Three types of rock and how they form

KS3 Ages 11-14 ⏰ 3 min read

The Three Types of Rock

Did you know that rocks aren't all made the same way? There are **three main types of rock** on Earth, and each one is created by a completely different process. Learning about them helps us understand how our planet works and changes over millions of years.

Igneous Rocks: Born from Fire

Igneous rocks form when **magma** (hot melted rock) cools down. This happens in two ways. When magma erupts from a volcano and cools quickly on the surface, it forms rocks like **basalt**. When magma cools slowly deep underground, it forms larger crystals and creates rocks like **granite**.

Think of it like: When you pour hot chocolate and it cools quickly in a thin cup, it hardens fast. But if you pour it into a thick mug and it cools slowly, it takes much longer. The same happens with melted rock.

Sedimentary Rocks: Built from Layers

Sedimentary rocks form when tiny pieces of other rocks are pressed together over time. Rain, wind and rivers break down rocks into sand, mud and pebbles. These pieces wash into oceans and lakes, where they pile up in layers. Over millions of years, the weight of layers above squeezes them into solid rock. **Sandstone** and **limestone** are common sedimentary rocks.

Think of it like: When you make a sandwich with many layers of bread and fillings, then press them down hard, the layers stick together. That's how sedimentary rocks form from layers of sand and mud.

Metamorphic Rocks: Changed by Heat and Pressure

Metamorphic rocks form when existing rocks are buried deep underground and exposed to extreme heat and pressure. They don't melt completely—instead, they

transform into new rocks with different crystals and textures. **Marble** comes from limestone, and **slate** comes from shale.

Think of it like: If you take a piece of clay and squeeze it very hard while heating it, it changes shape and becomes harder. The rock stays solid but completely changes into something new.

The Rock Cycle

These three types are connected in something called the **rock cycle**. Igneous rock can break down into sedimentary rock, which can be pushed deep underground and become metamorphic rock. Eventually, metamorphic rock can melt back into magma and start the cycle again. This amazing process has been happening for billions of years!