

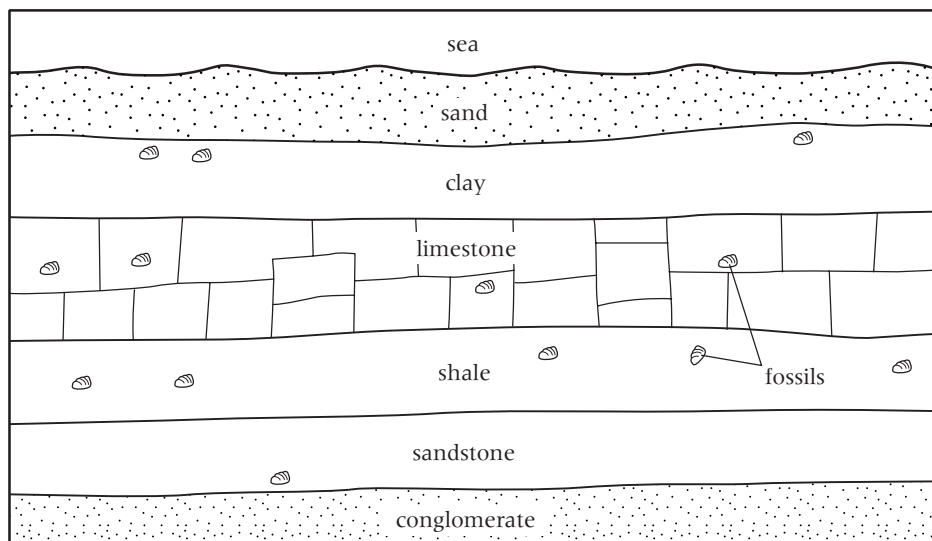
The rock cycle

Rocks are made from a mixture of **minerals**. The shape of rocks can be changed by **weathering** and **erosion**. Weathering can occur because of chemical, physical or biological processes.

Sedimentary rocks

Rock fragments, formed as a result of weathering and erosion, are **transported** by rivers, and the fragments get worn down. Small rock fragments are called **grains**. When the water slows down, some of the grains are **deposited** at the bottom of rivers, lakes or seas, and form **sediment**.

Layers of sediment collect on the sea bed, and the bottom layers get squashed. The grains of sediment are forced closer together (**compacted**) and the water is squeezed out from between the grains. Minerals in the sediment 'glue' the grains of rock together (**cementation**). Eventually, **sedimentary rock** is formed. The composition of sedimentary rocks varies and depends on the way they were formed. For example, there are different types of **limestone** – chalk is formed from the shells of microscopic animals, coquina is formed from larger shell fragments and oolite is formed from sediments deposited when sea water evaporated.

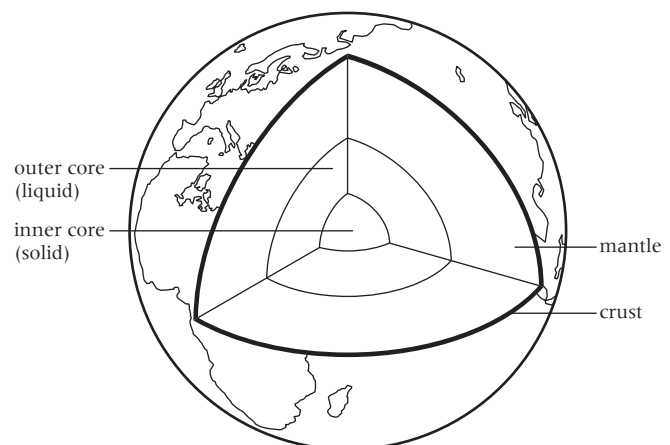


If any animals or plants get trapped in the sediment, they may form **fossils**.

Igneous rocks

Molten rock is called **magma**. If the molten rock flows out of volcanoes it is called **lava**. **Igneous rocks** are formed when magma cools down.

Lava cools down quite quickly, and forms igneous rocks with small crystals (like **basalt**). Magma underground cools down much more slowly and forms rocks, like **granite**, with bigger crystals.



Metamorphic rocks

Sedimentary or igneous rocks can be changed by heat or pressure into new kinds of rock, called **metamorphic rocks**. Metamorphic rocks have different properties from the sedimentary or igneous rocks they were made from.

Type of rock	sedimentary	igneous	metamorphic
Examples	limestone, sandstone, mudstone, chalk	basalt, granite	marble, quartzite, slate, gneiss
Grains or crystals?	separate grains	crystals	crystals – often in bands of different colour
Hard or soft?	often soft or crumbly	hard	hard
Porous?	often	not usually	not usually

The rock cycle

The Earth is continually changing. Rocks are weathered and eroded and new rocks are being formed. The processes which make rocks, weather them and change them are linked together in the **rock cycle**.

