

On Earth, rocks are created and destroyed in cycles. Rocks are formed, broken down, moved around and deposited in different places. They can be compacted together and pushed deep towards Earth's magma where they melt or deform due to heat and pressure, to then be lifted again to the surface.

The Rock Cycle describes this formation, breakdown, and reformation of a rock as a result of sedimentary, igneous, and metamorphic processes.

EXTRUSIVE IGNEOUS ROCK

Slow uplift to the surface

Weathering & erosion

Transportation & deposition

INTRUSIVE IGNEOUS ROCK

Sedimentation

Melting

MAGMA FROM MOLTEN
CRUST & MANTLE

METAMORPHIC ROCK

Burial, high temperatures & pressures

Compaction & cementation

SEDIMENTARY ROCK

WHAT IS A ROCK?

All rocks are made from a mixture of minerals or solid chemical compounds that occur naturally on Earth with a characteristic crystal structure. Some rocks are formed from grains of older rocks and minerals that have been cemented together. Others are made from tightly interlocking mineral crystals.

Depending on how a rock has formed, it will belong to one of the following groups:

SEDIMENTARY

Sedimentary rocks are formed from the broken remains of other rocks (sediment) that are transported away or eroded by rivers, wind or glaciers. Sediments then collect at the bottom of lakes and rivers, becoming squashed and compacted together to become sedimentary rock, such as limestone.

IGNEOUS

All **igneous rocks** start out as **magma** and then cool down and turn from a liquid to a solid. This is known as **crystalisation**. Rocks formed from cooling lava on or near Earth's surface, such as **Basalt**, cool so fast that the crystals formed are tiny.

Magma deeper within the Earth takes longer to crystalise due to the **intense heat**. Rocks made here, such as **granite**, have larger crystals as they have more time to form.

METAMORPHIC

Metamorphic rocks are formed from other rocks that are changed because of heat or pressure.

Movement can cause rocks to be pushed deep down into the Earth. As a result, grains and minerals can be stretched and squashed from the extreme heat and pressure. This process is called metamorphism. They do not melt, but the minerals they contain are changed chemically, forming metamorphic rocks, such as marble.

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