

Nova's Geological Journey: Rocks and Soils

Learning objective: To identify, describe, and compare different types of rocks and understand how they are formed, as well as recognising the composition of soil.

Use these flashcards to test your knowledge of rocks and fossils. Read the front of the card, think of the answer, then check the back to see if you are correct. Nova the owl is here to help you master your geology facts!

What are the three main types of rocks classified by how they are formed?

Igneous, Sedimentary, and Metamorphic rocks.

How is an igneous rock formed?

Igneous rocks are formed when molten magma or lava cools down and hardens.

What is sediment, and which type of rock does it create?

Sediment is tiny pieces of sand, mud, and pebbles. When layers of sediment are compressed over time, they form sedimentary rocks.

How do metamorphic rocks form?

Metamorphic rocks are formed when existing igneous or sedimentary rocks are changed by intense heat and pressure deep underground.

What is a fossil, and in which type of rock are they most commonly found?

A fossil is the preserved remains or impression of a prehistoric plant or animal. They are almost always found in sedimentary rock.

What does it mean if a rock is permeable?

A permeable rock has small holes or cracks that allow water to soak through it.

What is soil composed of?

Soil is a mixture of tiny rock particles, minerals, air, water, and organic matter (decaying plants and animals).

Explain why fossils are rarely found in igneous rocks.

Because igneous rocks are formed from molten lava or magma; any living thing trapped in the rock would be destroyed by the extreme heat.

Compare and contrast sedimentary and metamorphic rocks.

Sedimentary rocks are formed by layers of particles being squashed together, whereas metamorphic rocks are formed by heat and pressure changing the chemical structure of existing rocks.

Justify why a builder would choose a non-permeable rock to build a house foundation.

A builder would choose non-permeable rock because it prevents water from soaking into the foundation, which keeps the building dry and prevents structural damage.

What might happen to a rock if it is exposed to constant wind and rain for thousands of years?

The rock will undergo erosion, breaking down into smaller particles which eventually form sediment.

If you discovered a rock with visible layers, how would you classify it?

You would classify it as a sedimentary rock, as these layers are a key characteristic of how sediment settles over time.