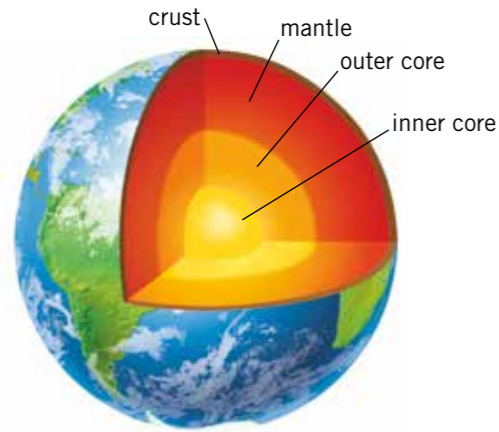


### The Earth

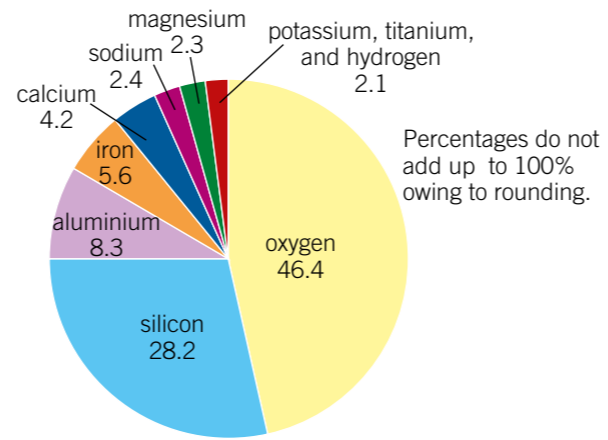


The Earth is made of several layers:

- The **crust** is rocky and solid.
- The **mantle** is solid rock but can flow.
- The **outer core** is liquid metal and the **inner core** is solid metal.

### The crust

The Earth's crust contains many naturally-occurring elements in different proportions.

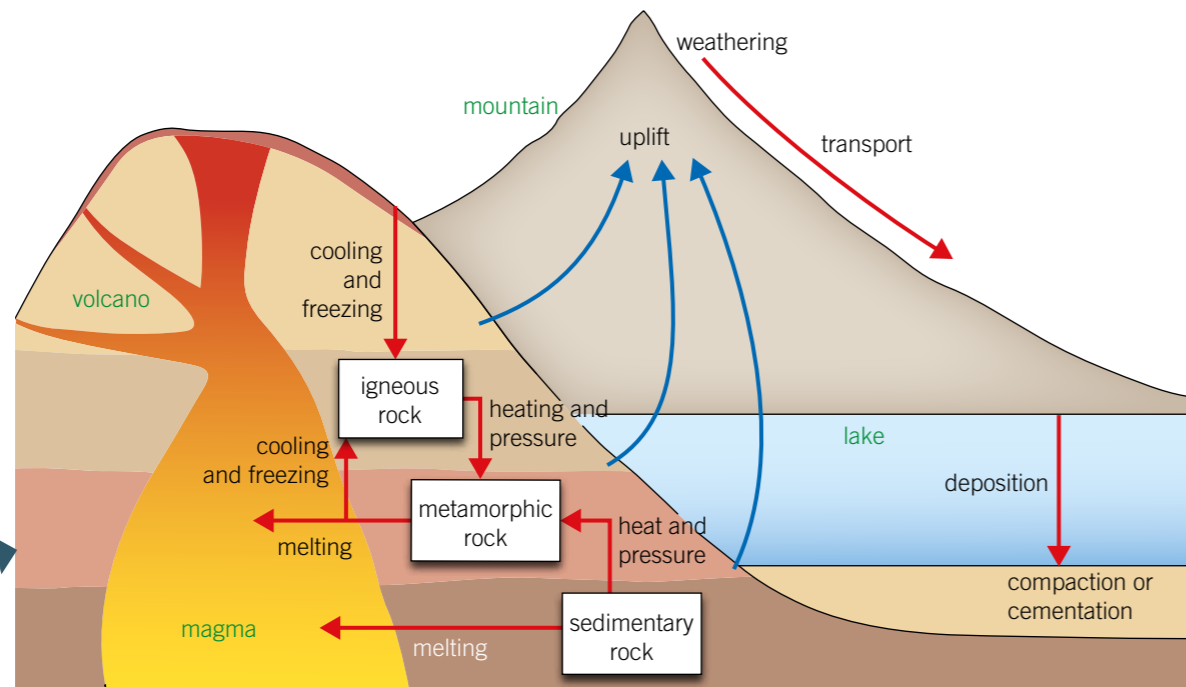
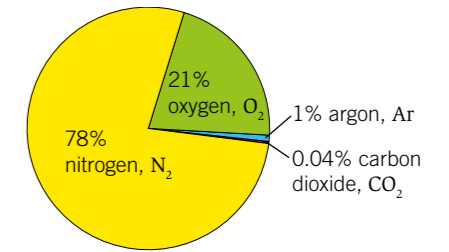


### Types of rock

There are three types of rock that make up the Earth's crust. These are formed by different processes in the **rock cycle**, and have different properties.

### The atmosphere

The **atmosphere** is a layer of gas surrounding the Earth. It is mainly comprised of nitrogen and oxygen.



### The rock cycle

Because the different rocks can turn into each other, we say that there is a rock cycle.

Type of rock	How it is formed	Properties	Uses
<b>sedimentary rock</b>	<ul style="list-style-type: none"> <li>• <b>sediment</b> piles up in one place and over many years stick together by <b>compaction</b> or <b>cementation</b></li> <li>• <b>compaction</b>: weight of sediments above squeeze them into rocks</li> <li>• <b>cementation</b>: another substance sticks the sediments together</li> </ul>	<ul style="list-style-type: none"> <li>• porous: made of small grains stuck together so there are holes that water can pass through</li> <li>• soft: easy to break apart the sediments</li> </ul>	building materials (e.g., sandstone and limestone)
<b>igneous rock</b>	<ul style="list-style-type: none"> <li>• when liquid rock cools it turns into igneous rocks these are made of <b>crystals</b> locked tightly together</li> <li>• <b>Magma</b>: liquid rock underground – cools slowly and forms large crystals.</li> <li>• <b>Lava</b>: liquid rock above the ground – cools quickly and forms small crystals.</li> </ul>	<ul style="list-style-type: none"> <li>• Durable and hard (difficult to damage): the crystals are locked tightly together</li> <li>• Not porous: there is no space between crystals</li> </ul>	pavement rail tracks
<b>metamorphic rock</b>	<ul style="list-style-type: none"> <li>• other rocks under the Earth are heated and put under pressure</li> <li>• over time, these rocks become metamorphic</li> </ul>	<ul style="list-style-type: none"> <li>• Not porous: there is no space between crystals</li> </ul>	marble used for kitchens slate used for roofing tiles



### Key terms

Make sure you can write definitions for these key terms.

atmosphere crust cementation compaction Earth igneous rock inner core lava magma mantle metamorphic rock outer core porous rock cycle sedimentary rock