

Appendix 5 - Check your knowledge: Questions & Answers

Here are some questions and answers for basic understanding. All the answers can be found in the application.

What is a mineral?

Mineral is a naturally occurring, homogeneous solid which usually occurs in inorganic secretion processes. It has a constant but not a fixed chemical composition, an ordered crystal structure, certain morphological forms and properties.

What is a rock?

Rock is solid substance with more or less constant mineral and chemical composition. It can be composed entirely of one or different types of mineral grains, or various fragments of different rocks and/or fossils called sedimentary grains.

Into which three main groups are rocks classified according to their formation processes?

Igneous, sedimentary and metamorphic rocks.

What is a rock cycle?

The rock cycle is an overview of the formation and alteration of rock on and below the Earth's surface. The changes take place among the three main groups of rock; igneous, metamorphic and sedimentary. Rock cycle describes how due to various processes one group of rocks turns into another one.

How are igneous rocks formed?

Igneous or magmatic rocks are formed through the cooling and crystallization of magma under or lava on the Earth's surface.

How do we divide igneous rocks?

Igneous rocks are divided into intrusive and extrusive igneous rocks.

Which texture is typical for intrusive rocks and which for extrusive rocks, how does it look and why is it formed?

For intrusive rocks is typical phaneritic texture. They are formed from magma deep below Earth's surface. Due to gradually slow cooling of magma, minerals have time to crystallize. As a result, these rocks have approximately the same size of mineral grains.

For extrusive rocks is typical porphyritic texture. They are formed from magma shallow under Earth's surface or lava on the surface. Due to the quick drop of pressure and temperature, cooling and solidification of magma or lava is quick. Only individual mineral grains are visible (the one with higher melting point), the rest of rock forms a so-called matrix.

How are metamorphic rocks formed?

Metamorphic rocks are formed from igneous, sedimentary or already existing metamorphic rocks during the process of metamorphism (change) at high temperature and pressures, as well in the presence of gasses and liquids. In the process of metamorphism, mineral composition and structure of the rock is changed.

Which structures can metamorphic rocks have?

Metamorphic rocks have different types of structures, such as schistose structure and granulose structure.

How are sedimentary rocks formed?

Sedimentary rocks are formed on Earth's surface during the processes of sedimentation and lithification of sedimentary grains or with precipitation of minerals from aqueous solutions.

How can we divide sedimentary rocks and what is the most important characteristic of each group?

Sedimentary rocks can be divided into clastic, chemical and biochemical sedimentary rocks.

Clastic sedimentary rocks are composed of sedimentary grains that are mainly result of weathering of other (older) rocks and are distinguished by size and shape of sedimentary grains. Chemical sedimentary rocks are formed in oceans, lakes or on land, with the precipitation of minerals from the oversaturated aqueous solutions as a result of changes in conditions. They are distinguished based on composing minerals. Biochemical sedimentary rocks are formed using living organisms. Biochemical rocks are distinguished based on mineral composition.