A 60 SECOND GUIDE TO . . .

The Rock Cycle

Royal Geographical Society with IBG

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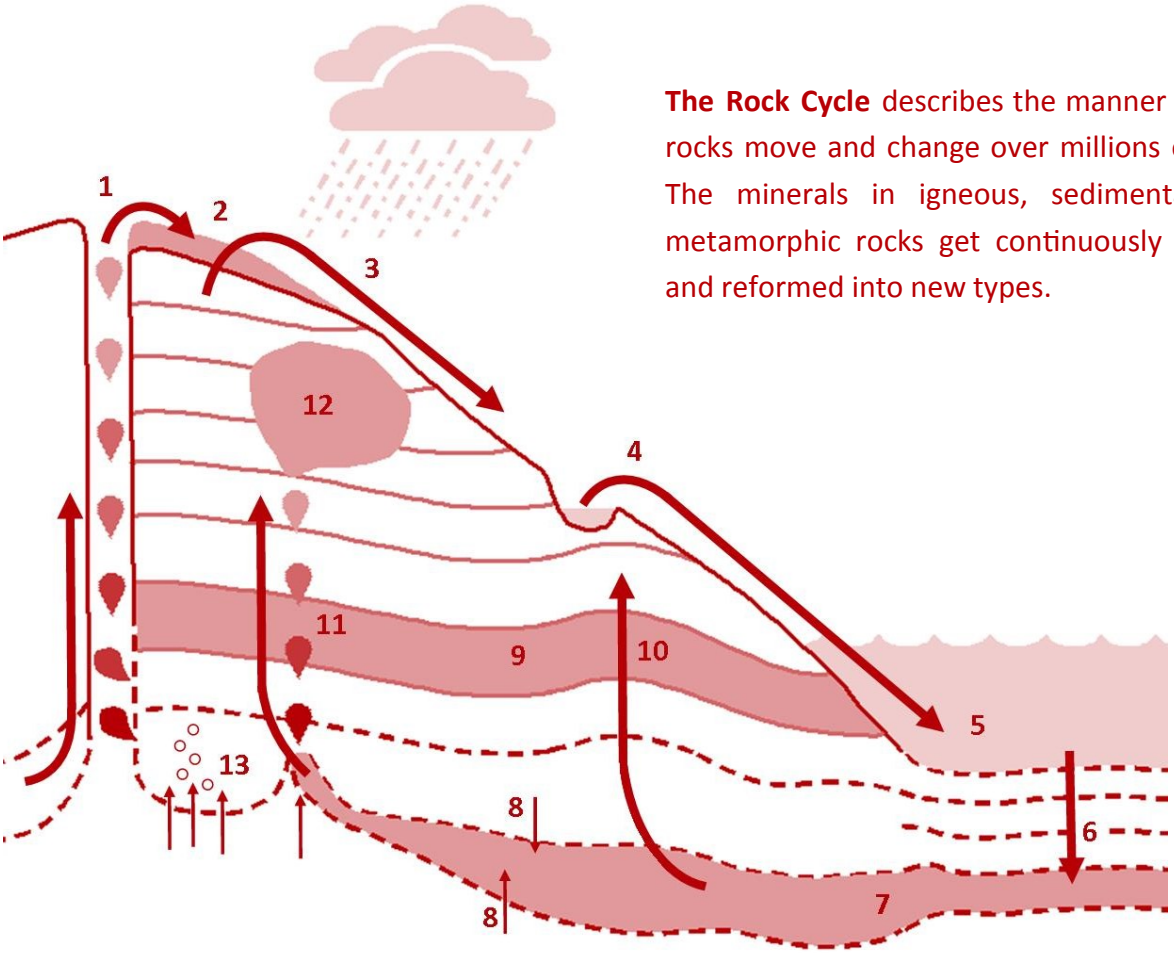

The Rock Cycle describes the manner in which rocks move and change over millions of years. The minerals in igneous, sedimentary and metamorphic rocks get continuously recycled and reformed into new types.

1. Plumes of magma from a volcanic eruption cool as they reach the surface.
2. These plumes cool quickly, forming small crystalline **Extrusive Igneous Rocks** such as basalt and obsidian.
3. Weathering and erosive actions break up any surface rock and deposit it into streams and rivers.
4. Rivers transport the rocks downstream as bedload. Wind blown particles and that held in ice also move seaward.
5. At the river mouth, the bedload is deposited into the sea where it settles on the sea bed (sedimentation).
6. Over time these layers of bedload undergo compaction and cementation, whereby the layers fuse together under pressure.
7. **Sedimentary Rocks** such as chalk and limestone are formed, sometimes with fossilised plants and animals in between the layers.
8. The Earth's mantle heats the rocks nearest to it and immense pressure is inflicted on this layer from the weight of the rock above it.
9. This forms successive layers of **Metamorphic Rocks** such as marble and slate.
10. Uplifts beneath the ground bring these layers to the Earth's surface.
11. Some plumes of magma work their way through the lower layers of the lithosphere but never break through the Earth's surface in the form of a volcano.
12. These plumes cool slowly beneath the Earth's surface and form large crystalline **Intrusive Igneous Rocks** such as granite.
13. The Earth's mantle can melt the rocks closest to it, creating new plumes of magma.