



Topics „A”; Earth science

1. Structure and composition of the atmosphere. Impact of aerosols in modifying the climate.
2. Greenhouse effect, description of the most important greenhouse gases and their impact in modifying the climate. The ozone layer depletion.
3. The types and main features of air masses. The concept of the weather fronts, their varieties, structure, weather.
4. Global air circulation, the monsoon and ocean currents.
5. Daily and annual changes of climate elements in the different climates of the Earth.
6. Role and potential of renewable energy resources on a global scale.
7. The rock cycle in association with the phases of plate tectonics (orogenic cycle).
8. Crystallisation of silicates, their role in the composition of igneous, sedimentary and metamorphic rocks.
9. Subsurface water types, their significance, methods of extraction and supply. Main elements of water source protection.
10. Extraction possibilities of geothermal energy (technological implementation in different geological conditions, Lindal diagram).
11. Main events in the geological history of Earth during the Palaeozoic and the Mesozoic.
12. Main events in the geological history of Earth during the Cenozoic.
13. Geomorphological types of mass movements and their characteristics.
14. Fluvial landforms, river gradient, valley types, alluvial fans.
15. Aeolian landforms, their system and classification. Description of the landforms in desert and semi-bond wind-blown sand environments.
16. The role of anthropic geomorphology. Natural and anthropogenic hazards and values.
17. Petrogeomorphology: landforms of carbonates, granite, sandstone, basalt and loess.