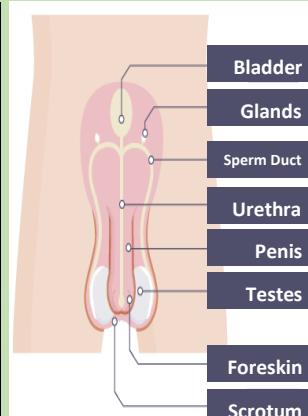


1. Biology

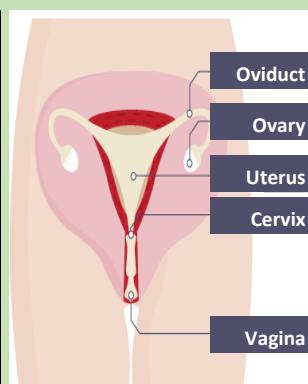
Male reproductive system

Sperm	The male sex cell (gamete)
Testes	Where sperm and testosterone are produced
Urethra	A tube that carries urine or semen
Scrotum	A bag of skin which contains the testes
Sperm duct	Where sperm passes through
Penis	Passes urine or semen out of the body
Prostate Gland	Produce a fluid with nutrients called semen

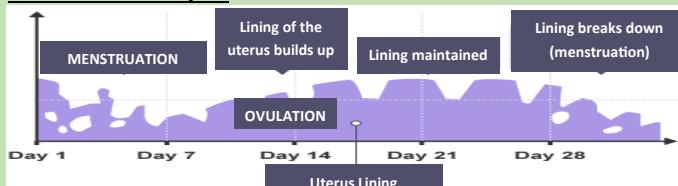


Female reproductive system

Ovum	The female sex cell
Ovary	Contain ova (eggs)
Oviduct	Connects the ovary to the uterus
Uterus	A muscular bag where the baby develops
Uterus lining	A soft lining of the uterus
Vagina	A muscular tube that leads outside of the body
Cervix	The top of the vagina



The menstrual cycle



In sexual reproduction, a male gamete and a female gamete fuse. This is fertilisation. If fertilisation doesn't occur the menstrual cycle starts again.

2. Chemistry

Metals and non-metals have different physical and chemical properties. A **physical property** is a characteristic that can be observed. **Chemical properties** are those that can only be observed when a **chemical reaction** is happening.

Physical properties

Metals	Non-metals
Shiny	Dull
High melting points	Low melting points
Good conductors of electricity	Poor conductors of electricity
Good conductors of heat	Poor conductors of heat
High density	Low density
Malleable and ductile	Brittle

Chemical properties

Metals react with oxygen to form metal oxides. Metal oxides are bases, they make alkaline solutions (have a pH higher than 7.)



Non-metals react with oxygen to form non-metal oxides. Non-metal oxides are acidic, they make acidic solutions (have a pH lower than 7.)



Acid rain

Acid rain is formed when non metals in the atmosphere (sulphur, carbon and nitrogen) are dissolved in water (rain.) Acid rain can cause damage to plants and wildlife, erode limestone buildings and statues and cause corrosion of iron bridges.

3. Physics

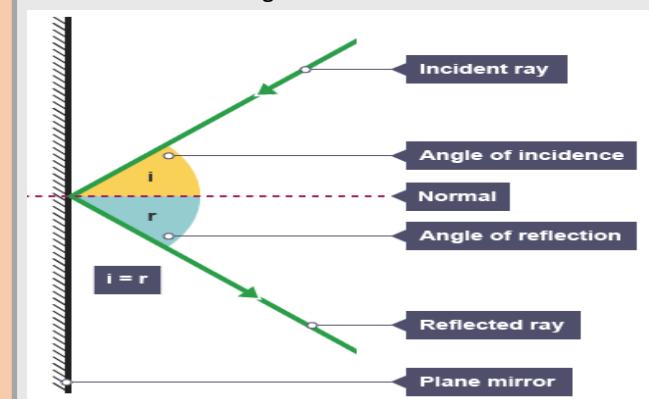
Light

Light is a **transverse wave**. It travels at **300000000 m/s** in a vacuum. Light can be **absorbed, reflected or scattered**.

Absorption	Light is taken in by matter.
Reflect	Light bounces off an object.
Scatter	Light is reflected off of an object in lots of different directions.

Reflection

A ray diagram shows us how light travels. Each ray is drawn as a straight line and an arrow shows us the direction it is travelling in.



The **incident ray** is the light travelling **towards** the mirror. The **reflected ray** is the light travelling **away from** the mirror. The **normal line** is at 90° to the mirror.

The **angle of incidence (i)** is the angle between the **normal** and the **incident ray**. The **angle of reflection (r)** is the angle between the **normal** and the **reflected ray**. These can be measured using a **protractor**.

The **law of reflection** tells us that the angle of incidence is **equal to the angle of reflection ($i = r$)**