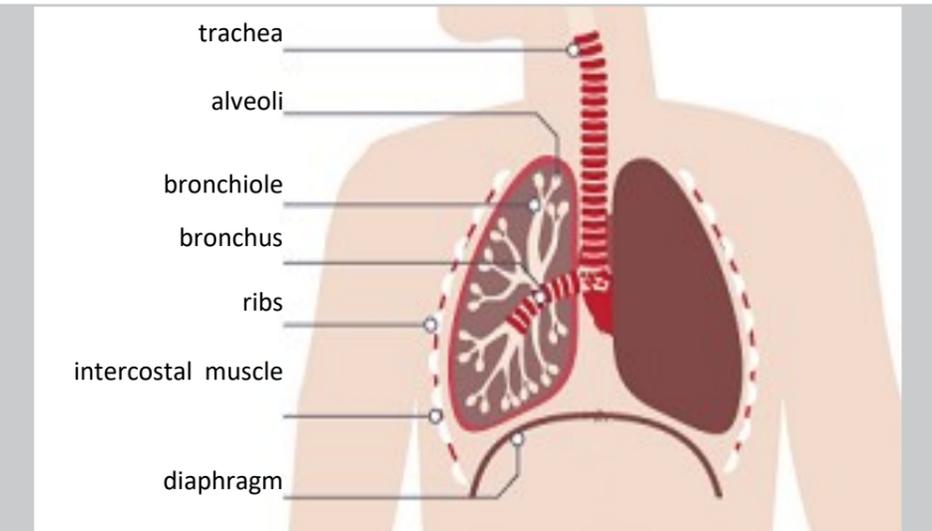
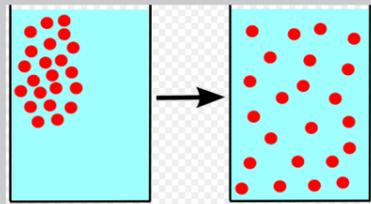


## Biology

Diffusion is the net movement of particles from an area of high concentration to an area of low concentration.



Inhalation	Exhalation
Diaphragm contracts, moves	Diaphragm relaxes, moves up-
Intercostal muscles contract, ribs move up and out.	Intercostal muscles relax, ribs move down and in.
Air drawn in to the lungs.	Air forced out of the lungs.

Gas Exchange	The process which occurs at the alveoli in animals moving oxygen into our blood and carbon dioxide out of our blood. In plants takes place through stomata
Stomata	Tiny holes on the underside of a leaf.

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## Chemistry

Chemical changes	Three signs of a chemical change: colour change, bubbling (a gas is produced), or a temperature change.
Thermal Decomposition	Break down of a substance using heat.
Oxidation	Addition of oxygen to an element in a chemical reaction.
Combustion	Where oxygen reacts with a fuel to produce carbon dioxide and water releasing energy as heat.
Conservation of Mass	The mass of reactants is the <u>same</u> as the mass of products.

### Effects of smoking:

- Smoker's cough.
- Emphysema.
- Coronary heart disease.

Tar	Causes cancer of the lungs, mouth and throat.
Nicotine	Addictive drug found in tobacco/cigarettes.
Smoke	Damages the lining of the airways causing a smoker's cough.
Carbon monoxide	This is a gas that reduces the amount of oxygen carried in the blood.

### The Reactivity Series:

potassium	most reactive	K
sodium		Na
calcium		Ca
magnesium		Mg
aluminium		Al
carbon		C
zinc		Zn
iron		Fe
tin		Sn
lead		Pb
hydrogen		H
copper		Cu
silver		Ag
gold		Au
platinum	least reactive	Pt



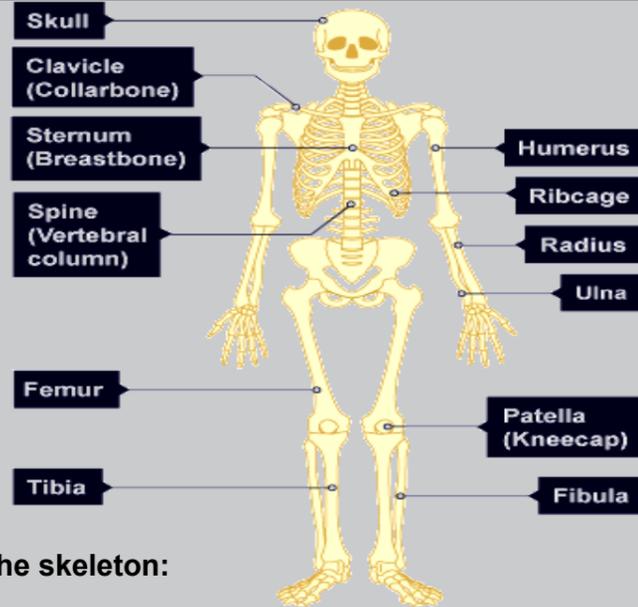
## Physics

Contact Forces	Friction, air resistance, water resistance, normal contact
Non-contact Forces	Magnetism, weight, electrostatic
Mass	Mass is the amount of <b>matter</b> in an object (g or kg)
Weight	The force applied on the <b>matter</b> by gravity (N)

**Weight (N) = Mass (kg) x Gravitational field strength (N/kg)**

- 1000g = 1 kg
- 1000 N = 1 kN

## Biology



### Functions of the skeleton:

1. **Protection** of internal organs
2. Working with muscles to provide **movement**
3. Creating **blood cells**
4. **Supporting** the body

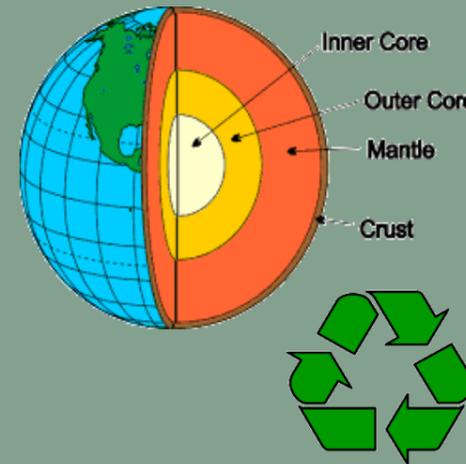
Antagonistic Muscles	A pair of muscles that work together to allow movement 
Joint	Found between bones.
Tendon	Join muscles to bones.

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## Chemistry

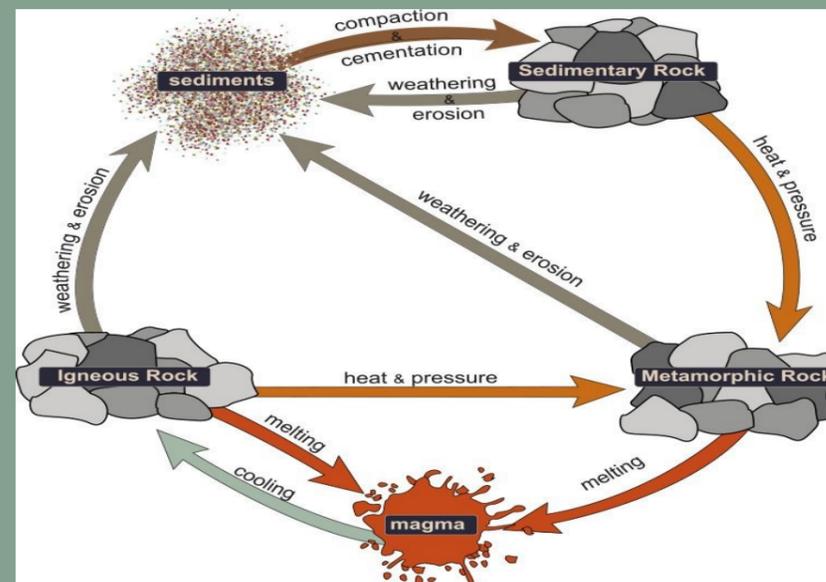
### The structure of the Earth:

The Earth provides us with **resources** such as metal, paper and fuel. Lots of these resources are **limited**. Therefore we need to **recycle** as much as we can. If a material can be recycled it shows the recycling symbol, the three arrows represent: **reduce, reuse and recycle**.



### Types of rock

<b>Igneous</b>	Formed from molten rock called <b>magma</b> that has cooled and solidified. Contains <b>crystals e.g. granite</b>
<b>Metamorphic</b>	Formed through changes to other rocks due to <b>heat and pressure e.g. marble</b>
<b>Sedimentary</b>	Formed from <b>sediments</b> (broken rocks) that have been <b>compressed</b> over time to form <b>layers</b> . Can contain <b>fossils e.g. limestone</b>

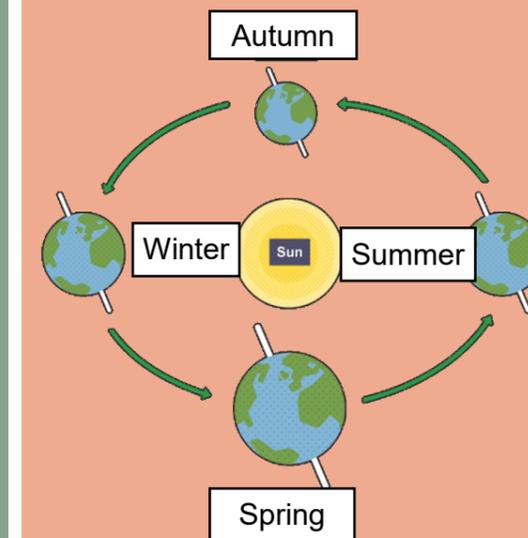
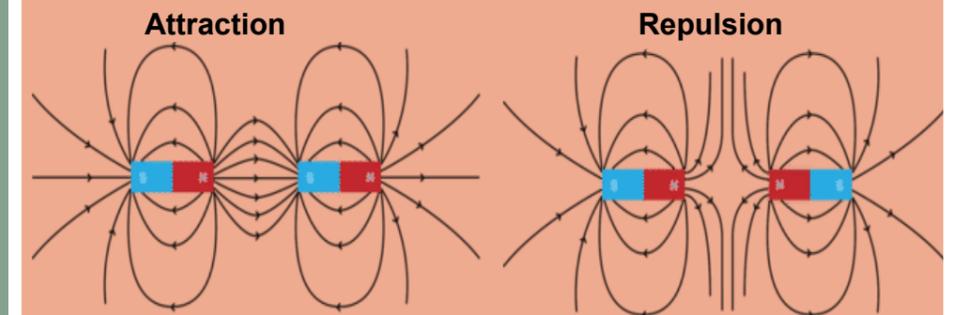
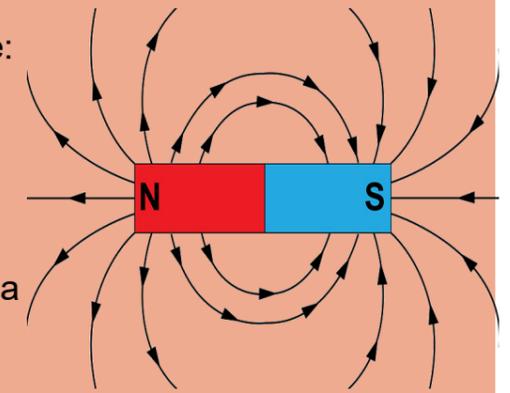


## Physics

The magnetic elements are:

- **Iron**
- **Nickel**
- **Cobalt**

A **magnetic field** is the area around a magnet where it has magnetic effect.



As the Earth **orbits** the sun it also rotates around its **axis**.

- **Summer and Spring**—the Earth is tilted **towards** the Sun.
- **Autumn and Winter**—the Earth is tilted **away** from the Sun.

<b>Sun</b>	A star in the centre of our solar system
<b>Galaxy</b>	A collection of stars in space e.g. Milky Way, Andromeda and Sombrero
<b>Light year</b>	The distance light travels in one year.