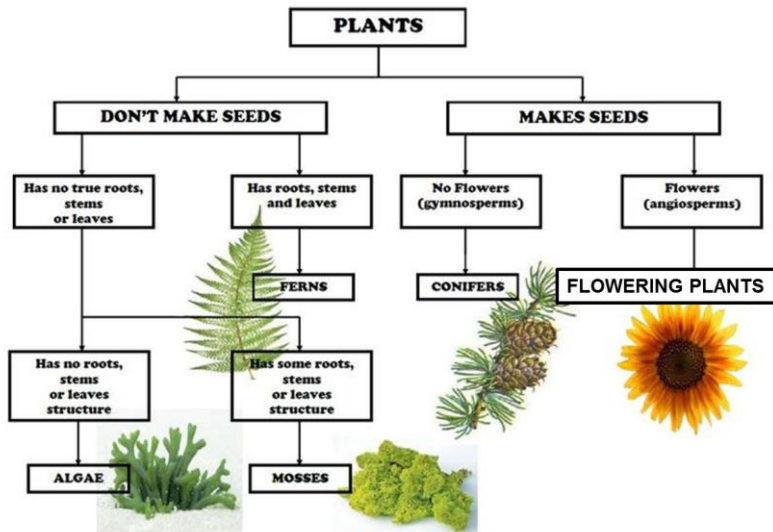


Year 6 Living Things and Habitats (Classification)

Topic (Tier 3) Vocabulary

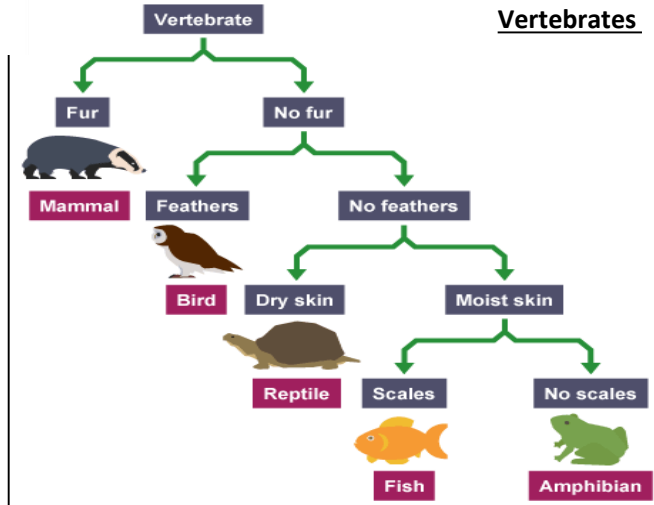
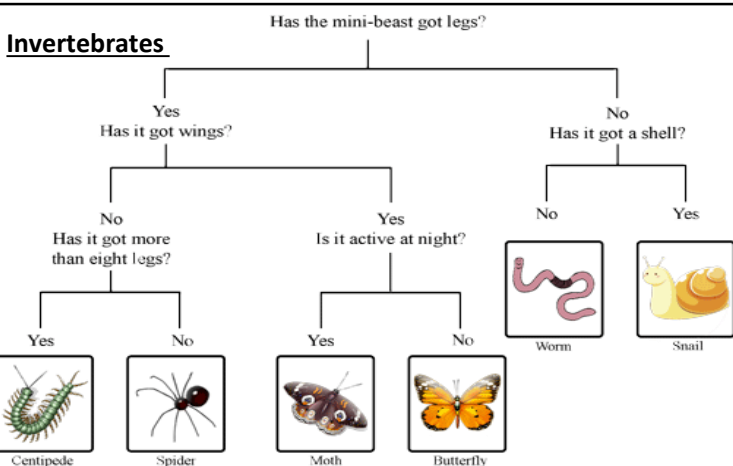
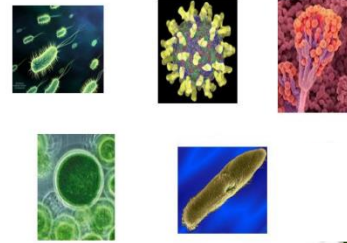


What is a Microbe?

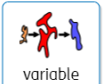
- Microbes are tiny living organisms, so tiny you can't see them without a microscope

- There are 5 main types of microbes:

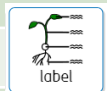
1. Bacteria
2. Viruses
3. Fungi
4. Algae
5. Protozoa



Tier 2 Vocabulary



variable



label



prediction

Things that change

Words to name parts

Think about what might happen



precision

Accurate



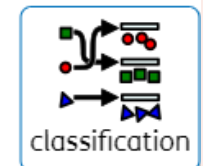
conclusion

Use evidence to make a decision



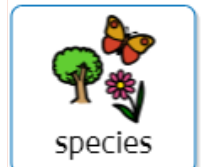
characteristic

Quality or special feature of a group.



classification

Putting things in to groups.



species

A group of living things that can reproduce together



invertebrate

An animal with no backbone



vertebrate

An animal with a backbone

Rights of the Child/Global Goals

Global Goal 14: Life below water

Global Goal 15: Life on land

Prior learning

Groups of animals (Y4 and Y5)

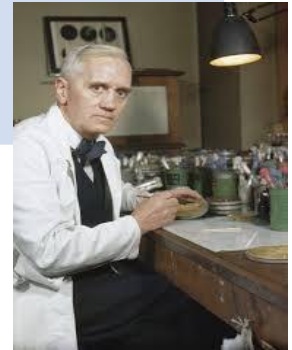
Big Ideas

Living things can be classified (grouped)

National Treasures

Alexander Fleming

A British micro-biologist who created Penicillin (a medicine which kills bacteria and can save lives).



 mammals	Mammals have fur or hair.	 dog	 elephant	 squirrel
 birds	Birds have wings, feathers and a beak.	 penguin	 toucan	 owl
 reptiles	Reptiles have scales.	 chameleon	 tortoise	 crocodile
 amphibians	Amphibians have moist skin.	 newt	 frog	 toad
 fish	Fish have scales, fins and tails.	 salmon	 clown fish	 shark

Red blood cells are pushed around your body by your heart, which acts like a pump, beating about 100,000 times a day!



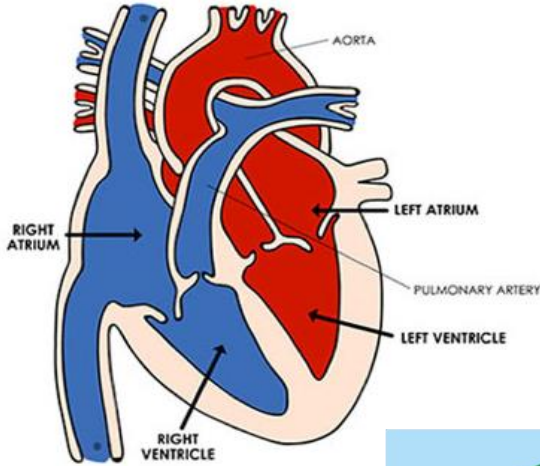
As the blood cells reach your heart, they pass through valves, which are like doors and only open one way, keeping blood pumping in the same direction.



Blood is pumped to the lungs to pick up oxygen (O₂) which has been inhaled (breathing in). It then goes back to the heart to get pumped to every other part of the body

As it drops off oxygen around the body, it picks up carbon dioxide (CO₂) to take back to the lungs for the lungs to exhale (breathing out).

THE CIRCULATORY AND RESPIRATORY SYSTEM

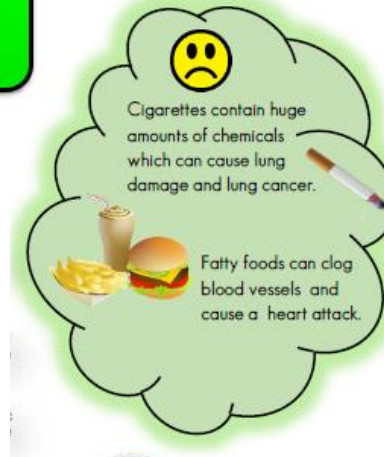


Blood Vessels

- Arteries** - Take blood AWAY from the heart to the body organs and tissues. When blood is pumped through these, you can feel your pulse.
- Veins** - Take blood TOWARDS the heart from body organs and tissues.
- Capillaries** - Tiny blood vessels which take the blood into organs and tissues.



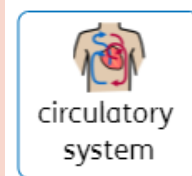
STAYING HEALTHY



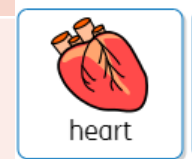
Eatwell Plate



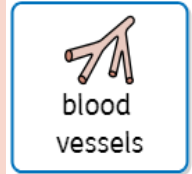
Topic (Tier 3) Vocabulary



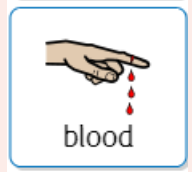
A system in the body made up of the heart, blood vessels and blood, that carries blood around the body



The organ that pumps blood through the body



Arteries, veins and capillaries. Tubes that blood flows through.

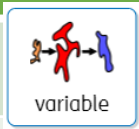


The red liquid containing oxygen, water and nutrients that pumps through the veins and arteries

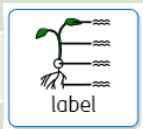


The beating of the arteries that is caused by the beating of the heart

Tier 2 Vocabulary



Things that change



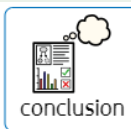
Words to name parts



Think about what might happen



Accurate



Use evidence to make a decision

Rights of the Child/Global Goals

Article 24: Every child has the right to the best possible health.

Global Goal 3: Good health and wellbeing.

Prior learning

Skeleton (Y3)

Digestive system (Y4)

Plants -

transportation of water (Y3) - Link to transportation of blood around body.

Big Ideas

Living things have systems, each with its own job

National Treasures

British Heart Foundation

A British charity that supports research in to healthy hearts.

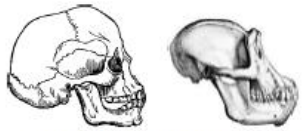


**British Heart
Foundation**

FOSSILS



Fossils are the remains of living things which inhabited the world millions of years ago. They are formed in sedimentary rock (sand, mud and pebbles squashed under layer, after layer over time) and plants/animals get trapped in these layers, revealing their shape.



HUMAN SKULL CHIMPANZEE SKULL

When palaeontologists compare fossils to animals from today, they can see similarities and identify relationships between them. Since evolution of a species happens over such long periods of time, evidence is usually taken from fossils.

- 1.) Charles Darwin is an English scientist best known for his theory of evolution.
- 2.) He was a geologist who went travelling in 1831 on the HMS Beagle.
- 3.) He saw many animals and plants and came up with the idea of natural selection (the strongest survive and evolve).
- 4.) His book 'Origin of the Species' was released in 1851 and was controversial because it went against the creation story in the Bible.

EVOLUTION

Question: What is adaptation?

Answer: A change in a plant or animal's body to suit its location which can evolve over thousands of years in the most efficient way. If they don't adapt, then they may not survive.



A camel has humps of fat storage to use up for energy in the dry desert when there is a shortage of food.



A polar bear has adapted to camouflage itself against white snow/ice so it can hunt without being seen.



A cactus stores water to help keep it alive in the desert. It also has spikes to protect itself from attack.



CHARLES DARWIN
(1809 - 1882)



THE DODO



The dodo was a flightless bird from Mauritius which failed to adapt to its new environment. Humans arrived, hunted it and introduced other animals and so became extinct in 1681.

Evolution means change over time. It is the reason we have so many species on earth. It happens when there is competition to survive (natural selection) and through differences within a species caused by inheritance and mutations.

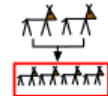
Inheritance is when something is passed on to the next generation. Offspring are not identical to their parents and some characteristics are inherited (carried in offspring from parents) and other differences are new in the offspring - these are called mutations

Topic (Tier 3) Vocabulary



natural
selection

A natural process of evolution in which the living things that are best adapted to their environment survive and are able to reproduce, while those that are weak leave fewer or no offspring.



offspring

The child or young of a particular human, animal, or plant



adapt

To develop or improve in steps



species

A group of living things that can reproduce together



extinct

No longer existing



evolve

Change in response to conditions

Tier 2 Vocabulary



variable

Things that change



precision

Accurate



prediction

Words to name parts



label

Think about what might happen



conclusion

Use evidence to make a decision

How is a fossil made?

1. An animal or plant dies. Some parts decay (break down) and only the skeleton is left.
2. The skeleton is covered in rock or sand.
3. Over a very long time, the bones break down and an empty space is left in the rock where the bones used to be.
4. Minerals fill the space where the bones used to be.
5. Under lots of pressure, the minerals harden and turn to rock.
6. The earth is eroded (worn away) by the weather or the sea.
7. The fossil is uncovered.

Rights of the Child/Global Goals

Article 29

I have the right to an education which develops my personality, respect for others' rights and the environment.

Global Goal 14: Life below water

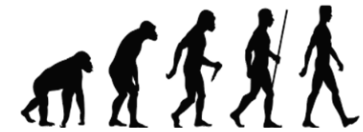
Global Goal 15: Life on land

Prior learning

How fossils are formed (Y3)
Lifecycles (Y5)
Habitats (Y4)
Animal classification (Y5)
Plants (Y3)

National Treasures

Charles Darwin and Alfred Russell Wallace
These biologists developed theories of evolution.



Big Ideas

Living things can be classified (grouped)

Habitats provide living things with what they need

Life goes through a cycle

Light travels in STRAIGHT LINES.

Remember S.O.S.

A **shadow** is formed behind an object when it **blocks** the light.

source
↓
object
↓
shadow

The filament in a **light bulb** becomes **hot** as, the electrical current passes through it, and then it **glows** to create **light**.

These sunglasses are **translucent** - some **light** passes through them.

Light travels in straight lines.

This bowl is **opaque** - no **light** passes through it and you can't see through it.

We see objects around us because **light** from a **light source** is **reflected** from them into our **eyes**.

This glass is **transparent** - **all light** passes through it. You can see through it.

A lit candle is a **light source**. The candle vapour burns to produce light. The candle flame is **luminous**.

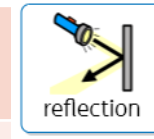
LIGHT SOURCES

A mirror is not a light source. It reflects light so doesn't create it.

sun

light
reflected light

Topic (Tier 3) Vocabulary



Light bounced back off a surface



A dark image seen when light is blocked



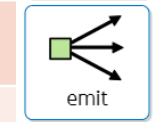
A beam of light



No light can pass through. The light is blocked.



Light can pass through

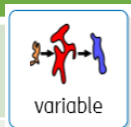


Giving off

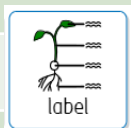


The place from which light comes, starts, originates

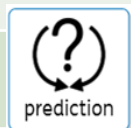
Tier 2 Vocabulary



Things that change



Words to name parts



Think about what might happen



Accurate



Use evidence to make a decision

Rights of the Child/Global Goals

Article 13

I have the right to find
out and share
information.

National Treasures

**Bonfire Night
(5th November)**



Prior learning

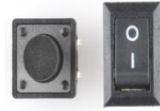
Year 3 :

- You need light to see things and that dark is the absence of light
- Light is reflected from surfaces
- Light from the sun can be dangerous
- Shadows are formed when the light from a light source is blocked by an opaque object
- Shadows change size.
- The Sun is at the centre of our solar system (Y5)

Big Ideas

Light & sound can be reflected
& absorbed; they enable us to
see & hear

Switches cause breaks in circuits, interrupting the flow of electricity.



The greater the voltage the brighter the bulb/the louder the buzzer
more cells/batteries = brighter bulb/louder buzzer



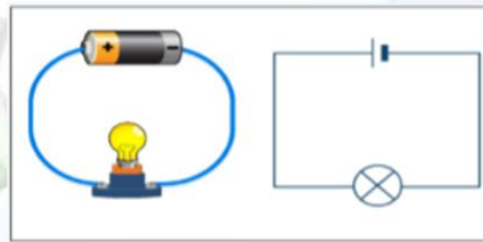
switch cell battery



lamp voltmeter ammeter



motor



Here we can see how a circuit is depicted by the symbols

Topic (Tier 3) Vocabulary



electrical conductor

Electricity can pass through



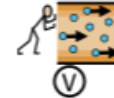
electrical insulator

Electricity can not pass through



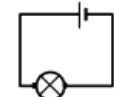
series circuit

A closed path followed by an electrical current



voltage

The force of an electric current is measured in volts



circuit

A circuit with only one path for the electricity to flow around

Tier 2 Vocabulary



variable

Things that change



precision

Accurate



label

Words to name parts



conclusion

Use evidence to make a decision



prediction

Think about what might happen

Prior learning

Year 4:

- naming appliances that run on electricity
- constructing a series circuit and identifying and naming its parts
- identifying a complete loop with a battery where a bulb will light up
- knowing that a switch opens and closes a circuit
- identifying electrical conductors and insulators

Rights of the Child/Global Goals

Article 13

I have the right to find out and share information.

Global Goals 7 and 12:

- Affordable and clean energy
- Responsible consumption and production.

National Treasures

The National Grid

Mains electricity is delivered to homes and businesses via a network of **cables, sub-stations and pylons** called the **National Grid**.



Big Ideas

Electricity can make circuits work and can be controlled to perform useful functions