






Key Facts:

- Metal saucepans conduct heat to warm food.
- Wooden spoons and plastic handles insulate heat so hands do not get burned.
- Some solids dissolve in water (soluble).
- Some solids do not dissolve in water (insoluble).
- A thermal conductor is a material that allows energy, in the form of heat, to be transferred within the material.
- The saturation point of a material is the stage at which no more of a substance can be absorbed into a vapour or dissolved into a solution.
- Mixtures can be physically separated by using methods that use differences in physical properties to separate the components of the

Properties of Materials	
conducts energy	
insulates energy	
transparent	
waterproof	
durable (strong)	
magnetic	

Key Scientists:

Arthur Fry –

An American inventor and scientist. He is the co-creator of the Post-it Notes.

Spencer Silver –

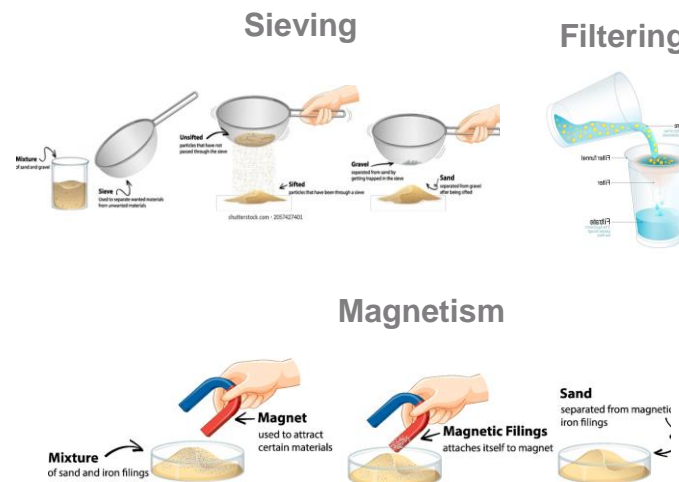
An American chemist and inventor who specialised in adhesives and devised the adhesive that Art Fry used to create Post-it Notes.

Ruth Benerito –

An American chemist and inventor known for her work related to the textile industry, notably including the development of wash-and-wear cotton fabrics.

Key Vocabulary:

- conductive
- magnetic
- thermal
- conduction
- hardness
- force
- dissolve
- solute
- solvent
- substance
- filtering
- evaporation





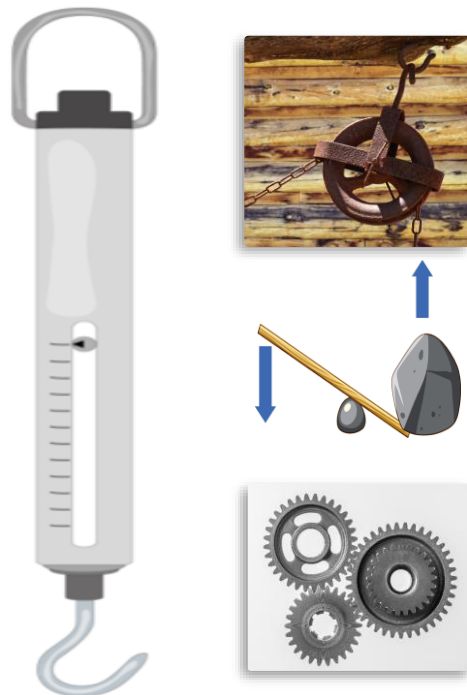
Forces

How do things move?

YEAR 5
Term 2

Key Facts:

- Some forces in action include: driving force, friction, gravity, air resistance, paddling force and water resistance.
- A pulley is a wheel over which a belt, rope or chain is pulled to lift or lower a heavy object.
- Levers are a bar that rotates around a point. They make it easier to lift a heavy load.
- Gears are toothed wheels that mesh together, they rotate in opposite directions.
- The mass of an item can be measured in grams/kilograms.
- Weight is how much force is needed to pull an object and is measure in Newtons.
- Sir Isaac Newton developed his theory of gravity.
- Galileo conducted experiments to test mass.



Key Scientists:

Sir Isaac Newton –

A scientist, mathematician and astronomer who developed the theory of gravity and the laws of motion. He is considered one of the most important scientists in history.

Galileo Galilei –

An Italian physicist, astronomer and instrument maker. He studied natural forces and was one of the most important discovers of the part of physics that is now called kinematics, including the principle of relativity.

Key Vocabulary:

Sir Isaac Newton
gravity
Galileo Galilei
parachute
water resistance
streamlined
buoyant
up thrust
friction
newton
lever
pulley



Living Things and their Habitats

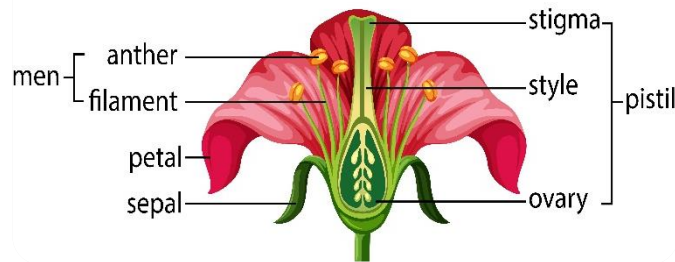
Do all life cycles look the same?

YEAR 5
Term 3

Key Facts:

- Plants contain both male and female cells. Some need to be pollinated in order to be fertilised.
- Others use asexual reproduction to reproduce.
- Mammals reproduce and give birth to live young. They can be either placental, monotreme or marsupial.
- Most birds and reptiles are born when the mother lays eggs and incubates them until they are ready to hatch.
- David Attenborough and Jane Goodall study living things.
- Amphibians are a bit different. Many are born live or underwater. They complete a metamorphosis as adults and can live and breathe on land.
- Metamorphosis is the change in body form and habits during the life cycle.

Common Flower Parts



Key Scientists:

Sir David Attenborough –

An English broadcaster and natural historian who is best known for studying living things, writing and presenting, in conjunction with the BBC Natural History Unit.



Dame Jane Goodall –

An English primatologist and anthropologist who is seen as the world's foremost expert on chimpanzees. She is best known for her 60-year study of social and family interactions of wild chimpanzees.



Key Vocabulary:

- living organism
- naturalist
- primatologist
- metamorphosis
- endangered
- asexual reproduction
- fertilisation
- placental mammal
- monotreme mammal



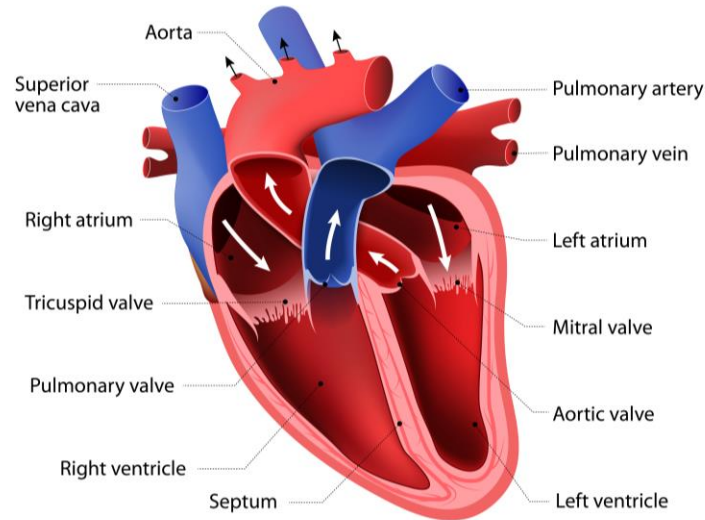
Animals including Humans – Heart and Health

How does the heart move blood around the body?

YEAR 5
Term 4

Key Facts:

- The heart pumps blood, carrying nutrients and oxygen, around every part of the body.
- The red vessels are arteries and the blue vessels are veins.
- Arteries have thick, muscular walls and carry oxygenated blood from the heart to the rest of the body.
- Veins carry deoxygenated blood back to the heart and have thinner walls.
- Capillaries are microscopic vessels which link the veins and arteries together.
- Red blood vessels carry oxygen.
- White blood cells fight infection as part of the immune system.
- Platelets help to clot (thicken) the blood and form a scab.
- Plasma is the fluid part of the blood.
- Drugs can be classified into four groups.



Key Scientists:

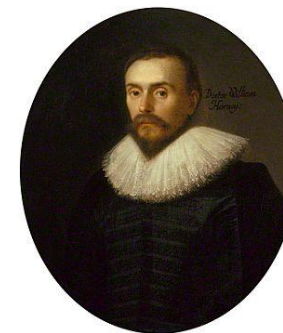
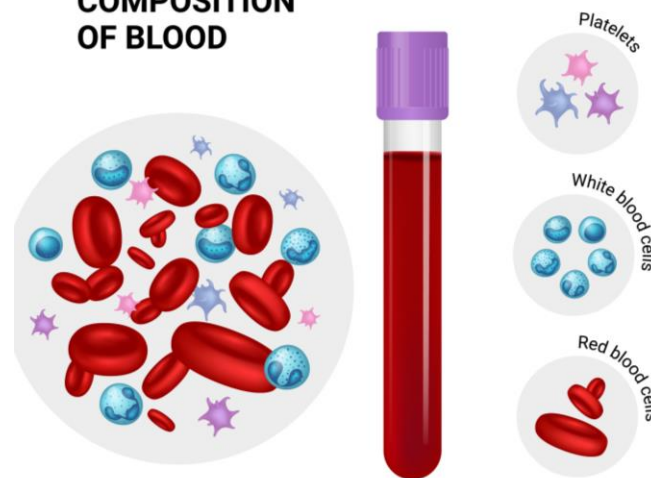
William Harvey -

An English physician who made influential contributions in anatomy and physiology. He was the first known physician to describe completely, and in detail, the systemic circulation and properties of blood being pumped to the brain and the rest of the body by the heart

Key Vocabulary:

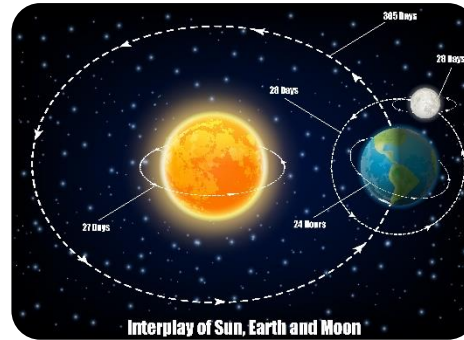
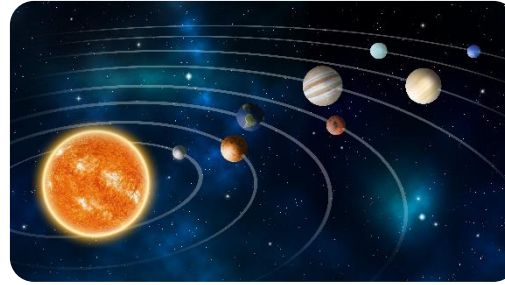
- circulatory system
- BPM
- diet
- pulse
- oxygenated
- deoxygenated
- atrium
- ventricle
- vessel
- valve
- diffusion
- osmosis

COMPOSITION OF BLOOD



Key Facts:

- Copernicus developed the heliocentric theory that the sun was at the centre of the solar system. The planets orbit the sun in a circular pattern.
- The four inner planets are the rocky terrestrial planets.
- The four outer planets are the gas giants.
- The moon orbits Earth in an oval pattern whilst spinning on its axis.
- The sun illuminates the Moon.
- The shadow of the Earth creates the moon's phases.
- The Earth spins on its axis and completes a full rotation every 24 hours.
- The Earth is constantly rotating and orbiting the Sun – which takes 365 days.
- As the Earth rotates, it faces towards and away from the Sun. This creates the day and night cycle.
- The Sun is a burning ball of gas.



FROM THE SUN OUTWARDS:

Mercury
Venus
Earth
Mars
Jupiter
Saturn
Uranus
Neptune

Key Scientists:

Nicolaus Copernicus –

An astronomer known for his ideas about the sun and the Earth. His main idea was that our world is heliocentric. His theory was that the sun is in the middle of our solar system and the planets go around it.

Stephen Hawking –

An English theoretical physicist and mathematician who studied the structure of the universe.

Mae Jemison –

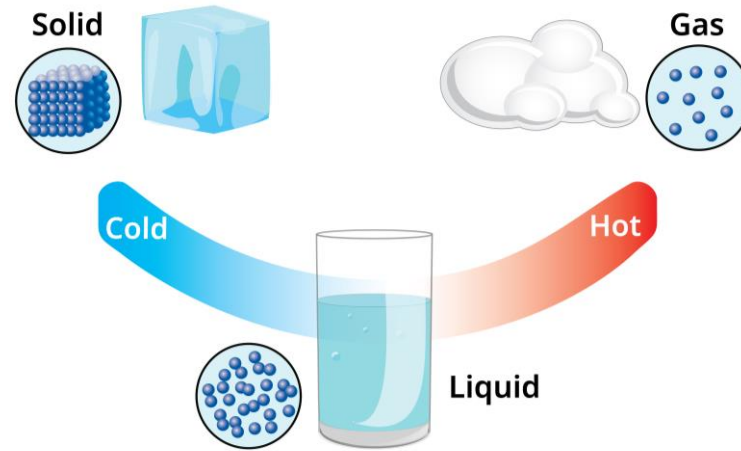
An American engineer, physician and former NASA astronaut who became the first black woman to travel into space.

Key Vocabulary:

heliocentric
geocentric
solar system
astronomy
terrestrial planet
gas giants
axis
orbit
moon
phase
waxing
waning

Key Facts:

- If a solid has dissolved in water, heating it causes the water to evaporate, leaving the solid behind.
- Solids, liquids, and gases can change state by being heated or cooled.
- Irreversible changes are chemical changes that cannot be reversed as a new material has been made.
- Reversible changes are physical changes that can be reversed as no permanent change has been made.



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Key Scientists:

Sir Humphrey Davy – an English chemist who made many notable contributions to Science, especially in electrochemistry. He was the first to isolate several chemical elements, including sodium and potassium, and was one of the discoverers of the element boron.



Key Vocabulary:

solute
solvent
reversible
evaporate
chemical change
effervescence
fair test
corrosion
combustion
extinguish
reaction
carbon dioxide