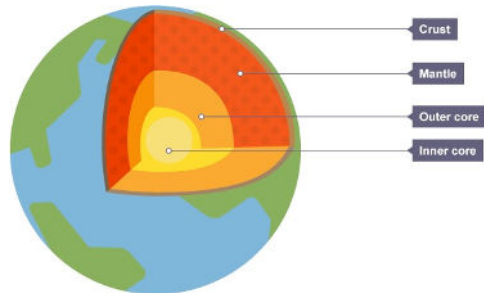




Year 8 Chemical reactions

Keyword	Definition
Atmosphere	The layer of gases surrounding a planet such as Earth.
Carbon dioxide	A gas which is produced by respiration, combustion and decay.
Combustion	Scientific name for burning.
Core	The innermost part of the Earth, made from nickel and iron. The outer core is liquid, but the inner core is solid.
Crust	The thin outer layer of the Earth that is made up of moving tectonic plates.
Finite resource	A resources that can only be used once and is in limited supply.
Fossil fuels	A natural, finite fuel formed from the remains of living organisms. Examples are coal, oil and natural gas.
Global warming	The increase in the Earth's average temperature caused mainly by the buildup of greenhouse gases.
Greenhouse gas	Gases in the Earth's atmosphere such as water vapour, carbon dioxide and methane which trap heat.
Igneous	A type of rock that is formed in very hot conditions inside the Earth
Mantle	Area of hot rock between the crust and the core. It has the properties of a solid, but it can flow very slowly.
Metamorphic	A type of rock that is formed under intense heat or pressure.
Molten rock	Rock which is very hot and in a liquid state. Usually from volcanoes.
Ore	A rock or sediment that contains one or more valuable minerals e.g., metals.
Photosynthesis	A chemical process in plants where carbon dioxide reacts with water in the presence of light, to produce glucose and oxygen.
Porous rock	A rock which allows water to pass through it.
Respiration	A chemical process in most living organisms where glucose reacts with oxygen to produce carbon dioxide and water.
Rock cycle	The many processes that are involved in creating, changing and destroying rocks.
Sedimentary	A type of rock that is formed through the deposition of sediments.
Tectonic plates	Large, moving pieces of solid rock which make up the crust of the Earth.
Weathering	The breaking down or wearing away of rocks.

Structure of the Earth



Types of rocks

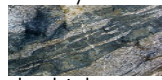
Igneous rocks – Example granite
Hard rocks which form when molten rock becomes solid. They contain randomly arranged crystals which all interlock. The crystals are large if it has cooled slowly, and small if it has cooled quickly.



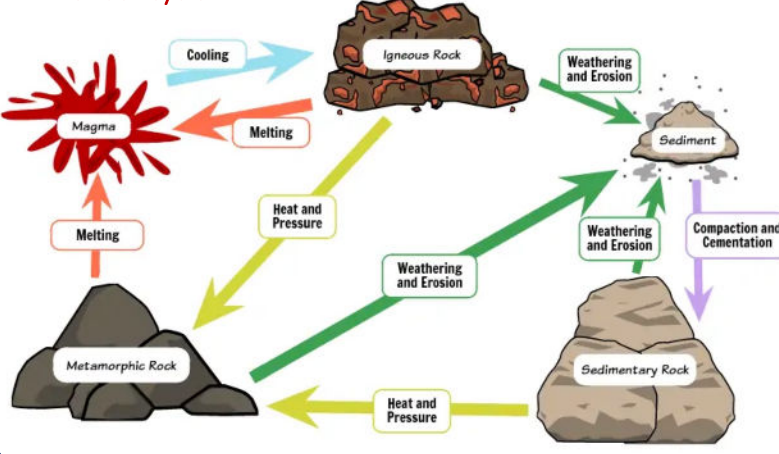
Sedimentary rocks – Example sandstone
Softer rocks which form when broken remains of other rocks become squashed together over time. They contain grains and are porous. Fossils can only be found within sedimentary rocks. Most have layers.



Metamorphic rocks – Example marble
Hard rocks which form when other rocks are put under high pressure or temperature. They do not melt (or they would become igneous rocks), but the minerals they contain are changed chemically. Some have layers and most have crystals.



The rock cycle



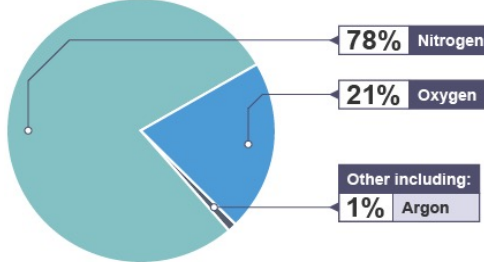
Types of weathering

Biological weathering – the breaking down of rocks due to the action of living organisms, such a trees or burrowing animals.

Chemical weathering – the erosion of rocks by chemicals that react with the minerals, such as rainwater (acidic) reacting with calcium carbonate minerals in limestone rocks.

Physical weathering – the breaking down of rocks due to physical processes, such as temperature change or wind.

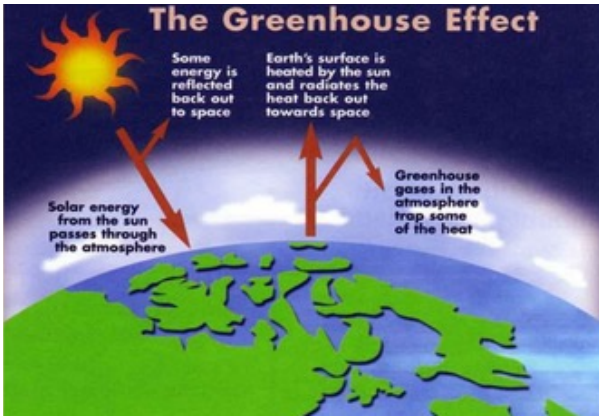
The atmosphere



The atmosphere is made up from mainly nitrogen and oxygen. The remaining 1% is made up from argon, water vapour, carbon dioxide and other gases in tiny amounts.

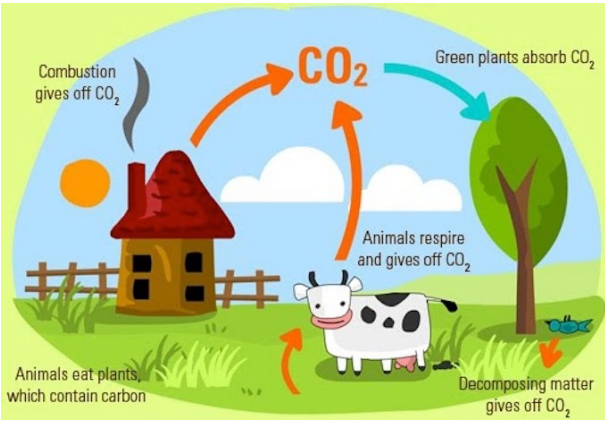
Greenhouse effect

The greenhouse effect is caused by greenhouse gases trapping in thermal energy from the sun. This is what helps to keep the temperature of the Earth at a constant level to support our huge variety of life.



Global warming

If the level of greenhouse gases such as carbon dioxide increases in our atmosphere, more thermal energy will be trapped. This can cause global warming which can affect climate and local weather patterns. There are several processes involved in adding and removing carbon dioxide from our atmosphere



Human activities such as burning fossil fuels and deforestation are causing an increase in the level of carbon dioxide in our atmosphere.



Useful YouTube links:



[Rocks](#)



[Global warming](#)

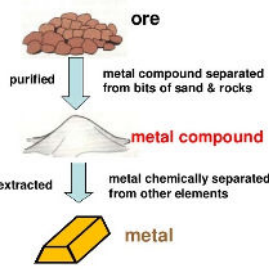


[The carbon cycle](#)

Skills:

Ores

Metals can be extracted from ores by using a more reactive element such as carbon. Example for copper:



Recycling of metals is very important as they are a finite resource.

