input throughout grade six (ages 11 - 12).

Grade 6 (Age group 11 - 12)	
Topic areas	**Content**
Living in large cities	- Comparing life in cities with life in rural regions; - Understanding the features, as well as the environmental problems in cities; - Understanding the infra-structural connections between the city centre and the outskirts; - Gaining basic information about cities with the help of maps.
Production of goods in secondary industries	- Understanding that the decision where to start a company is influenced by a variety of reasons; - Understanding how companies of varying types and sizes produce their goods in different ways with different organisational forms; - Understanding how industry and business affect the environment; - Understanding that different jobs in the economy require different skills.
Service or tertiary industry	- Understanding that there are a great variety of service industries and that they are becoming increasingly important for the economy; - Understanding the importance of leisure time and tourism for the economy; - Collecting the basic information and skills about public and regional transport so that the best choice of transport can be made; - Understanding how geographical regions have varying degrees of accessibility and accordingly varying degrees of environmental problems depending on their regional transport systems.
Overview: the Earth as the habitation of man, physically and economically	- Placing the examples that have been dealt with in the course of the year into the appropriate countries, geographical and economic areas; - Understanding that global population is not evenly distributed and that there are privileged and underprivileged regions on the Earth.

The Netherlands

Age group 10 - 12

Subject contents

Education in geography is aimed at teaching students to:

- form a picture of the Earth and its most important regions;
- acquire an understanding of the way in which natural processes and human activities influence the physical environment;
- acquire some general geographical knowledge and skills.

Fields	Attainment Targets	Basic Skills
Map orientation	- The students should acquire map orientation skills with regard to their own region, the Netherlands, Europe, and the world. This map orientation comprises the following topographic elements with regard to: - the most important structural elements of the physical environment of their own region, relief elements, water and waterways, roadways and railways; - the Netherlands: same as in the previous point but with the addition of provinces, regions and most important urban centres; - Europe: the countries and most important towns and cities, waterways, mountain ranges and regions. - the world: the major parts and countries of the world including those countries in which ethnic groups in the Netherlands originate, waterways, mountain ranges and regions.	The students should know how to use an atlas, thus enabling them in a given situation to: **1.** select the appropriate map and make use of the table of contents and index; **2.** identify information on a map using legends, wind direction and scale; **3.** identify patterns of more or less thematic maps and explain the spatial distribution of phenomena such as industry, agriculture and horticulture, services, roadways, railways, waterways, population density.

Regional knowledge	The students should be able to identify and describe the main characteristics relating to the physical structure of their own region and other regions, important regions in the Netherlands, Europe and the rest of the world. This comprises the following elements: - the students should be able to sketch the physical elements and characteristic forms of existence relating to their own region; - in addition, the students should also be able to identify and describe the specific features and/or developments of a number of important regions in the Netherlands, in particular with regard to: - the west of the Netherlands: industry, trade and major administrative regions and the problems relating to traffic and the living environment; - South West Netherlands: - the Delta works; - North Netherlands: land-use; - East and South of the Netherlands: industrial redevelopment. - Europe: the students should be able to indicate the various forms of existence, laying specific emphasis on: - economic developments; - pollution of the environment; - the development of tourism. - The world: the students should be able to describe the in broad terms the daily life in one or more countries of the world in the following cultural regions: 1. North America 2. Central and South America 3. Asia 4. North Africa 5. the Middle East 6. Africa south of the Sahara.	

Distribution of natural phenomena	The students should be able to identify and explain phenomena: **1.** the occurrence of clay, sand, peat and loss on a land map of the Netherlands; **2.** the formation of each of these types of land, using information relating to the effects of the sea, rivers, the growth of plants on land (natural land reclamation), wind and ice (glaciers). The students should be able to characterise the main climates of the world according to: **1.** the (specific) regions of the Earth; **2.** characteristics relating to temperature and precipitation; **3.** the effects on human life, plants and animal life. The students should be able to explain how the position of the Sun affects the climates and the flora and fauna of the Earth.	

Poland

Grades 4 - 7 / Age groups 10 - 13

Subject contents

Grade 4 / Age group 10 - 11	
Topic areas	**Content**
Landscape and its elements	- Various types of landscapes; - Soils and rocks; - Water basins (natural, artificial), kinds of water (running, ponds, lakes, etc.); - Weather and its elements (seasons, temperature, winds, clouds, rainfalls, showers, drizzle, snowfalls, etc. weather maps, weather forecasts); - Horizon, geographical direction, compass, position of the Sun over the horizon – during the day, in particular seasons.
Plan vs. map: reading hipsometric maps	- Learning to read a map (learning symbols, doing simple mathematical calculations, orienteering a map); - Drawing a map; - Reading hipsometric maps of Poland.
Differing landscapes of Poland	- Mountainous (the Tatra mountains, Sudety, Swietokrzyskie); - Highlands; - Lowlands; - The Lake District; - Coast line; - Characteristics of each kind of landscape, animal life, characteristic plants, tourism, mineral resources, agriculture, industry, national park, water resources, our neighbours.
Grade 5 – Age group 11 - 12	
Looking at the Earth	- Gathering information about the Earth using the globe, atlas and pictures.
Continents and islands; oceans and seas; the largest rivers	- Facts and figures, reading maps.

How people live in different geographical regions	- Mediterranean – climate, flora, volcanoes; - Chinese plains – monsoon climate, landscape, people's occupations; - The Sahara Desert – climate, landscape (dunes, rocky desert, oasis); - Savannah – climate, landscape, people's occupations; - Equator – climate, tropical jungle, anthropomorphic features of the inhabitants of this area; - Americas – first inhabitants, first discoverers, slavery in North America, South America – the Amazon basin, tropical jungle, flora and fauna, Indian tribes, deforestation; pampas – climate, landscape, the way people use pampas; North America – prairie landscape, economical side of the prairies, the Great Lakes, urban side of the USA; - Taiga – landscape, climate, scarce population (reasons); - Tundra – landscape, climate, polar days and nights; - Australia – landscapes, plants and animals characteristics only for Australia, Aborigines, Coral Reef, the reasons for developing settlements in particular areas of Australia, comparison of seasons on the northern and southern hemispheres; - Antarctica – landscape, climate, living conditions (animals, people); - The Himalayas – flora at different altitudes, ice level;
Man gets to know the world: from the first voyage around the world (1519 – 1522) to the first landing on the Moon	- The route of the first voyage around the world; - Differences between the Earth and the Moon, NASA research .
The Earth – a planet in the Solar System	- Nicholas Copernicus, the heliocentric approach vs. the geocentric approach; the Solar System, stars, planets, satellites, galaxies; - The Earth – revolving around its own axis and around the Sun – effects of both kinds of movements.
Demography of the Earth, settlements (conditions for starting them and their influence on the shape of natural environment)	- Areas of our globe which are densely populated, scarcely populated, uninhabited – the reasons for such phenomena; - Areas transformed by people; - Results of economical activities of people on the environment (air, water and soil pollution).
My place on the Earth	- Observing changes taking place in your neighbourhood.

Grades 6 - 7 / Age group 12 - 13, 13 - 14	
The Third World – general and specific review; continents – general overview	- Europe, Asia, North America, South America, Australia (facts and figures, ethnic and racial structure, population distribution, natural environment; showing relations between density and population distribution and the natural environment; showing differences in farming policy with regard to the natural environment.
Survey of the countries of the world	- Poland's neighbours; Germany, the Czech Republic, the Slovak Republic, Lithuania, Ukraine, Belarus (capital, main cities, the main features of the country's agriculture and industry, examples of economical and cultural co-operation, etc.); - Selected European countries: Sweden, France, Great Britain, Italy / Spain, Switzerland / Austria; - Countries of Central and Eastern Europe; - European Union; - Economic powers: USA, Japan, Russia; - The most densely populated countries: China, India; - Different cultural regions: Brazil / Mexico / Argentina / Egypt / Morocco / Algeria / Nigeria / Israel / Turkey / Indonesia.
Global problems of mankind	- Protection of the atmosphere – the sources of pollution, the ozone layer, the greenhouse effect; - Pollution of the Earth's water reservoirs, ways of protection; - Hunger and malnutrition; - Natural hazards; - Demographic explosion; - Poverty; - Wars (ethnic, religious conflicts); - International organisations; - Responsibility for peace and ecological equilibrium.
My place on the Earth	- Observing changes in the neighbourhood – regarding the material taught.

Additionally in the 7th grade there is more teaching on aspects of marine life – on the role of seas and oceans in the world's economy; also on the physical structure of the Earth and the spheres (lithosphere, atmosphere, hydrosphere and biosphere).

Subject skills

1. Working with maps (topographic, tourist, hipsometric, economic, political, climatic, demographic density, ethnic groups, employment structure, agriculture, natural resources, etc.) and comparing the information presented on different maps;
2. Analysing, interpreting and understanding textual and graphic information contained in scientific literature as well as in pictures, diagrams, charts and graphs;
3. Using information from mass media (TV, radio, magazines, newspapers);
4. Using fiction and poetry as sources of information;
5. Using annual reports – world figures;
6. Analysing, comparing, drawing conclusions, generalising;
7. Doing simple observations and measurements outside of school;
8. Presenting data verbally and graphically.

Romania

Grades 3 - 5 / Age groups 9 - 11

Subject contents

Grade 3 / Age group 9 - 10		
Topic areas	**Sub-areas**	**Subject skills**
Location	- Ways of locating places - Maps, diagrams, symbols and models	**1.** Defining the horizon; **2.** Recognising the globe as a model of the Earth; **3.** Knowing and using the cardinal directions; **4.** Knowing and using terms related to location, direction and distance; **5.** Recognizing natural ways and instruments for locating places; **6.** Recognising and using models and symbols to represent real things; **7.** Relating location on maps / globe to location on the Earth.
Characteristics of micro-environments	- The weather	**1.** Knowing and using terms that express weather conditions; **2.** Describing weather and the seasons of the year in their region; recognising their impact on people.

Geographical features	- Plains, hills, mountains, rivers, lakes and seas - Homes in different places	**1.** Knowing and using terms describing geographical features; **2.** Observing, recognising and describing animals and plants according to geographical features; **3.** Identifying ways of protecting animals and plants; **4.** Observing, recognising sources of pollution (the principle of cause of effect); **5.** Discussing and identifying ways of protecting the environment, developing environmental awareness; **6.** Distinguishing between land and water symbols on a globe or maps; **7.** Locating one's community on a map of the country; **8.** Identifying local land forms; **9.** Describing effects of seasonal changes on the local environment; **10.** Observing, identifying and describing plants and animals of the local region; **11.** Recognising the relationship between human activities and location.

Grade 4 / Age group 10 - 11		
Romania	- Location of Romania in Europe, area, borders.	**1.** Knowing the geographic location of Romania in relation to other countries in Europe.
Geographical features	- The Carpathians; - The Transylvanian Plateau; - Hills; - Plains; - Rivers; - The Danube; - The Black Sea; - Weather and climate - Flora and fauna of Romania.	**1.** Recognising and describing main geographical features; **2.** Recognising and interpreting map symbols using the legend; **3.** Locating and describing the Carpathians, the Transylvanian Plateau, the Danube and the Black Sea, etc.; **4.** Observing and interpreting weather and climate; **5.** Relating the flora and the fauna to climate and geographical features; **6.** Developing environmental awareness.
People and communities	- Population; - Rural communities; - Towns and cities.	**1.** Using statistics and other reference sources referring to population; **2.** Locating rural communities, towns and cities on maps; **3.** Comparing and contrasting rural communities, towns and cities according to area, population and activities.

Natural resources	- Land and agricultural resources; - Rivers as energy sources; - Minerals; - Oil, coal and gas.	**1.** Locating and discussing agricultural regions; **2.** Gaining insights about the interaction of climate, landforms and natural resources; **3.** Locating key natural resources in regional maps, describing and showing their importance for the economy; **4.** Describing agricultural regions and the relationship between agriculture and industry; **5.** Identifying global problems with geographical dimensions: deforestation, pollution, over fishing; offering suggestions for improvement.
Transportation and communication	- Transport system in Romania; - Trade, goods and money; - Tourism.	
Community as a region		**1.** Describing how a community interacts with other communities and areas; **2.** Determining the characteristics of the local region and explaining why the local community can be considered a region; **3.** Comparing and contrasting the local region on a national and international basis.

Grade 5 / Age group 11 – 12		
Geography as science	- Definition; - Description; - Importance.	**1.** Defining, describing and showing the importance of geography; **2.** Recognising distance, direction, scale, map symbols and the relationship of maps and globes.
The Earth in the Universe	- The Universe; - The Solar System.	**1.** Defining and describing the Universe and the Solar System.
The Earth as a planet	- The Earth in space; - Revolving ; - Rotating.	**1.** Defining and describing the Earth; **2.** Working with latitude and longitude; **3.** Using map symbols, time zones and basic Earth – Sun relationship; **4.** Studying and understanding geographical processes.
The Earth's structure	- Internal and external structure; - Tectonic and erosion processes; - Major terrestrial geographical features.	**1.** Understanding processes shaping the physical environment; tectonic and erosion processes, the hydrologic cycle and it's relationship to landform, climate, vegetation patterns, geography of seas and oceans and making use of maps and other physical geography data for geographical analysis.
The atmosphere	- General characteristics; - Weather and climate.	
Geography of oceans seas, rivers springs, lakes and glaciers	- Hydrological cycle; - Pollution and water protection.	**1.** Discerning ways in which personal choices and public decisions influence environmental quality.

Biosphere	- Bio-geographical zones; - Protecting flora and fauna.	**1.** Developing environmental awareness.
Population	- Population on the Earth; - Rural communities; - Urban communities; - Big cities in the world.	**1.** Discussing and understanding population composition and distribution; settlement forms and patterns; **2.** Perceiving and analysing population changes; **3.** Recognising the relationships between human activities and various locations i.e. place of work, recreation, education, etc.
Resources	- Resources of the terrestrial crust; - Solar energy; - Resources of the atmosphere; - Hydrologic resources; - Resources of the biosphere.	**1.** Identifying key resources; **2.** Locating resources on the Earth.
Economy	- Agriculture; - Industry; - Transport; - Trade; - Tourism; - The Earth and change.	**1.** Locating large farming regions on the Earth; **2.** Locating large industrial regions of the Earth; **3.** Understanding the process of change.

Ukraine

Grades 5 - 6 / Age group 10 –12

Subject contents

The main tasks are:

Grade 5

- to acquire elementary knowledge about local region (nature, economy, and life);
- to build up understanding of geographical science.

Grade 6

- to acquire an understanding of geography as a science;
- to acquire an understanding of nature, the Earth's population, geographical processes and phenomena, interaction in nature and conformity to natural laws.

Grade 5	
Topic area	**Content**
Introduction	- Notion about natural materials, processes and components; - Aggregate state of materials; - Sciences about nature and geography; - How to observe natural processes; - Horizon; - Nature of the local region.
Geographical location and history of the local region	- Geographical location of the native region; - History of the region; - Location of the local region on a map of the Ukraine; - Personal genealogy; - Different sources of information (written and oral) about the local region; - Cultural monuments of the local region.

Surface, minerals	- The main surface forms on the Earth and in the local region; - How people mine and use minerals and raw materials; - The most important minerals of the local region; - Natural monuments of the local region and their conservation.
Weather	- What is weather?; - Changes of weather in the local region and the reasons for the changes; - Meteorology: meteorological signs; - The condition of the atmosphere; - Weather forecasting and popular signs to predict the weather; - Natural phenomena and hazards of the local regions.
Water	- Properties of water; - Three states of water; - Rivers, lakes, ponds, storage ponds, seas; - Springs, water underground; - Marshlands; - The origins and names of local reservoirs; - The problem of water supply; - Hydrology; - Conservation of local water supplies.
Soil	- Soil and its properties; - Interaction between soil cultivation and crop capacity; - The main types and conversation of the local countryside.
Plants and animals	- Plants and animals of the local region; - Wild and cultivated plants; - Wild and domestic animals; - Personal influence on the world of plants and animals; - 'Red Book of the Ukraine'.

Population, education, science and culture	- Population of the local region; - Quantity; - National structure; - Education; - Culture; - Religion; - Science; - Traditions in the local region; - Monuments of art and culture.
Local economy	- Industry and agriculture in the local region; - Transport; - Communication; - Professions.
Conservation	- Conservation of the local surroundings (surface, air, water, soil, plants, animals); - National parks; - Rules of behaviour in nature.
Grade 6	
Introduction	- Geography as a science; - Development of geographical knowledge about the Earth; - Ptolomei, Columbus, Magellan; - Modern geographical investigation; - Different sources of geographical knowledge.
THE EARTH IN SPACE	
Space and its structure	- Space and its structure; - Heavenly bodies; - Energy phenomena in space; - Space investigation; - Astronauts.

The Solar System	- Solar system and its structure; - The Sun as a source of light and heat for the Earth; - The Earth as a planet; - Forms and dimensions of the Earth; - Different kinds of movement of the Earth in the Solar System; - The Moon.
PLANS AND MAPS	
Plan of a local district	- Theoretical knowledge and practical skills concerning plans of a local district.
A map	- A globe as a model of the Earth; - A grid on a globe and map; - Geographic co-ordinates; - Sign conventions and scale of a map; - Cartography (theoretical and practical skills).
LAYERS AROUND THE EARTH	
Litosphere	- Inner structure of the Earth; - The notion of the litosphere; - Types of the Earth's crust; - Minerals and rocks as elements of the Earth's crust; - Inner processes which change the Earth's crust; - Hypothesis about the origins of the Earth; - External reasons which change the Earth's surface.
Hydrosphere	- Oceans, seas, rivers, lakes; - Islands and peninsulas; - Water movement; - Sea plants and creatures; - Surface water; - River systems; - Rapids and waterfalls; - Lakes; - Artificial reservoirs; - Glaciers; - Different types of marshland; - Water underground.

Atmosphere	- The atmosphere and its structure; - Interaction between atmospheric and altitude; - Weather; - Reasons for weather change; - Characteristics of weather change; - Determining weather changes; - Climate; - Distribution of solar light and heat on the Earth; - Main features of local weather.
Biosphere	- Borders of the biosphere; - Man's influence on the biosphere.
Interdependence of natural components	- Interdependence of natural components: rocks, air, soil plants and animals; - Natural systems.
POPULATION OF THE EARTH	
Population of the Earth	- Size of the Earth's population; - The main human races; - Mickluho-Maklai's investigations; - Settlements; - Economic activity and ways of life of the local population.
Countries	- Countries and their capitals (Ukraine, Russia, the USA, Canada, China, India, Brazil, Egypt).
NATURE AND POPULATION OF THE LOCAL REGION – GENERALISATION OF THE KNOWLEDGE	

Subject skills

In the course of grades five and six the students should develop the following subject skills:

1. Analysing, interpreting and understanding the results of nature observation (excursions and field trips) as well as information contained in scientific literature, pictures diagrams, topographical and thematic maps;
2. Presenting data verbally;
3. Presenting data graphically.

Condensed summary

Sub-group members:

Latvia – Guna Martinsone
Romania – Ecaterina Comisel
Romania – Elena Teodorescu

Common topic areas and subject skills

TOPICS	SUBTOPICS	COMMON SKILLS
LOOKING AT THE EARTH	- The Earth as a Planet; - Geographical features; - Flora and Fauna; - Population; - Resources; - Economy;	**1.** Making simple observations and measurements outside the classroom; **2.** Gathering, understanding, interpreting and analysing information form pictures, diagrams, maps, graphs and literature; **3.** Presenting data verbally; **4.** Presenting data graphically.
HOW PEOPLE LIVE IN DIFFERENT GEOGRAPHICAL REGIONS	- People and geographical and environmental interaction; - Life styles; - Jobs.	

The sub-group material project is:

SUB-GROUP	MATERIAL ON:
Geography	**THE EARTH** **1.** The Earth among the other planets; **2.** Climate and people; how climate influences peoples (cultures); climatic problems (pollution, greenhouse effect); ways of protecting the environment; **3.** Oceans, seas, rivers and mountains; water and land, travelling by sea (orientation, dangers, sports); rivers as energy resources; water pollution; mountains (tourism, resources).

Sample teaching material – GEOGRAPHY

The Earth

Written by Guna Martinsone, Elena Teodorescu, Ecaterina Çomisel
Illustrated by Timothy Simpson

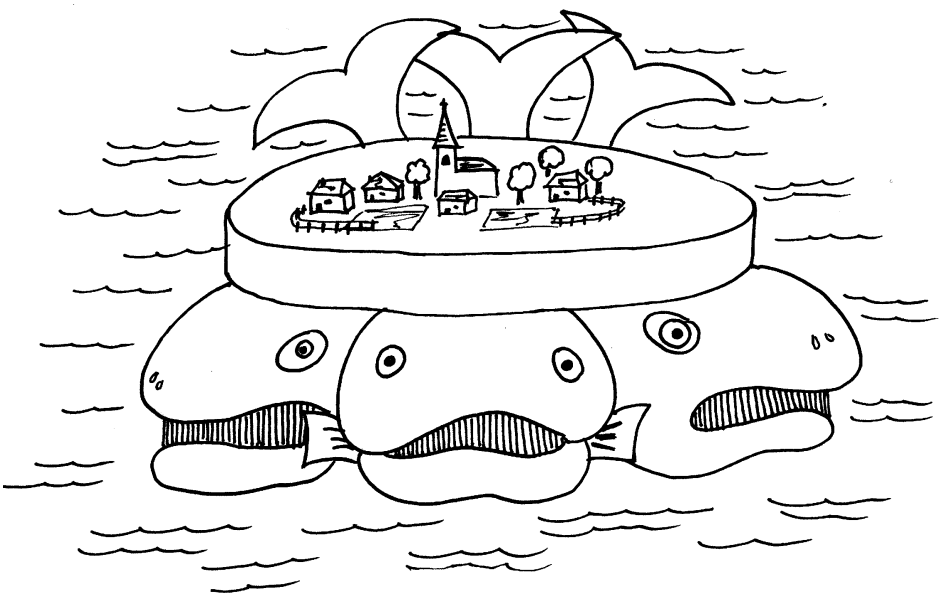
Unit 1: How do we know the earth is round?

People have also asked the question: 'Where does the Earth come from?'

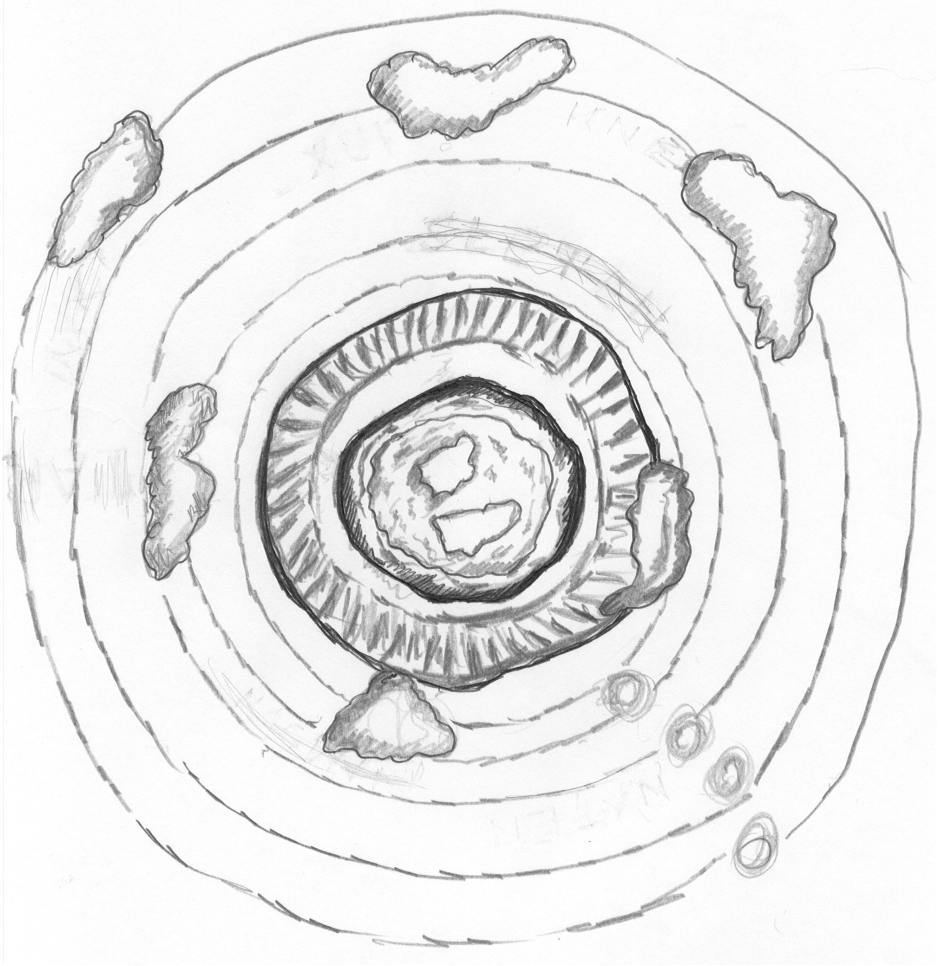
In Ancient Greece people thought like this:

… there was a very big hole, called CHAOS. From CHAOS there rose LOVE, which created the goddess GAEA, or Terra - meaning EARTH. From these two came the sky and the mountains, the sea and the animals. CHAOS also created two dark creatures: DARKNESS and NIGHT, and from these dark creatures came two beautiful beings, LIGHT and DAY.

Other peoples thought the Earth was flat and huge monsters carried it on their backs.



In the second century the Greeks thought that the Earth was at the centre of the Universe and that the Sun moved around the Earth.



But people saw more and more evidence, which made them believe that the Earth was not flat and that it was not at the centre of Universe.

Here are some simple pieces of evidence, which tell us that the Earth is not flat but round.

1.

Read aloud your part of evidence, then find the student who has the matching part. Write down this simple evidence that the Earth is round.

Try to put it in historical order.

a) .....

b) .....

c) .....

d) .....

e) .....

Unit 2: The earth travels around the sun

We know that the Earth is round. Now we want to see how the Earth travels around the Sun.

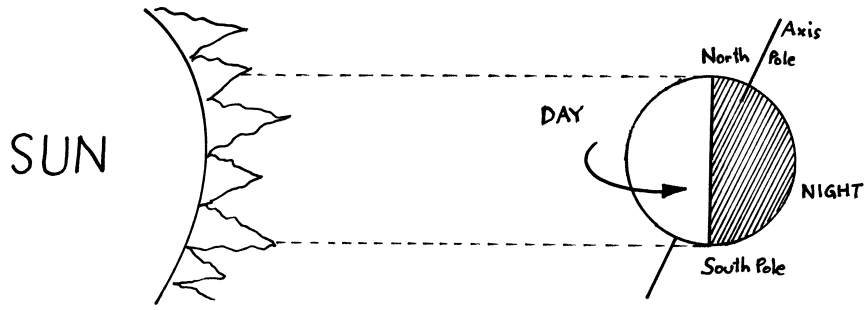
1.

Match the sentences:

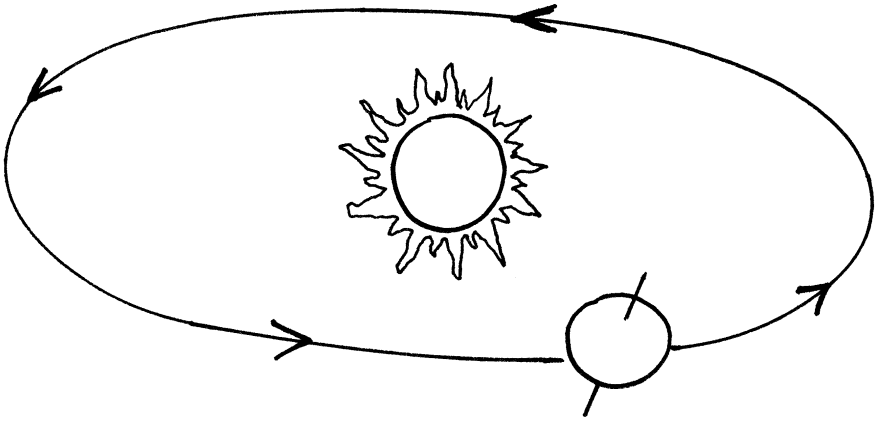
The Earth spins	a) through space.
The Earth travels	b) making day and night.
The Earth moves around the Sun	c) making years.

2.

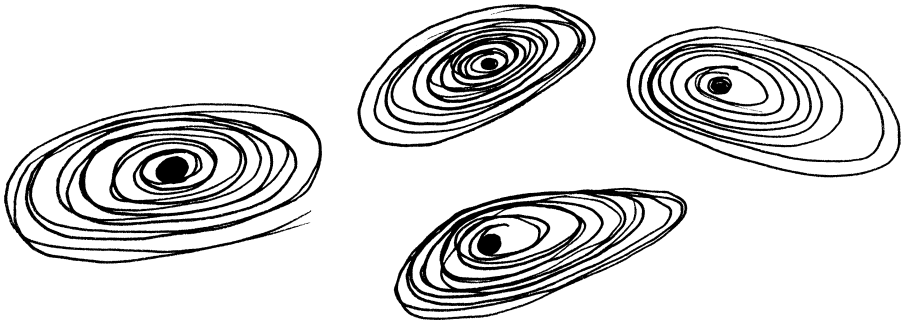
Now match the sentences with the pictures:



The Earth .....



The Earth .....



The Earth .....

3.

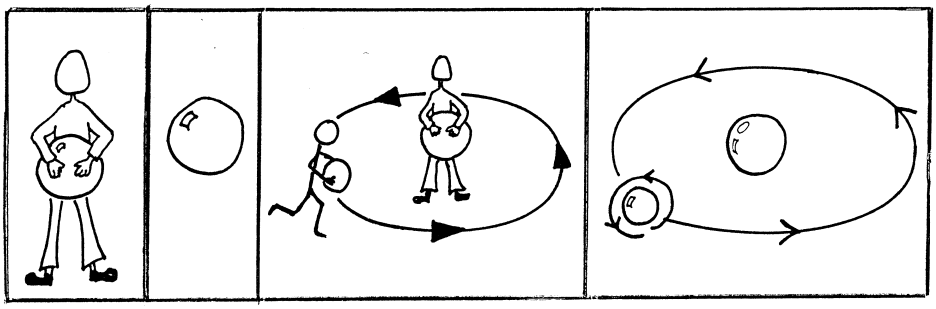
Day and Night (activity)

a) Ask a friend to take a big yellow ball and stand in one place. The ball is the Sun.

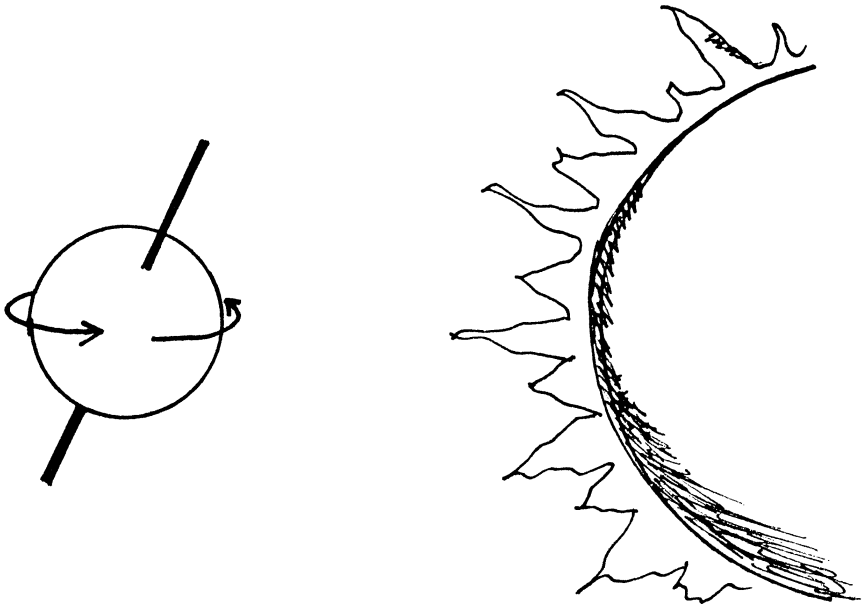
b) Take a small blue ball; this is the Earth. Stick a small piece of paper onto this ball. This is where your country is on the Earth.

c) Now take the small blue ball and walk anti-clockwise around your friend. As you walk, hold the ball so that your friend can see the piece of paper. Then slowly turn the ball round so that the small piece of paper is away from your friend.

d) This shows you how the Earth spins as it moves around the Sun. Your country is in daylight when it faces the Sun – daytime. Your country is in darkness when it is away from the Sun – night time



The Earth spins towards the East.



That is why we think that the Sun rises in the East and sets in the West.

4.

Complete the sentences with the following words:
seconds, orbit, hours, Sun, days, year, minutes

a) The Earth moves around the _____.

b) The Earth travels along its _____.

c) This Earth's orbit takes 365 _____ 6 _____.9 _____ and 9.54 _____.

d) The time during which the Earth makes ONE revolution around the Sun is called a _____.

Unit 3: The earth travels through space

The Earth is not alone in space. It belongs to a 'family' of other planets.

1.

Do you know the names of all the members of the 'family'?

a) Sun

b).....

c).....

d).....

e).....

f) .....

g).....

h).....

i) .....

j) .....

The Sun, the Earth and the other planets in the 'family' make the Solar System. Our Solar System is in the galaxy called the Milky Way.

Did you know that it takes 200 million years for our galaxy to revolve once?

2.

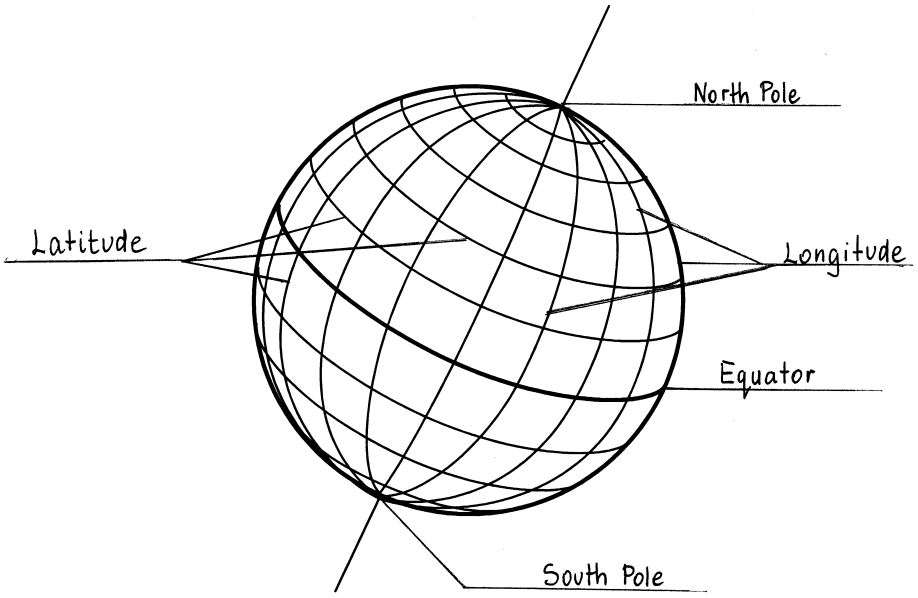
Write out 200 million in numbers.....

3.

Speed of the Earth (activity).

a) What you need:

- a globe
- glue
- coloured paper



b) What to do:

Glue little pieces of coloured paper to the following places on the globe:

- the North Pole,
- Alaska,
- the Equator.

Spin the globe.

Look closely. Do the places you marked with coloured paper move with the same speed?

Fill in the gaps with the right answers (quickest, slowest, quickly):

a) The Earth turns at the North Pole .....

b) The Earth turns at Alaska .....

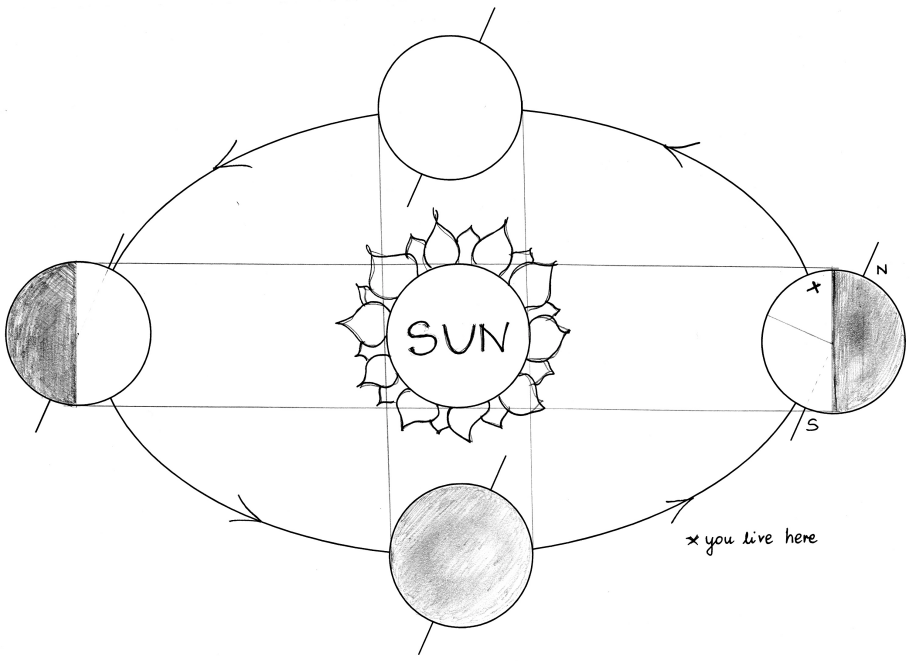
c) The Earth turns at the Equator .....

It is very important for us where the Earth is on its orbit around the Sun. It affects our everyday life.

4.

Look at the drawing of the Earth on its orbit around the Sun. You live at the point marked with 'X'. Think about this question:

What kind of clothes will you be wearing at a, b, c and d ? (Think about what is the time of the year at a, b, c and d.)



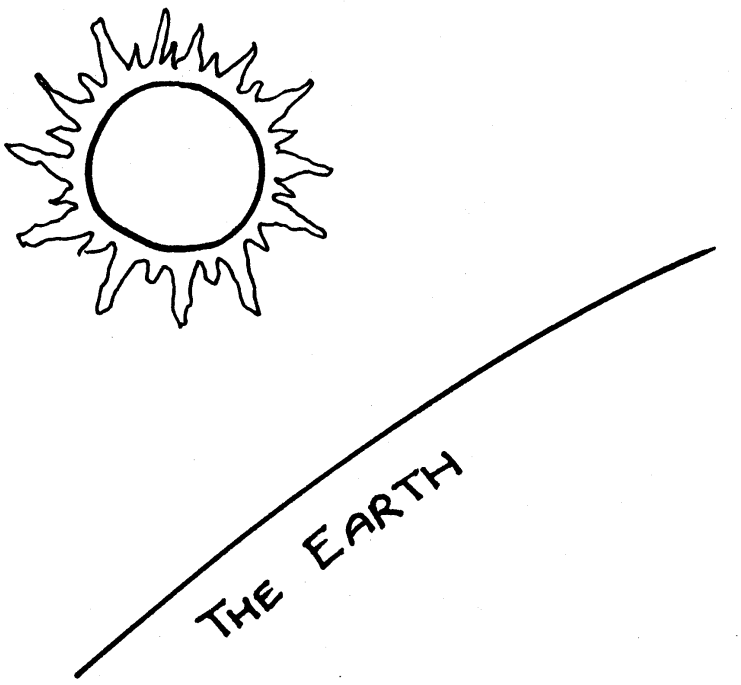
Unit 4: What is climate?

In the last unit we learned something about the Earth's orbit around the Sun. This is very important because it influences our everyday lives. In this unit we want to see how the Earth's orbit influences climate.

What is the climate?

The word 'climate' comes from the Greek word 'klima', which means 'slope'. The ancient Greeks believed that climate depended on latitude. They thought the Earth 'sloped' away from the Sun north of the Mediterranean Sea, and as a result the climate became colder and colder. South of the Mediterranean Sea, they thought, the earth 'sloped' towards the Sun and it was hotter and hotter.

1.



Mark on the drawing:

a) north of the Mediterranean Sea

b) south of the Mediterranean Sea

c) the Mediterranean Sea

d) cold climate

e) warm climate

Today scientists define climate as the kind of weather that we have for many, many years.

Five main parts make up the climate:

a) temperature

b) wind

c) humidity

d) sunshine

e) precipitation

2.

Put in the words describing the different parts of the climate into the table below. Start with the words you know. Then use a dictionary or the glossary for the words you don't know.

warm, shower, cloudy, cold, snow (snowy), wet, lightning, breeze, sunny, mild, dry, gale, mist (misty), thunder, fog (foggy), (heavy) rain, hot, blizzard, sleet, C (degrees Centigrade), chilly, windy, storm (stormy), snowdrifts, F (degrees Fahrenheit), clear, frost, hail

Temperature	
Wind	
Humidity	
Sunshine	
Precipitation	

3.

Look at this map of the UK and listen carefully to the weather forecast. Draw the symbol for sun, snow, cloud, rain and lightning on the correct place on the map.

4.

What types of weather are good for the following activities?

a) planting flowers in the garden

b) having a picnic

c) sailing in a small sailing boat

d) sightseeing in a big city

e) camping out in a tent

f) going to the cinema

g) reading books

5.

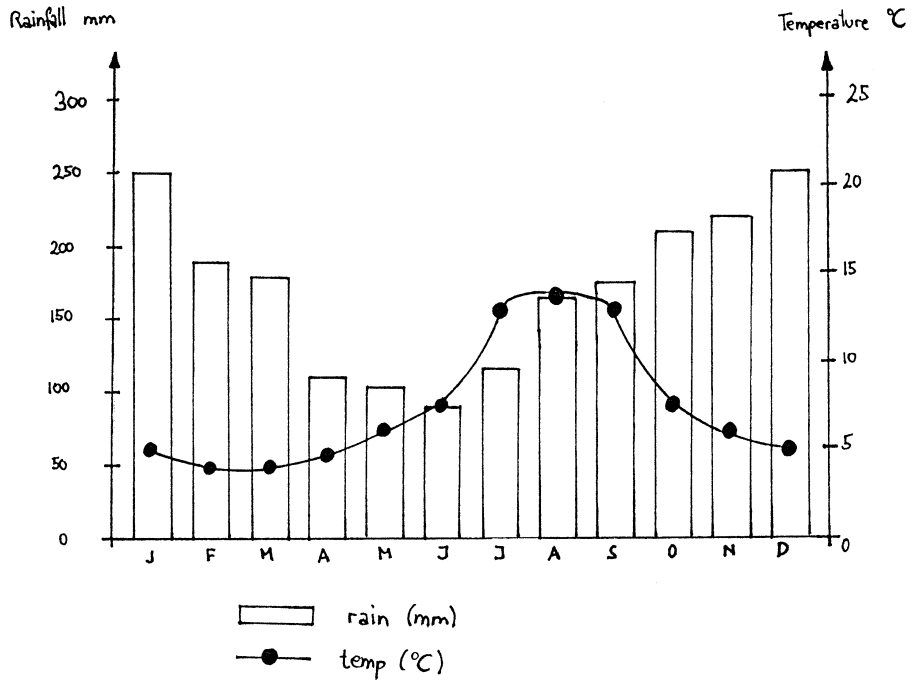
The graph below shows temperature and rainfall throughout a year.

a) What is the maximum temperature? In which month?

b) What is the minimum temperature? In which month?

c) Which season of the year has the highest rainfall?

d) Which season of the year has the lowest rainfall?



6.

Write down the temperature in your home area at the same time every day for a week.
At the end of the week draw a graph. Compare your graph with the information your classmates collected.

Unit 5: How climate affects us

1.

Look for pictures / photographs in geographical magazines, which illustrate the ways climate affects the life of:

a) Eskimo people

b) people in your country

c) Tuaregs of the Sahara Desert

Glue them into the right place.

	the way they dress	the way they build houses	plant life	animal life	food	transportation
Eskimo people						
People in your country						
Tuaregs of the Sahara Desert						

2.

Form three groups*:*

a) Eskimo people

b) Tuaregs of the Sahara Desert

c) people from your country.

Talk about the facts you found out. The words below will help you.

climate – polar / cold / moist / warm / rainy / dry / desert clothes – robes, fur coats, caps, hats, sunglasses, sandals, boots homes – igloo, wooden / brick houses, tents, log cabins … animals – giraffes, reindeer, camels, polar bears … plants – palm trees, fir trees, cactus / cacti, sycamore, poplar trees, moss … transport – canoes, camels, horses, cars, bikes, planes, hovercrafts …

Unit 6: Imagine that there is no sun

Imagine that there is no Sun. What would our Earth be like without it?

1.

What do you think?

a) It would be (dark / light) all the time.

b) There would be (no sunsets / beautiful sunsets).

c) We could (still see the moon / see no moon).

d) It would be (very warm / very cold).

e) There would be (no winds / strong winds).

f) Water vapour would (not cover the Earth / cover the Earth) with (warm rain / snow).

g) There would be (a lot of oxygen / no oxygen) to breathe with.

h) There would be (a lot of plant and animal life / there would be no life) on Earth.

2.

Now describe the Earth <u>without</u> the Sun:

Without the Sun the Earth

a) .....

b) .....

c) .....

d) .....

e) .....

f) .....

g) .....

h) .....

3.

Now describe the Earth <u>because there is the Sun</u>.

a) .....

b) .....

c) .....

d) .....

e) .....

f) .....

g) .....

h) .....

Glossary

English	**Mother tongue**
Ancient Greece	
blizzard	
breeze	
climate	
cloudy	
C° (degrees Centigrade)	
cricket	
Earth	
Equator	
evidence	
F° (degrees Fahrenheit)	
fog (foggy)	
galaxy	
gale	
humidity	
Jupiter	
lightning	
Mars	
maximum	
Mercury	
migration	
mild	
Milky Way	
minimum	
mist (misty)	
Neptune	
North Pole	
orbit	
oxygen	

Pluto	
precipitation	
shower	
sleet	
snow (snowy)	
snowdrifts	
Solar System	
Space	
Sun	
sunshine	
temperature	
thermometer	
thunder	
(to) define	
(to) prefer	
(to) revolve	
(to) rise	
to set	
Universe	
Uranus	
Venus	
water vapour	
weather forecast	
wind	

Sample teaching notes

Unit 1: How do we know the earth is round?

Impulse:

The teacher should present pictures or OHs of the way people have believed that the Earth was created. Maybe, the students themselves can talk about the way they think the world was created (this will probably take place in the mother tongue).

The text should be read and then talked about. Perhaps in the art class the students could illustrate the story or even paint their own version of how they think the world was created. Also the Ptolemaic System should be discussed how the second century Greeks saw the Universe.

1.

The teacher should copy the following sentences, mix them up and hand them out to the students. They should either move around or sit in a circle and read out their sentence half and try to match it.
Then the students should negotiate the historical order of the statements.

Key

✂	✂
When a ship sails into the distance	it gradually 'disappears' below the horizon.
You can sail around the world in a ship	and come back to the place you started (e.g. the famous Portuguese explorer Ferdinand Magellan).
When the Earth is between the Sun and the Moon	you can see the rounded shadow of the Earth on the Moon.
In 1961 Yuri Gagarin, the first man in space, made a single orbit around the Earth in a rocket.	He saw from the space that the Earth is round.
Photographs of the Earth made from the spaceships or satellites	show that our planet is round and blue.

Unit 2: The earth travels around the sun

This unit aims at making it clear to the students that it took a long time before a true picture of the nature of the Earth and its position in the Solar System was reached. Something that is common knowledge today took a long time to be developed.

Impulse:

Enlarged copies of the pictures in the SB or as OH transparencies or any other illustrations of planets. Cross-curricular: perhaps excerpts of 'The Planets' by Edward Grieg could be played and the students have to guess which planet is being portrayed. (cf. Unit 3/1)

1.

Again by sentence matching the students should gain an understanding of the Earth in space.

Key

The Earth spins *making day and night.*

The Earth moves around the Sun *making years.*

The Earth travels *through space.*

2.

The students should now use the above sentences and describe the appropriate pictures.

Key

a) The Earth spins *making day and night.*

b) The Earth moves around the Sun *making years.*

c) The Earth travels *through space.*

3.

As the drawings show the activity should be carried out to illustrate the principle of creation of day and night based on the Earth moving around the Sun.
The illustration showing the rotation of the Earth should show why we believe that the Sun rises in the East and sets in the West.

4.

This activity is aimed at helping the students understand the effect of the Earth's rotation around the Sun, which gives us our time.

Key

a) The Earth moves around the *Sun*.

b) The Earth travels along its *orbit*.

c) This Earth's orbit takes 365 *days* 6 *hours* 9 *minutes* and 9.54 *seconds*.

d) The time during which the Earth makes ONE revolution around the Sun is called a *year*.

Unit 3: The earth travels through space

This unit aims at showing how the Earth as part of the Solar System travels not only around the Sun but that the whole System is in motion.

1.

The students should use an encyclopaedia or reference book to write down if possible in order of distance from the Sun the planets in the Solar System.

Key

a) Sun

b) Mercury (approximate maximum distance from the Sun in million km – 70)

c) Venus (109)

d) Earth (152)

e) Mars (249)

f) Jupiter (815)

g) Saturn (1509)

h) Uranus (3005)

i) Neptune (4537)

j) Pluto (7375)

The short text about the Milky Way is aimed at conveying its size and the vastness of space.

2.

200,000,000

3.

Again based on the illustrations the students should 'learn by doing' the Earth's rotational speed differs depending on the area on the globe. Of course, it is impossible for us to experience this just as we don't experience the spinning of the Earth at all.

Key

a) The Earth turns at the North Pole quickest (17 1/2 miles a minute).

b) The Earth turns at Alaska quickly (6 miles a minute).

c) The Earth turns at the Equator slowest (revolves once every 24 hours).

4.

During this activity the students should think their way around the Earth's orbit to see that the position in relation to the Sun defines the season on Earth.

Key

a) warm clothes, pullovers, woolen jackets, mittens, caps, scarfs etc. *(winter)*

b) anoraks, cardigans, raincoats, umbrellas etc. *(spring)*

c) T-shirts, sunglasses, light dresses, bathing suits etc. *(summer)*

d) similar to b) – *autumn*

Note: The above answers refer to the Northern Hemisphere.

Unit 4: What is climate?

The text about the Greeks definition of what climate is should be read and discussed. An understanding is needed to complete the task.

1.

Drawing showing the places.

The modern definition of climate should help to understand the difference between weather (day) and climate (over a period of time).

2.

The students should use a dictionary or the glossary for the words they do not know and write them into the table in the appropriate category.

Temperature	warm, hot, frost(y)
Wind	breeze, gale, blizzard, chilly, wind(y)
Humidity	dry, mist(y), fog (foggy)
Sunshine	cloudy, sunny, clear
Precipitation	wet, shower, lightening, thunder, (heavy) rain, snow(y), snowdrifts, sleet, storm(y)

3.

Listening comprehension: pre-teaching, the students should look at the map and using the words from the previous activity they should describe imaginary weather situations.

Key

Tapescript:

Announcer – It's six o'clock. Time for the weather.

Weather man – Good evening. We are having some really strange weather over Britain today and some of you are probably having problems with it at the moment. There is snow in the North and West of Scotland this evening. This snow will stay for some time, I am afraid. The East of Scotland has some rain, and southern Scotland is cloudy. The clouds are coming in from Europe and will continue throughout the rest of tonight. North and Central England are having rain, with occasional thunder and lightning over most parts. South and west England are cloudy. Wales is luckier, however. It is hot and sunny in Wales, and this will continue tomorrow. And as for Northern Ireland, I'm afraid more rain is coming...

4.

Climate and weather not only affect the way we dress but also what we do. The following activity underlines the fact that certain activities are carried out best in particular weather. Again using the vocabulary from previous activities the students should describe the particular weather situations.

Key

a) planting flowers in the garden – dry

b) having a picnic – sunny, warm, dry

c) sailing in a small sailing boat – dry, windy

d) sightseeing in a big city – dry, not too warm

e) camping out in a tent – dry, warm

f) cloudy, rainy

g) cloudy, rainy, windy

5.

The aim of this activity is that the students should be able to transfer climatic graphical data into linguistic information. (subject skill – graph reading)

Key

a) 15° C. August.

b) 4.5° C. February / March.

c) January / December 200mm i.e. winter.

d) May (100mm) / June (90mm) i.e. summer.

6.

This activity should encourage the students to consciously be aware of their local weather situation. (subject skill – presenting information in the form of the graph)

Unit 5: How climate affects us

1. and **2.**

This is an open activity where the students should collect information about the three groups mentioned and then compare and present the differences that the climate has on different peoples living in different geographical areas.

Unit 6: Imagine that there is no sun

As a summing up the students should think about the following two scenarios:

- The Earth **without** the Sun
- The Earth **because there is** the Sun

2.

Key

Without the Sun:

a) It would be dark all the time.

b) There would be no sunsets.

c) We could see no moon.

d) It would be very cold.

e) There would be no winds.

f) Water vapour would cover the Earth with snow.

g) There would be no oxygen to breathe with.

h) There would be no life on Earth

* Without the Sun, the Earth would stop circling/spinning and would shoot off into space. There would be no winds because winds are made as the Sun heats the air. The moon would seem to disappear because it shines only with the light reflected from the Sun.

There would be no life on Earth because it would be too cold, too dark and nothing to breathe with.

3.

Key

Because there is the Sun:

a) It is light (days) and dark (nights).

b) There are beautiful sunsets.

c) We can see the moon.

d) It is sometimes warm, sometimes cold.

e) There are winds.

f) Water vapour covers the Earth with rain.

g) There is a lot of oxygen to breathe with.

h) There are a lot of plants, animals and people on the Earth.

Network results: HISTORY
Grades 4 - 6 / Age group 10 - 12

Austria ● Latvia[1] *● Netherlands ● Poland ● Romania ● Ukraine*

1 The history curriculum of Latvia is not included because it deals primary with local history.

Translations of the national curricula

Austria

Subject contents

In Austria, the teaching of history begins at grade six (age 11 - 12) and aims, in the first year, at giving insight into the historical development of human society from the beginning of human history until the end of the Middle Ages.

Eight topic areas should be studied in the context of the above mentioned time period.

Time period	Topic areas
From the beginning of human history until the end of the Middle Ages	- Man's struggle with nature and the effects on the development and organisation of human society; - The everyday life of men and women in varying forms of society; - The world of work and the development of different economical systems and the division of labour; - The development of different political systems and the role of the individual within these systems; - The reasons and the potential solutions for social and military conflict; - The development of varying worldviews and the mystical, spiritual and religious ideas behind them; - Migration and the habitation in Central Europe until the development of the political and geographical entity of Austria under the Babenberg and Habsburg dynasties; - Art and culture as expressions of a historical age.

Subject skills

In the course of grade six (age 11 - 12 years) the students should develop the following subject skills:

1. Working with and interpreting historical sources;

2. Understanding and using historical terminology;

3. Collecting, compiling and using historical information for discussion purposes;

4. Developing historical empathy (role-play in the re-enactment of historical events objective criticism of historical events);

5. Working with statistical information and interpreting diagrams.

Netherlands

Age group 10 - 12

Subject contents

Education in history is aimed at teaching students to:

- form a picture of historic phenomena and developments;
- acquire the awareness of continuity and change in their own lives and in the history of society;
- acquire several basic skills in history.

Fields	Attainment Targets	Basic Skills
Phenomena, developments, persons	- The students should have some historical knowledge of the most significant persons, phenomena and developments in different historical periods of history. This knowledge should cover at least the following aspects: - the transition from a nomadic to an agricultural way of life in prehistoric times; - William of Orange and the origination of the Netherlands during the Eighty Year War; - the transition from an agricultural to an industrial war of life in modern times; - the Second World War, partly in comparison with war and peace at present.	**1.** The students should be able to draw conclusions from historic sources. These sources could include, among other things: **2.** stories by people 'who have personally experienced historical events'; **3.** remains in the students' own environment. **4.** The students should be able to illustrate with the use of examples that historic phenomena can be evaluated in different ways, since historic sources are often interpreted within the context of a certain historical period and viewpoint.
Historical awareness	The students should be able to place periods within their own lives and from history on a time scale and, in doing so, apply the concepts of century and era.	

Poland

Grade 4 / Age group 10 – 11

Propaedeutical course

- The concept of time / the past / a century / a millennium;
- My family / my town – placed in time;
- Sources of knowledge about the past
- Our country – historical outline (cave people, the first settlements, the country-our neighbours-Christianity, the first king-coronation, the Middle Ages – castles, knights, tournaments, universities – Cracow, Swedish invasion, three insurrections/fighting for independence, IWW, IIWW, Poland within the borders after IIWW, some economical issues, some inventions/discoveries;
- Anthem, flag, symbol, tradition (what unites us within a nation).

Grade 5 / Age group 11 - 12

Time period	Topic areas
From the beginning of human history till the beginning of the Middle Ages (cave people, Egypt, Greece, Persia, Rome)	- Man's struggle with nature – cave people; - Different ways of development and organisation of human society (democratic Athens, dictatorship); - Art (sculpture, the art of writing, Greek theatre-comedy / tragedy, myths and legends, architecture, mosaics) and philosophy; - Religions (Greek gods, prophecies, forms of cult, rituals; Rome – the beginning of Christianity); - Military conflicts; - Economical systems and the division of labour (slavery);
the Middle Ages	- Religions (two centres of Christianity, the Church in the middle Ages; the Arabs and Islam – Mohammed); - Varying forms of political systems (monarchy – Charles the Great, personal union (Poland – Lithuania, Poland – Hungary); - Slavonic tribes and the beginning of the Polish state – all aspects till the 15th c.; - Different economical structures (clergy, noblemen, knights, aristocracy/self-government of towns; craft; farming – new settlement laws, ways of cultivating soil; monetary reform (Poland); rivers as trade routes (the Vistula);

	- Culture, art and education (the Latin language, chronicles, the lives of saints, oral tradition; Arabic / Islamic culture; gothic architecture and art; the first documents in native languages; - Military events (Charles the Great; the Arabs; Teutonic Knights – in the world, in Poland; Turks);

Grade 6 / Age group 12 - 13

Time period	Topic areas
14th c. till 1795	- Religion (the Incas / the Aztecs / the Mayas; religions of the Far East – China, Japan; missionary activities outside Europe; reformation – Luther / Calvin / the Anglican Church; state churches; intolerance; counter-reformation; Renaissance in Poland – religious peace, schools of / by different denominations; puritan America); - Varying forms of political systems (royal dynasties – Habsburg, Valesius, Jagiellon; Poland – forming local and state parliaments, Nihil Novi, democracy of noblemen, real union; France – Louis XIV, absolutism; England – parliamentary monarchy, colonial empire; constitution of the USA; Constitution of 3 May - Poland constitutional monarchy; - Military events (conquests of new lands, Swedish invasion on Poland, military character of Prussia – Habsburg absolutism, Turkish siege of Vienna – Polish troops to rescue – king John III Sobieski; the USA / the War of Independence; French revolution – from constitutional monarchy to republic; Poland – partitions I, II and III – Poland disappears from the map of Europe); - Culture and art (the Incas, the Aztecs, the Mayas, China, Japan; Renaissance – Italy, humanistic approach to the world and human being, art, paintings, sculpture, literature; invention of print; Renaissance in Poland – Wawel, university, printing houses, artists and their work – paintings, sculpture, architecture; mercenary of the aristocrats; London and Amsterdam as new cultural centres; influence of France on artistic tastes; influence of England – colonies; Baroque; Enlightenment – encyclopaedias; in Poland – mercenary of the king); - Economical systems (natural resources and economical systems in both Americas, Asia and Africa; colonies – 15th c.; the court – the towns and the country: villein service; banks, Stock Exchange, currency exchange; sea trade; demographic growth; the USA – free market); - Travels and discoveries (Columbus, Vasco da Gama, Magellan; new scientific methods, tools and institutions; balloon, steam engine, vaccine against smallpox, lightning conductor);

Subject skills

1. Understanding and using historical terminology – also in different contexts – within the scope defined by curriculum;
2. Developing such skills as: generalising, comparing, evaluating, looking at historical analogies (cause and effect);
3. Formulating and solving problems;
4. Working with (historical) maps, illustrations, pictures, charts, statistical data, diagrams;
5. Working with computer educational programmes: simulations, chronological tables, database;
6. 'Locating' events correctly in time and place;
7. Choosing, analysing, comparing and evaluating sources in work on a particular task getting to know different interpretations of the same event (comparative analysis) *Note:* in grades 4 - 6 – sources illustrate historical events; in grades 7 - 8 – reading and analysing sources serves individual intellectual development of students;
8. Selecting information;
9. Presenting the results of research using different techniques: description, summary, sketch (drawing), interview, plan of / for a speech in public, film (video), role-play (mini-dramatisation of a historical event);
10. Looking at historical events as a continuum (time axis) and in a cross-disciplinary way (developments and cross-relations; mutual influences within a certain period of time).

Romania

Grade 4 / Age group 10 - 11

Subject contents

Topic areas	Sub-areas	Subject skills
How do we know about the past?	- Sources of the past: stories, photographs, objects, buildings, written evidence, sites; - Family history; - Community history.	**1.** Learning historical sequence; **2.** Presenting chronologically family and community events; **3.** Working with time lines; **4.** Learning historical language and terminology**;** **5.** Developing a feeling for the past; **6.** Linking personal memories and historical events**.**
Human interaction with natural environment	- Place names and language derivation	
The Geto-Dacians and the Romans	- Culture and civilisation with the Geto-Dacians and the Romans; - Authentic written evidence; - Decebal and Traian; - Daco-Roman wars; - Roman Dacia; - Christianity**.**	**1.** Developing skills in asking questions of evidence: How do we know?, What happened and when?, Why did it happen?, What was it like then?; **2.** Understanding and converting primary evidence into a form different from the original; **3.** Forming hypotheses; **4.** Understanding historical processes.
The Romanian nation and Romanian language	- Aurelius' retreat from Dacia and its consequences; - Daco-Romans and the migratory populations; - Romanian language – a Romance language.	**1.** Identifying the cause of an event (the principle of cause and effect); **2.** Comparing and contrasting.

The founding of Romanian states	- Principalities in the IX-XII centuries; - Romanian states in the XIV century - famous people of the time.	**1.** Realising the role of the individual and of the community in developing society; **2.** Making suppositions about historical periods and events.

Grade 5 / Age group 11 - 12

Topic areas	Sub-areas	Subject skills
Introduction **Pre-history** **Ancient civilisations** **The end of the ancient world** **Europe**	- History as science; - Chronology. - The origin of humanity; - The Stone Age and the Iron Age. - The states of the Ancient East; - Ancient Greece: fortified towns, lifestyles, buildings, Pericles, Alexander the Great; - The Thracian world: the Thracians and the Dacian state; - Ancient Rome: a new Mediterranean civilisation, Roman Legions, Roman Republics, Lifestyles in ancient Rome, the end of the Roman Republic, the Roman empire, Augustus, Roman Dacia; - The fall of the Roman Empire; - Christianity; - The foundation of Europe; - Europe and Christianity; - The Eastern-Roman Empire – Byzantine, Constantinople; - The Germanic world;	**1.** Defining history; **2.** Knowing terms: BC, AD, century, generation; **3.** Sequencing dates, periods, visual/artefact evidence; **4.** Working with timelines; **5.** Understanding the role of evidence; **6.** Distinguishing between primary and secondary sources and their relative value; **7.** Developing skills in asking questions of evidence: How do we know?, What happened and when?, Why did it happen?, What was it like then?; **8.** Developing the skill of asking questions about the main features of everyday life in a historical period: When and how did people live, feed and clothe themselves?, What was the available technology?, What was the lifestyle of different social groups, What differences between then and now?; **9.** Developing an awareness that things are in a process of transition;

	- The Romanic world; - The Slavic world; - The Arabs; - The Church: education between V-X c.; the year 1000.	**10.** Making suppositions about historical periods and events; **11.** Understanding abstract historical terminology; **12.** Putting together a narrative of past events or situations showing evidence of continuity, change and causation; **13.** Explaining past events in terms of cause and effect; **14.** Describing past events or situations and recognising similarities/differences with today.

Ukraine

Grades 5 – 6 / Age group 10 - 12

History of Ukraine (Grades 5 - 6)

The main tasks:

Grade 5

- to acquire knowledge about the historical heritage of the native region in close connection with the history of Ukraine;

Grade 6

- to acquire knowledge about historical heritage of the past of the Ukrainian people, the main stages of its development, achievements of national culture, process of formation of modern Ukraine;

Time period	Basic notions	Subject skills
Grade 5: from the beginning of human history until the present day Grade 6: from the beginning of human history until VI-IX	Historical sources; Tribal system; Ancient people on the territory of Ukraine; Instruments of labour; Clan. Tribe; Union of tribes; State formation; Spiritual culture; Religion; Irregularity of history development; The main types of activity: farming, cattle-breeding, trade handicraft; Colonisation of the Ukrainian lands; An effect and interaction of cultures; Common life; Town-planning.	**1.** Analysing historical content; **2.** Making simple general conclusions; **3.** Evaluating facts and events; **4.** Using different sources of knowledge.

World history (Grade 6)

Time period	Topic area
From the beginning of human history until the end of the ancient ages	- Man's struggle with nature and the effects on the development and organisation of human society; - The world of work and the development of different; Economical systems and the division of labour; - The development of different political systems and the role of the individual within these systems;

	- The reasons of varying worldviews and the mystical spiritual and religious ideas behind them; - Art and culture as expressions of a historical age.

Subject skills

In the course of grade six the students should develop the following subject skills:

1. Forming of the principles of systematic knowledge about society;
2. Understanding history as a whole with the help of a variety of essays and pictures of different civilisations;
3. Understanding the close interconnection between all aspects of society;
4. Working with and interpreting historical sources;
5. Collecting, compiling and using historical information for discussion purposes;
6. Developing historical empathy with the help of objective criticism of historical events;
7. Working with statistical information and interpreting diagrams.

Condensed summary

Sub-group members:

Austria – Stuart Simpson
Poland – Ewa Kołodziejska
Ukraine – Galina Stepenko

Common topic areas and subject skills

The most comparable area is the age group 11 - 12 years. Three time periods can be distinguished:

- Pre-history
- Ancient Civilisations
- The Middle Ages

Common time periods	**Common topic areas**	**Common skills** (throughout the year)
PRE-HISTORY ANCIENT CIVILISATIONS	- The origins of humanity; - Cave people / Stone Age - Struggle with nature (tools, hunting, fire); - Wall paintings. - Beliefs / superstitions; - Iron Age; - Greece; Rome, Egypt; Persia; - Art; - Religion; - Culture; - The everyday life of men and women in varying forms of society; - The development of different political systems; - The world of work, the development of different economical systems and division of labour;	**1.** Working and analysing graphical data (maps, illustrations, pictures, charts, statistical data, diagrams, graphs, etc.); **2.** Working and analysing written data (scientific texts, myths, legends, etc.); **3.** Developing historical empathy (role-play in the re-enactment of historical events, objective criticism of historical events); **4.** Explaining past events in terms of cause and effect; **5.** Looking at historical events as a continuum (time axis) and in a cross-disciplinary way; **6.** Presenting the results of research using different

THE MIDDLE AGES	- Christianity; The Eastern Roman Empire; Byzantine; Constantinople; The Germanic World; The Slavonic World; Islam - Art; - Religion; - Culture; - Education; - The everyday life of men and women in varying forms of society; - The development of different political systems;, - The world of work, the development of different economical systems and division of labour.	techniques: description, summary, interview, plan of a public speech, charts, graphs, diagrams, sketch / drawing, role play (mini-dramatisation of historical events); **7.** Understanding historical terminology.

The sub-group material project is:

SUB-GROUP	**MATERIAL ON:**
History	CAVE PEOPLE - Struggle with nature (tools, hunting, fire); - Wall paintings; - Superstitions and beliefs.

Sample teaching units – HISTORY

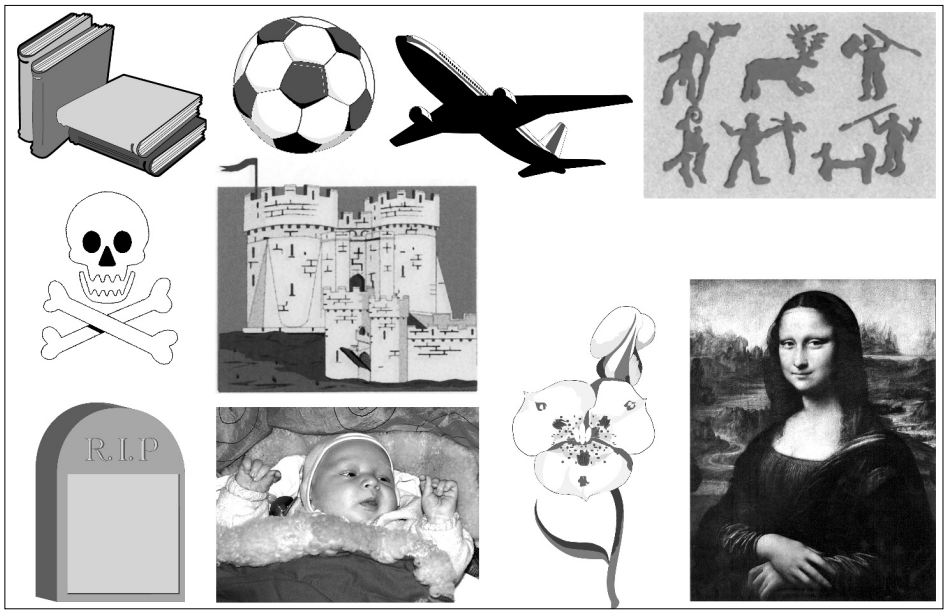
Cave People

Written by Stuart Simpson, Ewa Kołodziejska, Galina Stepenko
Illustrated by Timothy Simpson

Unit 1: How do we know what people did in the past?

1.

Look at the drawings. Discuss with your Expert Partner (EP) and then circle the things that tell us about the past (EXPERT WORDS = HISTORICAL SOURCES). List them.



Things that people wrote in the past (letters, contracts, treaties, poetry, books) give us information about the past.

Underline on your list written historical sources. (EXPERT WORDS = WRITTEN SOURCES)

3.

EXPERT MISSION: **Create a written historical source about the time you were born**.

a) You need:

- A person who was alive on the day you were born
- A notebook and pencil (or a tape recorder and microphone)

b) What to do**:**

Interview the person and ask them to tell you what happened on the day you were born.

Write it down or record it.

If the person knows, ask him / her to describe THE TIME when you were born (where, when, etc.).

If they know, ask them what important events happened in your country and in the world around the time you were born.

If they don't know or can't remember, maybe you can find some information in books or newspapers, etc.

Use the information to write a short report about the day you were born (a written historical source).

Then give your report to your EP. S/he should tell the class about what happened around the time you were born.

Finally put the reports together from all the students (all January reports together, all February reports together, etc.) and make a class poster to see what happened

- in your family;
- in your country;
- in the world in the year you and your classmates were born.

Unit 2: What is Prehistory?

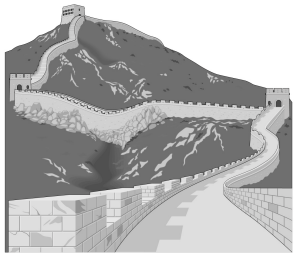
Written sources mark the beginning of history, as we know it. We call everything *befo e* written sources prehistory (EXPERT WORD = PREHISTO-RY). Prehistory is the name scientists give to the time before written sources and the time is different from place to place. It all depended on when someone invented writing or brought writing from another country.

1.

Look at the drawings and fill in the gaps (the words below will help you):

In _____ prehistory means before the Romans came to the country (invasion in _____). In _____ prehistory ended with the invention of _____ around _____. In most of _____ prehistory _____ until people from Europe came in the _____.

China writing America Britain lasted



1600 BC 43 BC 1500 AD

2.

Why did prehistory end at different times in different parts of the world? (Think about what happened in these different parts of the world).

3.

Do you know why and when prehistory ended in your country? If not, ask your history teacher.

.....

4.

EXPERT MISSION: **How did people remember what happened before there was writing?**

This expert mission will show you how they tried to remember important events in their lives.

What to do:

a) Form groups of four.

b) The first person in the group listens to a short story of an important event and learns it by heart.

c) The first person tells the second person the story. S/he learns it by heart.

d) The second person tells the third person the story. S/he learns it by heart.

e) The third person tells the fourth person the story. S/he learns it by heart.

f) The fourth person tells another group the story.

g) Is the message the same? If not, the first, second and third persons should suggest changes to the story.

This is the way we think that cave people tried to remember important events before there was writing.

Prehistory people lived a long time ago. They lived in caves. We call them 'cave people'. They had a hard life.

5.

What things did cave people need to live (EXPERT WORDS = BASIC NEEDS)?

They had at least four basic needs (maybe you can find more):

_____ _____ _____ _____

6.

How many basic needs do YOU have? Are they different to those of the cave people?

.....

One of the things that cave people needed was FOOD.

Unit 3: Why did cave people paint in caves?

1.

Look at the cave paintings below and answer the question: 'Why did cave people paint in caves?'

Fill in the gaps with the words: catch – animals – lives – tell, and you will know some of the answers to the question.

The cave people believed that by painting animals on the cave walls

a) they could catch more _____ .

b) there would be more animals to _____.

c) they could _____ others about their _____ .

Cave people painted these paintings about 13000 BC.

2.

What animals can you see? What did cave people hunt with?

3.

What have you learned from this historical source? Use the words below:

bulls – hunted – 13000 – oxen – cave – deer – arrows – horses

About _____ BC _____ people _____ for

_____

and _____. They hunted with _____.

4. 

These cave paintings are in caves somewhere in Europe. Listen to the story and find out the answers to the questions:

a) Which country in Europe are the caves in?

b) How many boys are in the story?

c) What is the name of the animal in the story?

d) What kind of animal is it?

e) Where was the entrance to the caves?

f) Which animals did Marcel see on the walls?

Tapescript:

Many, many years ago in the South of France four boys, Marcel, Jacques, Simon and Georges, wanted to find treasure. So one day they set off to look for it. Marcel's dog, Robot, went with them. They walked a long way from their village, Montignac, to the Lascaux plateau until they reached a huge pine tree. The tree was lying on the ground. Hidden at the bottom of the tree there was a hole, which was the entrance to an underground cave. Robot fell down into a cave and began to bark. Marcel wanted to find his dog so he also went into the hole and down into the cave. Deep under the ground Marcel looked for Robot and he heard him barking from another cave. Marcel went to this other cave. It was huge and the walls were full of paintings of brown, red, black, gold and white bulls, oxen, horses and deer. It was very dark in this cave so Marcel couldn't see the paintings clearly. He decided to come back with his friends the next day.

5.

Can you describe what happened the next day?

The Lascaux caves are in the South of France.

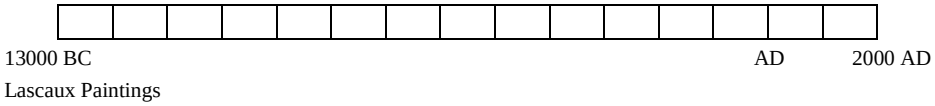
6.

Study the map of Europe and see how far you live from Lascaux.

Scientists say that the cave people in Lascaux painted these paintings 13000 years ago.

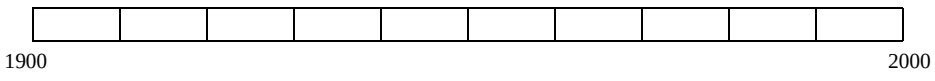
7.

Look at the diagram of the time from the Lascaux paintings until the present divided into blocks of 1000 years. This kind of diagram is called a timeline (EXPERT WORD = TIMELINE). Mark the place where we live on this timeline.



8.

Look at the timeline below. Mark the place where we live on this timeline.



In your opinion what are the 5 most important historical events in the last hundred years? (EXPERT WORD – CENTURY)

Also

a) ask your history teacher;

b) ask your parents;

c) ask your grandparents what they think are the 5 most important historical events.

Add all the historical events to your timeline.

9.

Present your timeline in class.

Unit 4: How did cave people discover fire?

In prehistory cave people lived in dark caves and ate uncooked meat. But one day they discovered fire. How?

1.

Tick the sentences that you think could be true.

a) Lightning hit trees in a forest and caused a fire.

b) The sun was too hot and caused a fire in the forest.

c) A meteorite fell from space and caused a fire.

d) A large river caused a fire.

e) There was gas under the ground, which exploded and caused a fire.

f) A volcano erupted and caused a fire.

g) An UFO crashed into a forest and caused a fire.

Now your ideas ……

The discovery of fire meant many changes for the cave people.

2.

Listen to the tape and look at the picture. What changes did fire bring?

3.

How did fire change the lives of the cave people? Use the following words to find out. tell – see – roast – frighten off – keep

a) They could _____ meat.

b) They could _____ warm.

c) They could _____ _____ wild animals.

d) They could _____ in the dark.

f) They could _____ stories around the fire.

4.

EXPERT MISSION: Make your own fire the way cave people did.

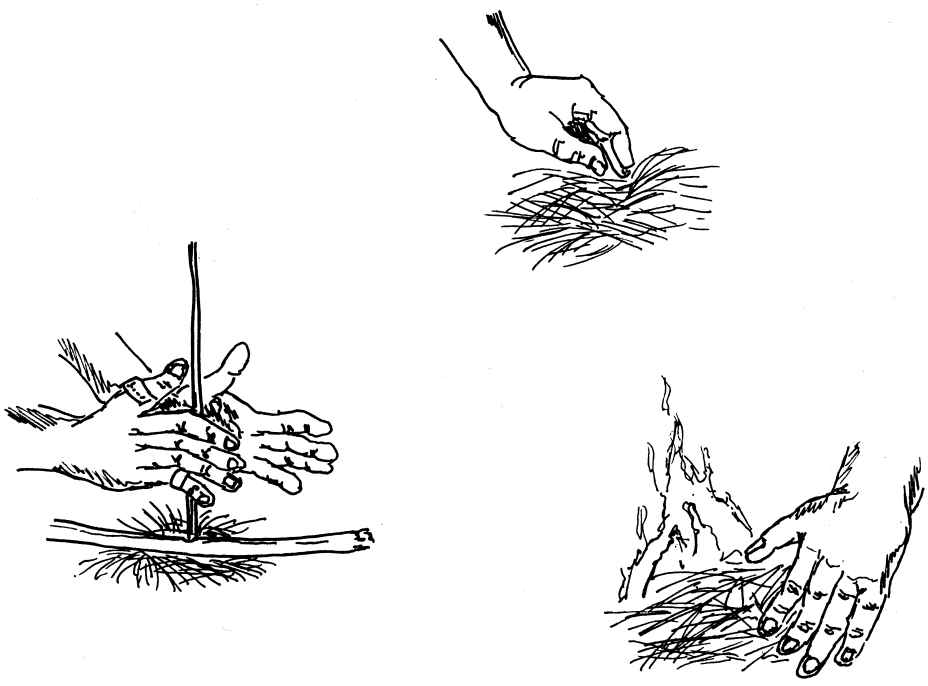
(N.B. Only carry out this mission when your teacher is with you.)

a) You need:

- Two pieces of wood (see: drawing)
- Very dry straw

b) What to do:

- Study the drawings of how to make a fire with two pieces of wood and dry straw.
- Put the drawing in the correct order.



- Now make a fire with your EP in the same way.

Glossary

English	**Mother tongue**
Arrows	
basic needs	
bulls	
cave people	
century	
contracts	
deer	
historical events	
historical sources	
lightning	
meteorite	
oxen	
pine tree	
plateau	
poetry	
prehistory	
scientists	
timeline	
(to) cause	
(to) crash	
(to) discover	
(to) erupt	
(to) explode	
(to) frighten off	
(to) roast	
treaties	
uncooked meat	
underground	

volcano	
written sources	

Sample teaching notes

Unit 1: How do we know what people did in the past?

1.

Some of the sources presented in the pictures are obvious historical sources, e.g.: castle, cave paintings, books, bones, gravestone, old master.

Some are not historical sources, e.g.: ball, flower, aeroplane, baby.

There is also an area where the historicity of sources can be discussed with the students e.g.: a flower – if it's growing now – is not a historical source; but, if it's a fossil - then it's an obvious historical source of information about plant life in the past.

Encourage this way of looking at the objects in the drawing. As far as the grammatical structures are concerned – there is no need to go beyond:

..... IS a historical source.

..... IS NOT a historical source.

..... CAN BE (COULD BE) a historical source.

..... CANNOT BE (COULD NOT BE) a historical source.

Key

Historical sources: castle, books, bones, gravestone, old master painting, cave paintings.

2.

Key

Written historical sources: books, gravestone(s).

3.

Encourage the students to look for positive events while interviewing a person or doing the research exercise in books and newspapers.

Interview sheet

Photocopy the interview sheet below and ask your students to do the task (short report).

Interview Sheet

What happened on the day I was born: .....
(date)

Person interviewed:.....

Interviewer: .....

a) When was I born?	(day / month / year; hour / minutes)
b) Where was I born?	
c) What happened in my city on the day I was born?	
d) What happened in our country on the day I was born?	
e) What happened in the world on the day I was born?	

photocopiable material

Library exercise

Ask the students to go to the local library and find an issue of a daily newspaper published on the day they were born.

(If you want to make the task more complex, ask them to also find some cultural, business, science or political magazine (e.g. a monthly) published in the month they were born. Maybe students could also collect/photocopy some pictures showing the events they wrote about in their reports.)

Photocopy the chart below, give it to your students and ask them to find information and fill out the chart.

When the task is completed, organise a display of individual reports. Group all reports from January 199X to December 199X month by month. You and your students will see what happened in the year the students were born. You will create a very special written historical source.

Library Exercise

My name is.....

I was born on .....
(day, month, year)

On the day I was born the following things happened:

in my country	
in the world	

Extra information:

In the month of .....the following things happened in:

CULTURE	
SCIENCE	
BUSINESS	
POLITICS	

photocopiable material

Unit 2: What is prehistory?

1.

Check if your students know the abbreviations: BC – Before Christ and AD – Anno Domini.

Key

In Britain prehistory means before the Romans came to the country (invasion in 43 BC). In China prehistory ended with the invention of writing around 16 BC. In most of America prehistory lasted until people from Europe came in the 16th century.

2.

The aim of this activity is to realise that civilisation, in this particular case, the invention of writing, developed at different times throughout history. There are several reasons for this – certainly geographical and political reasons were important. Although this is a very difficult concept to discuss in the target language it is important from a historical point of view.

3.

Before the teacher gives input ask the students to find the necessary information in an encyclopaedia and then check the results of their research; next help your students formulate the results of their research in English.

4.

The aim of this activity is that the students experience the verbal handing down of information. There are five short texts on the tape. The first student in each group should listen to one of the texts and learn it by heart. Then follow the instructions.

Tapescript:

a) *In the morning the horses came down from the high mountain and we chased them all day until the sun set. Then we slept in a cave near the White Mountain.*

b) *The snow was very heavy and covered the five small trees in front of our cave. Suddenly there was loud noise and we saw the dark stranger coming towards us.*

c) *The hunters never came back from the Black Hills. But the day they left our cave there was a strange light in the sky. It made our cave very bright.*

d) *We were very hungry and cold. The sun was hid behind large black clouds. We were very afraid. And then the old woman came to our cave and brought us berries.*

5.

Key (options)

a) safety, home, cave, shelter

b) food

c) rest, sleep

d) warmth, fire, clothes

e) social needs, life in a community

6.

You can start by asking questions:

Do you need a home?

Do you need food?

Do you need sleep?

Do you need warmth?

Do you need someone to talk to?

Then pass to listing down the needs the students will say they have. Then compare the need of cave people and the needs of the students.

Example:

Cave people needed ..... . I / we need ..... too.

(Cave people ..... . I do not need ..... .)

It's important for the students to see that they have the same needs as people thousand of years ago had.

Unit 3: Why did people paint in caves?

1.

Key

a) They could catch more animals.

b) There would be more animals to catch.

c) They could tell others about their lives.

2.

What animals can you see?

a) bull-bulls

b) ox-oxen

c) deer-deer

d) horse-horses

What did cave people hunt with?

a) arrow-arrows

Note: Try to use original photos of the cave paintings. They are widely available and very appealing.

3.

Key

About **13000** BC **cave** people **hunted** for **bulls, oxen, deer, and horses.** They hunted with **arrows**.

4.

Before listening – ask your students to concentrate only on the first question:

a) Which country in Europe are the caves in?

Answer: The South of France (Lascaux plateau)

Tapescript:

Many, many years ago in the South of France four boys, Marcel, Jacques, Simon and Georges, wanted to find treasure. So one day they set off to look for it. Marcel's dog, Robot, went with them. They walked a long way from their village, Montignac, to the Lascaux plateau until they reached a huge pine tree. The tree was lying on the ground. Hidden at the bottom of the tree there was a hole, which was the entrance to an underground cave. Robot fell down into a cave and began to bark. Marcel wanted to find his dog so he also went into the hole and down into the cave. Deep under the ground Marcel looked for Robot and he heard him barking from another cave. Marcel went to this other cave. It was huge and the walls were full of paintings of brown, red, black, gold and white bulls, oxen, horses and deer. It was very dark in this cave so Marcel couldn't see the paintings clearly. He decided to come back with his friends the next day.

After the first listening and checking the answer, it would be good if you could ask your students to find Lascaux on the wall map of Europe.

Ask the students to listen to the tape again, this time concentrating on the other five detailed questions.

Key

b) four

c) Robot

d) dog

e) at the bottom of a tree (there was a hole which was the entrance)

f) red, black, gold and white bulls, oxen, horses and deer

5.

This task can be done orally or / and (then) in a written form.

For both purposes you could use the following questions.

a) Who went to the Lascaux plateau on the following day?

b) Was Robot there as well?

c) What did the boys take with them? (torches? ropes?)

d) Did they discover any other caves?

e) What did they see in the paintings?

f) What did the boys feel?

g) How long did they stay there? How much time did they spend there?

h) When did they get back home?

i) Did they tell anyone about their discovery?

j) How did the local people react?

Setting a writing task give the students the following options:

a) to write their story answering those questions (guided writing);

b) to write their own ending of the story (creative writing)

6.

This activity would also offer the opportunity for a small cross-curricular activity with the students first of all marking on their own atlas the position of the Lascaux Caves and then working out, based on the scale of the atlas, the distance.

7.

The aim of this activity is to make the students aware of the tremendous amount of time that has transpired since cave people painted the Lascaux Cave paintings.

8.

A repeat of the above activity this time focusing on this century.

Please notice, that what is considered a historical event by historians, does not have to be an important historical event for your students or their families. Do not impose any answers. Listen to your students' answers. This is a perfect way for you to learn about the students you teach and their perception of what is important / historical. Only after you have listened to them and marked the events in the time line, can you say what historians consider important events of the 20th century.

9.

This should show a wide variety of perception of what is important / historical.

Unit 4: How did people discover fire?

1.

Key

could be true: a, b, c, e, f, g

is not true: d

This activity has two aims:

a) to make students realise that fire could be caused by so many different natural factors,

b) to help them develop creative thinking by inventing other possible natural ways of starting fire.

2.

Tapescript:

On the tape only the sounds would be recorded. The sounds would appear in a sequence that would make following different scenes in the picture easy. For example there would be: cracking of the fire (warmth), sizzling of the roasted meat (change of a diet, food), first speech sounds (acts of communication, social activities, telling stories), the wind in the trees suggesting that now the action moved from the cave inside to the world outside, howling of the wolves and the sounds a cave man would make to frighten the wolves off (safety, defence, weapons).

In the picture there are also visual hints like the people sitting around the fire (warmth coming from the fire) and the man outside the cave dressed in animals skins (warmth, clothes) holding a torch (fire as the source of light in darkness and a weapon against wild animals).

This audio / visual stimulus is to help to pass on to Task 3 by asking specific questions.

3.

How did fire change the lives of the cave people?

Key

What could they do with the meat?

a) They could roast meat. How could they feel sitting around the fire?

b) They could keep warm.

What could they do with the wild animals?

c) They could frighten off wild animals.

How could the fire help them at night?

d) They could see in the dark.

What could they do sitting around the fires with others?

e) They could tell stories around the fire.

4.

Although this activity is a little complicated it would be very helpful if it could be carried out somewhere outside of school.

Appendix

Due to the school reform that was introduced in Polish schools in September 1999, we had to revise our suggestions for the interdisciplinary path.

Since the first foreign language is now introduced in grade IV (Upper Primary) – and not in grade V as before, we analysed core curricula for general subjects issued by the Ministry of Education in a document dated 15 February 1999.

We started with grade IV – in order to find common/similar content areas which are discussed in general subjects lessons and are or might be discussed during foreing language lessons.

Below we present a list of potential subject areas suitable for interdisciplinary correlation. Also we offer suggestion for continuation of the interdisciplinary path in gymnasium – the next segment of the reformed school.

When you analyse the table carefully, you will see that there is no BIOLOGY and GEOGRAPHY as separate subjects in grades IV- VI.

Instead, elements of biology and geography are taught together in an integrated way as ENVIRONMENTAL STUDIES and ECOLOGICAL EDUCATION.

The content of teaching however still agrees with what appears in Biology core-curricula of other networking countries and is covered by the part of core-curricula which deal with environment or ecology.

Similarly, elements of geography that appear in the Polish core-curriculum are compatible with most of the 'Environment' or 'Space' headings in the other networkers' core-curricula.

Therefore, although core-curricula for biology and geography in Poland have been replaced by 'environmental studies' and interdisciplinary path, contentwise Polish core-curriculum is still to large extent compatible with the others presented in this publication.

Needless to say, subject skills do not change.

The Polish core-curriculum in history, however, has undergone more changes and the content taught previously in grades IV-VI has been moved to gymnasium (grades I-III, age group 13-15). Therefore here we notice a considerable difference. But again, the list of subject skills recommended and used in teaching history remains the same.

Subject	Grades IV-VI (Upper Primary) Age group 10-12	Grades 1-3 (Gymnasium) Age group 13-15
Polish Language and Literature	**1.** Ways of recognising intention of the utterance/transaction: I ask a question, answer, inform, ask somebody to do something. **2.** Affirmative and interrogative statements, orders, sentences and sentence equivalents. **3.** Subject. Object and relationship between words in sentences. **4.** Flexion. Declination and conjugation. Parts of speech that do not have declination. **5.** Collocations. **6.** Word formation. **7.** Kinds of phonems. **8.** Differences between colloquial language, language of literature and regional language differences. READING LIST: **1.** Fairy tales, legends, stories, poetry – examples of Polish and world children's and young adolescents' literature).	**1.** Syntax – parts of speech, parts of the sentence: complex sentences – in connection with punctuation. **2.** Mechanism of phonetic phenomena – devoicing, voiced contexts etc. – and the meaning of such phenomena in the context of proper pronunciation and graphic form of words. READING LIST: **1.** Selected works of the World Classics. Fragments of mythology, Shakespeare 'Romeo and Juliet', Dickens 'Christmas Carol' or David Copperfield', Saint-Exupery 'The Little Prince', E. Hemingway - selected short stories. **2.** Other components of culture – theatre performance, films, radio broadcast, TV programmes, icon messages, poetry.
History	**1.** Who am I? What I like and what I can do [...] **2.** My home, my family, my neighbourhood [...] **3.** My country – Poland – geographical location, borders, neighbours, population, administrative units/systems [...] **4.** Poland in Europe [...] **5.** Polish symbols and holidays (religious and national), symbols of selected countries	**1.** Prehistory – cave people – conditions of life. **2.** Ancient civilisations – cultural heritage and its effect on the present (Egypt, Israel, Greece, Rome). **3.** Europe and Mediterranean world in the Middle Ages [...] **4.** Poland – the first royal dynasty (Piast). **5.** Great geographical discoveries. Europeans and the New World in 16 - 18th

	and international institutions.	century. **6.** Social changes in 19th c. Economical and social development in 19th c.
Art and music	**1.** TPR activities with music. **2.** Listening to music. **3.** Variety and richness of the national music (including regional varieties) and music of other countries and world regions. **4.** Different artistic means, materials and techniques and forms.	**1.** Contact with works or art - monuments, galleries and museums. **2.** Cultural landscape.
Maths	**1.** Cardinal numbers, addition, subtraction, multiplication and division. **2.** Fractions (also decimal) addition, subtraction, multiplication and division, percent of a given number. **3.** Letter symbols. Solving simple algebraic problems with one variable. **4.** Expressing text problems in the form of simple algebraic equations with one variable. **5.** Diagrams showing empirical data, graphical representation of numerical data. **6.** Three kinds of angles. **7.** Polihedrons, circle [...] **8.** Rectangles, triangles etc. – basic calculations. **9.** Cuboids – surface and volume	**1.** Linear equations with one variable. Linear equations with two variables. Graphic interpretation. **2.** Collecting, ordering and presenting data – if possible with the use of information technology. **3.** Polyhedrons. **4.** Pythagoras.
Environment	**1.** Common features (structures and functions) of living organisms. **2.** Descriptions of the place where you live (landscape, rocks, waters, soil, flora). **3.** Orienteering, sketch, plan,	

	map. **4.** Selected 'landscapes' of the world: (a) lands and continents (b) oceans. **5.** Weather and climate, meteorological observations. **6.** The Earth in the Solar System [...] **7.** Travels and geographical discoveries.	
Biology		**1.** Structure and functions of an organism (cell, tissue, organs). **2.** Intra- and inter-species relationships; Matter and energy – circulation in different bilogical 'systems'. **3.** Man and the natural environment – consequences of man's activities / interference.
Physics and Astronomy		**1.** Characteristics of matter. **2.** Matter – gaseous, liquid, solid. **3.** Space conquest. **4.** Waves: sound, electromagnetic; Light dispersion – reflection and refracture; Colours; Optical pictures; characteristics of light; Tools/devices to transmit information. **5.** [...] Magnetic field [...] **6.** Structure of atom [...] **7.** The Solar System [...]
Chemistry		**1.** Structure of atom. **2.** Chemical reactions and chemical equations.
Geography		**1.** The Earth as part of the Universe. **2.** The Earth – planet of life, its history and present picture.

		3. Poland – natural, human, economic and cultural potential. **4.** Poland – Europe – World. **5.** Examples of landscape protection in the world and in Poland.
Health education	Road safety during play; First aid in certain situations.	**1.** Safety rules at home, at school, in public places; safety requirements: a) children b) elderly people c) disabled people [...] first aid in the most common situations, calling for help in case of emergency; various catastrophies and how to behave. **2.** Disabled people and their needs.
Ecological education	**1.** Everyday activities and situations at home, at school, at play and at work – and their influence on the natural environment. **2.** Examples of places (in the neighbourhood) where positive and negative changes in the environment can be observed. **3.** Areas protected (eg. national parks) and their meaning for preserving biological divergence; rules and principles of behaviour in protected areas.	
Cultural heritage; Patriotic education	Famous Polish people (artists, scientists, politicians, soldiers)	
European education		**1.** European Council, Council of European Union, European Committee, European Parliament etc. **2.** European Market. European currency. **3.** Educational policy EU [...]

		Cooperation programmes; Student exchange; Comparability of academic degrees; Learning foreign languages. **4.** Process of Poland's integration with EU [...] Costs and advantages for an average Pole resulting from the membership in EU. **5.** European protection and defence systems; NATO, OBWE, ONZ. **6.** Council of Europe **7.** Human Rights **8.** UNICEF, RED CROSS etc.
Regional education	Local and regional traditions, holidays and customs.	
Media education	**1.** Catalogues; Library; Automatic systems of data retrieval; Encouragement to start medial creativity.	
Computer science	**1.** Computer as a science of knowledge and way of communication. Application of computer in everyday life. **2.** Different uses of a computer and computer technology devices used in public systems/places.	**1.** Editing texts and creating drawings with the use of computer programmes; creating documents including texts, graphics and charts/tables [...]. Using multimedial sources of information [...] Examples of using a computer as a tool to download electronically stored information.