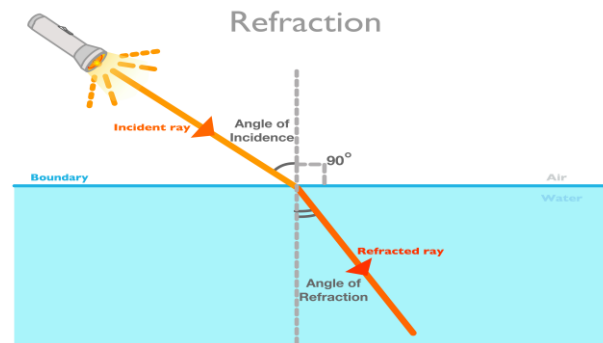
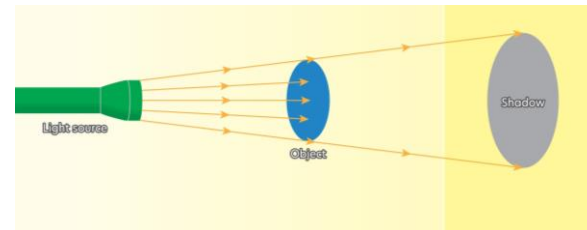
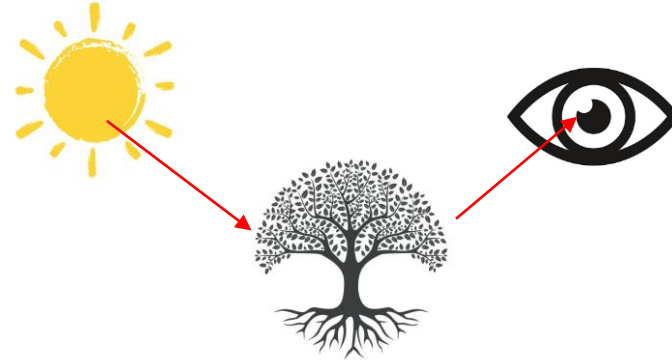


Key Facts:

- Light travels in straight lines.
- The light rays from a light source reflect off the object we are looking at.
- The light travels in a straight line and enters the eye through our pupil.
- Light reflects off shiny, bright or light surfaces.
- Water and bent, shiny surfaces cause light rays to be reflected at different angles, meaning the reflection of the image is distorted.
- Opaque objects block the light rays causing a shadow.
- White light is made up of the colours of the rainbow.



Key Scientists:

Zhang Heng – a Chinese astronomer and inventor. He was the chief astronomer in the court of the Chinese Emperor and mapped the stars and planets. He correctly recognised that the moon was not a light source, but reflected the light of the sun, a controversial suggestion at the time.

Ibn al-Haytham – one of the earliest scientists to study the characteristics of light and the mechanism/process of vision. He also made a thorough examination of the passage of light through various media and discovered the laws of refraction.

Key Vocabulary:

light
light source
reflected
variable
angle
mirror
opaque
transparent
sunshade
rotate
optical
spectrum



Electricity

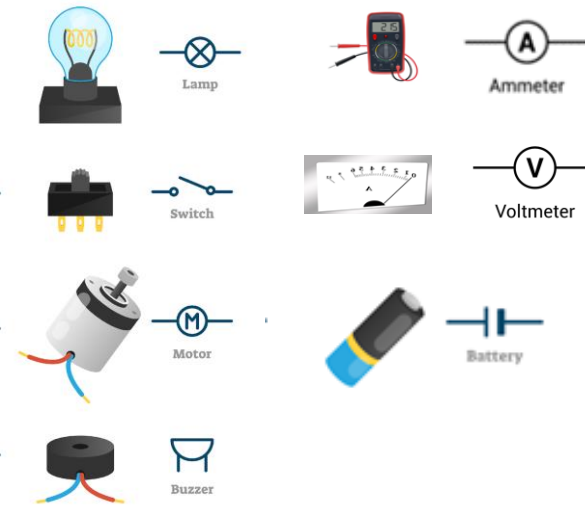
Can we vary the effects of electricity?

YEAR 6
Term 2

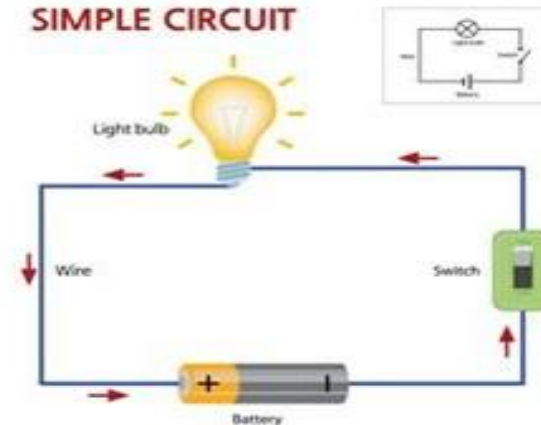
Key Facts:

- Wires are always drawn with a straight line using a ruler in scientific diagrams.
- The current flows from negative to positive.
- There are no gaps – it is a complete circuit and the bulb lights up.
- Adding more cells (batteries) to a circuit will make bulbs brighter, buzzers louder and motors faster.
- Switches can be placed in a parallel circuit, so that 1 light can be turned on while another is off (just like in a house).

Circuit Symbols



SIMPLE CIRCUIT



Key Scientists:

- **Alessandro Volta** - an Italian physicist whose invention of the electric battery provided the first source of continuous current.
- **Nikola Tesla** – a Serbian American inventor and engineer who made dozens of breakthroughs in the production transmission and application of electric power. He also discovered and patented the rotating magnetic field, the basis of most alternating-current machinery.

Key Vocabulary:

circuit
battery
electricity
resistor
variable resistor
dimmer switch
output
systematically
synchronised
signal
conductor
insulator



Living things and their Habitats

What is the same and what is different?

YEAR 6
Term 3

Key Facts:

- Fungi gain energy from dead matter.
- Carl Linnaeus created a system of classification, which ranks living things into groups in order to name their species.
- Antibiotics, yoghurt, cheese, wine and yeast are all helpful bacteria.
- Mould, food poisoning and athlete's foot are harmful bacteria.

MRS GREN

M Movement
R Respiration
S Sensitivity
G Growth
R Reproduce
E Excretion
N Nutrition

Key Scientists:

Carl Linnaeus - a Swedish naturalist who created two scientific systems: the system for classifying plants and animals and the system for naming all living things.

Libbie Hyman – a specialist in invertebrate and vertebrate zoology. She produced a six-volume set of reference books titled 'The Invertebrates'.

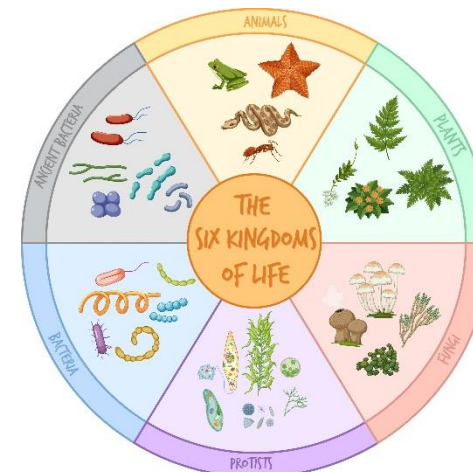
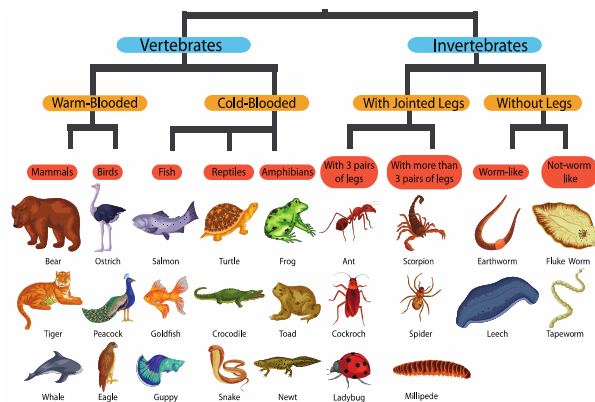
Key Vocabulary:

- classification
- microorganism
- habitat
- living organism
- species
- microscopic
- ecosystem
- kingdom
- Linnaean System
- cell

DOMAIN	Eukarya
KINGDOM	Animalia
PHYLUM	Chordata
CLASS	Mammalia
ORDER	Primates
FAMILY	Hominidae
GENUS	Homo
SPECIES	Homo sapiens



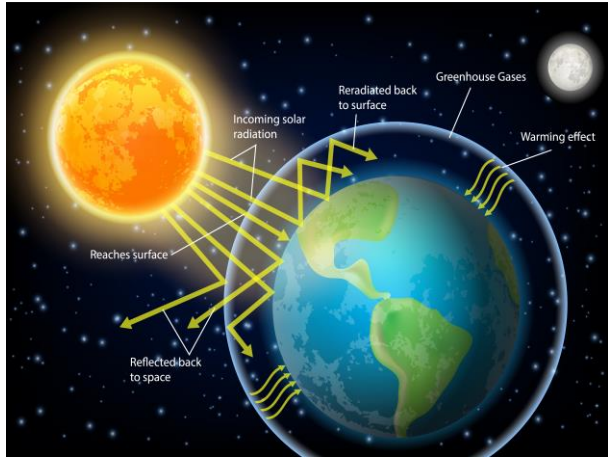
Classification



Key Facts:

- Some human activities produce greenhouse gases (carbon dioxide, methane, nitric oxide).
- Scientists look at trends in weather data to track how the Earth's climate is changing.
- Greenhouse gases trap the heat from the sun and stop it leaving the Earth, causing the planet to become warmer.
- A warmer planet means the ice will melt.
- Some animals will lose their habitat.
- Water levels will rise, causing some land to disappear under water.
- There are two types of energy sources: renewable and non-renewable.
- There multiple ways for us to help: reduce, reuse and recycle.

Energy Sources	
Renewable	Non-renewable
<ul style="list-style-type: none"> • Wind farms • Solar farms • Hydro power stations 	<ul style="list-style-type: none"> Oil Coal Gas (Fossil fuels)



Key Vocabulary:

- weather
- global warming
- recycle
- biodegrade
- net zero
- greenhouse gases
- industrial revolution
- combustion
- COP
- conference
- species
- habitat

Key Scientists:

Malaika Vaz - An adventurer, wildlife presenter, filmmaker and conservationist. She believes that her generation is in a unique predicament: while being the first to experience the devastating impact of climate change and the loss of biodiversity, she also believes that hers may be the last generation with the power to turn things around.



Evolution and Inheritance

How do living things change over time and place?

YEAR 6
Term 5

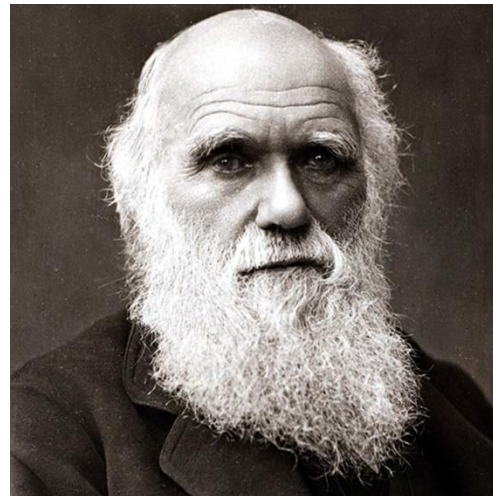
Key Facts:

- A characteristic describes how something looks or how it behaves.
- Characteristics can be passed on from parents to their offspring, meaning that they can be inherited.
- They can include hair colour, eye colour and height.
- Charles Darwin was a famous naturalist who studied finches and tortoises on the Galapagos Islands.
- He suggested that some species may share a common ancestor and evolve to suit their habitats. He called this 'natural selection'.
- Plants and animals have numerous adaptations which help them to survive in their habitats.
- Mary Anning was a palaeontologist who found and collected many fossils along the Jurassic Coast in Dorset.

Key Scientists:

Charles Darwin – English naturalist whose scientific theory of evolution by natural selection became the foundation of modern evolutionary studies.

Mary Anning – a pioneering palaeontologist and fossil collector.



Key Vocabulary:

inherit
adaptation
epiphytes
fossil
Mary Anning
palaeontologist
ichthyosaurus
Charles Darwin
evolved
natural selection
ancestor
Homo sapiens



Animals including Humans

How do our bodies change as we get older?

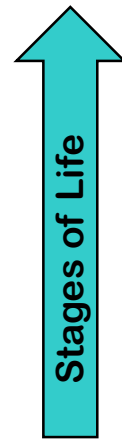
YEAR 6
Term 6

Key Vocabulary:

- offspring
- foetus
- dependent
- adolescent
- puberty
- gestation
- pregnant
- toddler
- prenatal
- breeding
- embryo
- hormones





Key Facts:

- The gestation period is when the foetus develops inside the female. It is different in all mammals.
- Young mammals (babies) are dependent.
- Puppies are born with their eyes closed.
- Human babies see light and dark.
- Human youngsters walk, eat and toilet independently. They begin to learn new skills.
- During puberty, hormones cause physical, mental and emotional changes. Some are the same for boys and girls.
- Adults are fully grown.
- A dog reaches adulthood at about 2 years.
- Adults reproduce so the whole cycle starts again.



- Death
- Old Age
- Adult
- Adolescence
- Childhood
- Baby & Toddler
- Birth



Gestation Periods	
 <p>Cow 290 days</p>	 <p>Mouse 19 days</p>
 <p>Human 266 days</p>	 <p>Elephant 645 days</p>