

# SYLLABUS SCIENCE GR6. 2018.

Numbers of Lessons	Lessons' topic	Tasks, skill development	Development areas	Vocabulary, new terminology
	<b>I. Orientation in reality and on the Map</b>			
1.	Oceans and continents on the surface of the Earth	Orientation on the globe and on the map. Recognising landscapes and oceans on different scales and charts.	The complexity of systems, their inner system of relationship recognition. Map use and knowledge.	Spheres: geo,-atmo,-hydro,-bio Oceans, seas, continents -in order of size
2.	Geographical network of degrees	Developing spatial orientation on the globe. Understanding the hierarchical relationships of the geographic space. Recognising the notable latitudes on the map. Geo-location with different content maps.	Applying knowledge of the geographic network.	Network of degrees, latitude and longitude lines, globe, major lines of latitude, Prime Meridian, hemispheres
3.	Pinpoint your location Practice	Developing spatial orientation on the globe. Understanding the hierarchical relationships of the	Applying knowledge of the geographic network.	Coordinate system, grid, latitudes and longitudes intersect each other

		geographic space. Recognizing the notable latitudes of a map. Geo-location with		
4.	Our continent is Europe	Creating a comprehensive picture of the location of Hungary in the world, in Europe. The formulation of the actual geographical location of Europe and Hungary.	<p>Develop spatial orientation in a real environment, on a map and on the globe. Understanding the hierarchical relationships of the geographic space.</p> <p>Creating a comprehensive picture of the location of Hungary in the world.</p> <p>Observing the relationships between reality and map representation, discerning the limitations of map representation.</p> <p>Understanding, interpreting, use in the process of obtaining information.</p> <p>The application of elementary map reading.</p>	Eurasia, size, location, borders, parts of the continent, Carpathian Basin, neighbouring countries of Hungary, area, population, nationalities of Hungary

5.	Climate zones on Earth	<p>Recognising the Earth's spherical shape, the inclination of the sun's rays and the climatic zones. An explanation of the alternation of the seasons.</p> <p>Comparison of climatic zones.</p> <p>Recognising climate change factors.</p>	<p>The relationship between structure and operation. The influence of Earth's shape and axial rotation on climatic zones.</p> <p>The significance of energy to Earth discretion.</p> <p>Permanence and change</p> <p>Identifying the effects that trigger change in phenomena that can be observed in the everyday environment.</p>	<p>The ball-shape and tilt of the axis of the Earth affects the temperature. Sunrays reach the surface at different angles.</p> <p>The temperature, the seasons and the direction of winds are different inside the climate zones.</p>
6.	Climatic factors	<p>Detecting weather elements, measurement. Recording measured data, representation.</p> <p>Daily average temperature, calculating daily and annual changes in temperature.</p>	<p>Exploring how climatic factors determine climatic elements.</p> <p>The relationships between each climate and the climatic elements.</p>	<p>Latitude, distance from the coastline, altitude. Climatic factors have different effects on the temperature and precipitation.</p> <p>Different climates are formed inside the climate zones due to the climatic factors.</p>
7.	Climates of Europe, climates of Hungary	<p>Recognition of climate-modifying factors</p> <p>Climate characterisation - learning</p>	<p>Observing how the climate changes inside a climate zone due to climatic factors. The</p>	<p>Polar Zone, Temperate Zone: Marine, Continental, Mediterranean and Mountain</p>

		algorithm and use. Climate diagrams and climatic map content reading, data value.	differences that can be observed within smaller areas inside the climate zones.	climates, summer, winter temperatures, changes in temperature, amount of precipitation, when does it fall, vegetation, location of the climates
8. 9.	Revision		Methods of learning in group work design. Establishing the skills required to carry out observations.	
10.	Test			
	<b>II. Plains of Hungary</b>			
11.	Formation of lowlands	Examining the formation of lowlands - order and timing	Identification of explicitly formulated information scattered throughout the text. Explanation of elementary and general cause in the items of the text.	Lowland, formation of lowlands by sinking and filling with sea deposits and river sediments. Rock oil and natural gas are typical mineral resources. Wind takes over the surface-work, forms loess and sand dunes. Plains, depressions and

				plateaus.
12.	Alföld – Great Plain	<p>Creating a comprehensive picture of the natural geographic features of our lowlands, its natural and social resources, its economic processes, environmental status.</p> <p>Strengthen the attachment to the country by knowing natural and socio-economic values.</p> <p>Developing national consciousness.</p>	<p>Developing elementary skills in map reading.</p> <p>Identifying the individual and social impacts on the environment and finding solutions..</p> <p>Some interpretations of the change in the landscape as a result of man.</p> <p>Recognising the beauty of the environment, the sustainability of human cultures and the physical and psychological health of those who live in it.</p>	<p>Formation by rivers and tributaries, fertile mud, sand and loess areas.</p>
13.	Climate, rivers, lakes and national parks of the Great Plain	<p>Getting acquainted with the climate, bodies of water and vegetation that is specific to the landscape.</p> <p>Reading of information from different charts, thematic maps.</p>	<p>Helping to organise tools and knowledge of algorithms.</p> <p>Comparison, identification, distinction; finding differences, identities.</p>	<p>Climate: the highest amount of sunshine, very hot summers, very cold winters, very little precipitation. Drought, mirage</p> <p>Rivers: large amount of sediment, great floods, protection</p>

		Demonstration of the damaging effects of human activity through concrete examples.	Classification of one or two (more) according to its own criterion, given or started, recognised in selection according to the criteria.	against flooding is very important. Irrigation canals. Wind-formed, oxbow and artificial lakes. Mineral and hot thermal underground waters. Grasslands, national parks.
14.	Life on the Great Plain	<p>Orientation on the terrain and administrative map of our country.</p> <p>Presentation of natural resources and socio-economic relations based on concrete examples.</p> <p>Demonstration of the damaging effects of human activity through concrete examples.</p> <p>Examples of minerals and industry contexts. Presentation of the forms and effects of agricultural pollution using concrete examples</p>	<p>Use of natural and artificial (technical and constructed) concepts in the environment.</p> <p>Recognising the complexity and inner relationships within systems.</p> <p>Relationship between structure and operation</p> <p>Identifying the context using concrete examples (food, clothing, tools).</p> <p>Permanence and change</p> <p>Some interpretations of the change in the landscape as a result of man.</p>	<p>Agriculture is the most important industry.</p> <p>Loess covered areas: fertile soil, wheat, sugar beet, sunflower, rice, vegetables, cows, pigs, and poultry.</p> <p>Vegetable growing area: red pepper, cabbage, cucumber, tomatoes, green beans, peas – glasshouse production.</p> <p>Sand covered areas: Delicious fruits and vegetables, preserved in the canning factories.</p> <p>Energy resources, chemical</p>

			<p>Environment and Sustainability</p> <p>The beauty of the environment, the sustainability of human cultures and the physical and psychological health of those who live in it</p>	<p>industry: rock oil, natural gas, thermal and atomic power stations.</p> <p>Population, settlements: Small farms and villages – people live on farming. In towns people work in trade, transport and industry. Centralised road and railway network. Quite good quality roads.</p>
15.	Kisalföld: Little Hungarian Plain	<p>Orientation on the terrain and administrative map of our country.</p> <p>Knowing and practicing the algorithm of landscaping using familiar landscapes. Reading information from different charts, thematic maps.</p> <p>Comparison of natural and cultural landscape. Presentation of</p>	<p>Use of natural and artificial (technical and constructed) concepts in the environment.</p> <p>Recognising the complexity and inner relationships within systems.</p> <p>Orientation built and natural environment, basic field knowledge.</p> <p>Relationship between structure</p>	<p>Filled by the sediments of the Danube and its tributaries. Pebbles, sand, clay and mud changed into very fertile soil.</p> <p>Climate: cooler summers, milder winters, more rain falls.</p> <p>Bodies of water: reefs in the Danube, Lake Fertő, national park, thermal baths.</p>

		<p>the impact of economic activity on the community.</p> <p>Comparison of the natural features of Kisalföld, Kiskunság and Nagykunság. Presentation of natural resources and socio-economic relations based on concrete examples. Demonstration of the damaging effects of human activity using concrete examples.</p>	<p>and operation</p> <p>Identifying the context using concrete examples (food, clothing, tools).</p> <p>Permanence and change</p> <p>Some interpretations of the change in the landscape as a result of man</p> <p>Environment and Sustainability</p> <p>The beauty of the environment, the sustainability of human cultures and the physical and psychological health of those who live in it</p>	
16.	Life in the Little Hungarian Plain	<p>Examples of minerals and industry contexts. Presentation of the forms and effects of agricultural pollution using concrete examples</p>	<p>Use of natural and artificial (technical and constructed) concepts in the environment.</p> <p>Recognising the complexity and inner relationships within systems.</p> <p>Orientation - man-made and</p>	<p>Wheat, barley, sugar beet, rape seed and fodder crops. Pigs, poultry, meat industry, cows, milk industry. Vegetable oil.</p> <p>Industry: good location, many skilled labourers. Engineering, textile industry. One of the most</p>

			<p>natural environment, basic field knowledge.</p> <p>Relationship between structure and operation</p> <p>Identifying the context using concrete examples (food, clothing, tools).</p> <p>Permanence and change</p> <p>Some interpretations of the change in the landscape as a result of man</p> <p>Environment and Sustainability</p> <p>The beauty of the environment, the sustainability of human cultures and the physical and psychological health of those who live in it</p>	<p>populated areas, modern, good quality roads and railways, traditional waterway, the Danube.</p>
17.-18.	Revision		<p>Methods of learning in group work design.</p> <p>Establishing the skills required to carry out observations.</p>	

19.	Test			
	<b>III. Mountains and hills</b>			
20.	Mountain formation	Observation of crease, casting and volcanic activity in simple model experiments. Examples of the relationship between the various mountain formation processes.	Relationship between structure and operation. Description of surface formation processes, presentation of examples and recognition of the results of change processes. Permanence and change. Recognize changes by comparing two different states.	Slow movements of the Earth's crust. Fault, fold and volcanic mountains. Types of volcanoes: Active, dormant, extinct. Steps of volcanic activity: Hot gases and steam, ash and stones, lava erupts.
21.	Surface-work of natural forces	Deepening the concept of balance and stability by learning the balance of external and internal forces in the formation of today's image of the Earth's surface. Comparison of trimming and stopping, external and internal forces.	Relationship between structure and operation. Description of the main processes of surface changes, presentation of examples, and recognition of the results of change processes. Permanence and change. Recognising changes by comparing two different states.	Internal forces, external forces-destroy in mountains and build in lowlands. Tools of erosion: Temperature change, wind, ice, rainwater and rivers. Breaking-up, wind, ice, rainwater, rivers transport, sand dune, loess, ice rivers-glaciers, U-shaped valley, moraine, reefs,

				islands, caves, limestone mountains, stalactites, stalagmites, columns.
22.	Rocks and minerals	To further develop geo-knowledge, develop information gathering and processing. Finding, comparing and grouping of easily identifiable properties of some typical Hungarian rocks	Observations and basic skills required to perform simple experiments. Developing methods of learning in group work. Grouping of substances by observation and experimentation. Establishing the concept of energy, getting acquainted with energy sources.	Three types of rocks: igneous, (andesite, basalt, granite) sedimentary, (limestone, sandstone, clay) metamorphic (marble, slate)
23.	West-Hungarian Borderland	Orientation on the terrain and administrative map of our country. Knowing and practicing the algorithm of landscaping using familiar landscapes. Reading of	3. Systems Use of natural and artificial (technical and constructed) concepts in the environment. Recognising the complexity and inner relationships within	Mountains and hill ranges: (Soproni, Kőszegi Mt, Zala Hills) Formation, rocks: metamorphic crystalline, clay Göcsej, unique ethnographical architecture, little differences in

		<p>information from different charts, thematic maps.</p> <p>Comparison of natural and cultural landscape. Presentation of the impact of economic activity on the community.</p> <p>Examples of relationships between rocks properties and their use.</p> <p>Presentation of natural resources and socio-economic relations based on concrete examples.</p> <p>Demonstration of the damaging effects of human activity through concrete examples.</p> <p>Examples of minerals and industry contexts. Presentation of the forms and effects of agricultural pollution using concrete examples</p>	<p>systems.</p> <p>Orientation – man-made and natural environment, basic field knowledge.</p> <p>Relationship between structure and operation.</p> <p>Identifying the context using concrete examples (food, clothing, tools).</p> <p>Permanence and change</p> <p>Some interpretations of the change in the landscape as a result of man.</p> <p>Environment and Sustainability</p> <p>The beauty of the environment, the sustainability of human cultures and the physical and psychological health of those who live in it</p>	<p>temperate summer and winter temperatures.</p> <p>The rainiest part of the country, dense forests, thick grass meadows, many streams.</p> <p>Farming: sugar beet, fodder plants, cows, milk, sugar industry.</p> <p>Industry: textile, shoe and wood industry, natural gas, rock oil, petroleum refinery, chemical industry. Tourism</p>
24.	Transdanubian Hills	Orientation on the terrain and	Use of natural and artificial	Formation, rocks of the hills:

	<p>with the Mecsek Mountains</p>	<p>administrative map of our country.</p> <p>Knowing and practicing the algorithm of landscaping using familiar landscapes. Reading information from different charts, thematic maps.</p> <p>Comparison of natural and cultural landscape. Presentation of the impact of economic activity on the community.</p> <p>Examples of relationships between rocks properties and their use.</p> <p>Presentation of natural resources and socio-economic relations based on concrete examples.</p> <p>Demonstration of the damaging effects of human activity through concrete examples.</p> <p>Examples of minerals and</p>	<p>(technical and constructed) concepts in the environment.</p> <p>Recognising the complexity and inner relationships within systems.</p> <p>Orientation - man-made and natural environment, basic field knowledge.</p> <p>Relationship between structure and operation</p> <p>Identifying the context using concrete examples (food, clothing, tools).</p> <p>Permanence and change</p> <p>Some interpretations of the change in the landscape as a result of man.</p> <p>Environment and Sustainability</p> <p>The beauty of the environment, the sustainability of human cultures and the physical and</p>	<p>Pebbles, sand, loess</p> <p>Climate: Differences in W and E areas in temperature</p> <p>Mountains: Mecsek, Villányi limestone. Climate: Mediterranean influence.</p> <p>Life of the hills: farming, animal breeding, rye, potatoes, wheat, corn, sugar beet, corn, oats, pigs, poultry, mill and meat industry.</p> <p>Mecsek: uranium ore, black coal, mines are exhausted. Apples, grapes, figs and almonds.</p>
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		industry contexts. Presentation of the forms and effects of agricultural pollution using concrete examples	psychological health of those who live in it	
25.	Transdanubian Mountains	Orientation on the physical map of our country. Knowing and practicing the algorithm of landscaping using familiar landscapes. Reading information from different charts, thematic maps.	Explaining the causes of differences between the rocks found here. Examining the differences in climatic diagrams and thematic maps. How the climate affects the density of the network of rivers and streams. The effect of surface waters on the limestone rocks.	Formation, rocks of the faulted mountains: granite, dolomite, limestone, andesite and basalt. The surface is rounded off and has gentle slopes and flat plateaus. Climate, rivers, vegetation: Cooler summers, colder winters, more rain, rare surface waters, caves, springs, karst water, dense deciduous forest. Balaton Highland N.P.
27.	Life in the Transdanubian Mountains	Comparison of natural and cultural landscape. Presentation of the impact of economic activity on the community. Examples of relationships	Use of natural and artificial (technical and constructed) concepts in the environment. Recognising the complexity and	Aluminium industry: bauxite, brown coal, thermal power stations generate electricity. Lot of water is needed. Aluminium earth, aluminium factory,

		<p>between rocks properties and their use.</p> <p>Presentation of natural resources and socio-economic relations based on concrete examples.</p> <p>Demonstrate the damaging effects of human activity through concrete examples.</p> <p>Examples of minerals and industry contexts. Presentation of the forms and effects of agricultural pollution on concrete examples</p>	<p>inner relationships within systems.</p> <p>Orientation - man-made and natural environment, basic field knowledge.</p> <p>Relationship between structure and operation.</p> <p>Identifying the context using concrete examples (food, clothing, tools).</p> <p>Permanence and change</p> <p>Some interpretations of the change in the landscape as a result of man.</p> <p>Environment and Sustainability</p> <p>The beauty of the environment, the sustainability of human cultures and the physical and psychological health of people living there.</p>	<p>products: plates, wires, and cables. Engineering, chemical and building industries. Porcelain factory in Herend. Agriculture is in decline: potato, hemp, flax and hops. Grapes and other fruits – Balaton Highland</p>
27.	North-Hungarian	Orientation on the terrain and the	Explaining the causes of	Highest mountain range:

	Mountains	<p>administrative map of our country.</p> <p>Knowing and practicing the algorithm of landscaping with familiar landscapes. Reading information from different charts, thematic maps.</p>	<p>differences between lowlands and mountain ranges.</p> <p>Examining the differences in climatic diagrams and thematic maps.</p> <p>Explaining the differences between the hydrography of the volcanic and limestone mountains and explaining the natural plant cover zone change.</p> <p>Presenting natural resources and socio-economic relationships through specific examples.</p> <p>The proof of human activity's damaging effects through concrete examples.</p>	<p>Smaller individual ranges, basins, volcanic and limestone mountains. Mátra: Kékes, geyser cones, carbonic acid springs.</p> <p>Bükk, Aggteleki Karst: Baradla cave system, World Heritage Sites, Bükk: spectacular plateaus</p> <p>Climate: coldest area, snow remains for a long time, annual average temperature on the highest peaks 6°C.</p> <p>Rivers: flow very fast and carry a lot of debris. Spas, medicinal waters.</p> <p>Vegetation: big forests, national parks</p>
28.	Life in the North-Hungarian Mountains	Comparison of natural and cultural landscape. Presentation of the impact of economic activity	Use of natural and artificial (technical and constructed) concepts in the environment.	Mineral resources: brown coal, lignite, iron ore mines now closed. Industries: rock oil,

		<p>on the community.</p> <p>Examples of relationships between rocks properties and their use.</p> <p>Comparison of the Northern Mountain Range and the Transdanubian Mountain Range according to given criteria.</p> <p>Presentation of natural resources and socio-economic relations based on concrete examples.</p> <p>Demonstration of the damaging effects of human activity through concrete examples.</p> <p>Examples of minerals and industry contexts. Presentation of the forms and effects of agricultural pollution using concrete examples.</p>	<p>Recognising the complexity and inner relationships of systems.</p> <p>Man-made and natural environment, basic field knowledge.</p> <p>Relationship between structure and operation.</p> <p>Identifying the context using concrete examples (food, clothing, tools).</p> <p>Permanence and change</p> <p>Some interpretations of the change in the landscape as a result of man.</p> <p>Environment and sustainability:</p> <p>The beauty of the environment, the sustainability of human cultures and the physical and psychological health of those who live in it</p>	<p>natural gas arrive – chemical industry. Products: petrol, gas oil, paint and plastic. Thermal power stations. Engineering industry, building industry.</p> <p>Farming: fruit and grapes in Tokaj Hegyalja.</p>
29.	<i>Supplementary</i>			<i>Industrial pollution: 3 categories:</i>

	<p><i>reading:</i></p> <p>The consequences of human economic activity</p>			<ul style="list-style-type: none"> <li>- mining, smelting,</li> <li>- use raw materials to produce consumer goods,</li> <li>- provide services for persons and groups.</li> </ul> <p><i>Large polluters:</i> chemicals, pesticides, oil refining, metal smelting, iron and steel, food processing, energy waste products, textile, leather, paint, plastics, medicine and paper industries.</p> <p><i>Agricultural pollution:</i> affects climate change, deforestation, water and air pollution, genetic engineering, irrigation, soil degradation and waste.</p> <p>Application of ammonia, nitrate and phosphor.</p> <p>Release of CO<sub>2</sub>, greenhouse gases, deforestation, less water</p>
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				<p>vapour, over-irrigation, under-irrigation, increased salinity.</p> <p>Chemicals leach into the soil.</p> <p>Degradation of microbial community of soil, plastic sheets cause problems for shellfish in oceans, plastic degradation takes a long time.</p>
30.	<i>Supplementary reading: National parks of Hungary</i>			<p>10 National Parks:</p> <p><i>Protected geological formations,</i></p> <p><i>Protected animals,</i></p> <p><i>Protected plants,</i></p> <p><i>Demonstration sites.</i></p>
31.-32.	Revision		<p>Methods of learning in group work.</p> <p>Establishing the skills required to carry out observations.</p>	
33.	Test			

