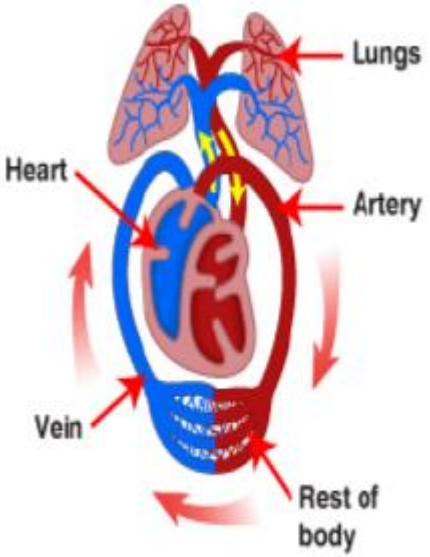
Dulwich Hamlet Junior School

Science Knowledge Organiser Year 6

ANIMALS, INCLUDING HUMANS



The Circulatory System

The heart

The **heart** pumps oxygen-rich blood to every cell in the body.

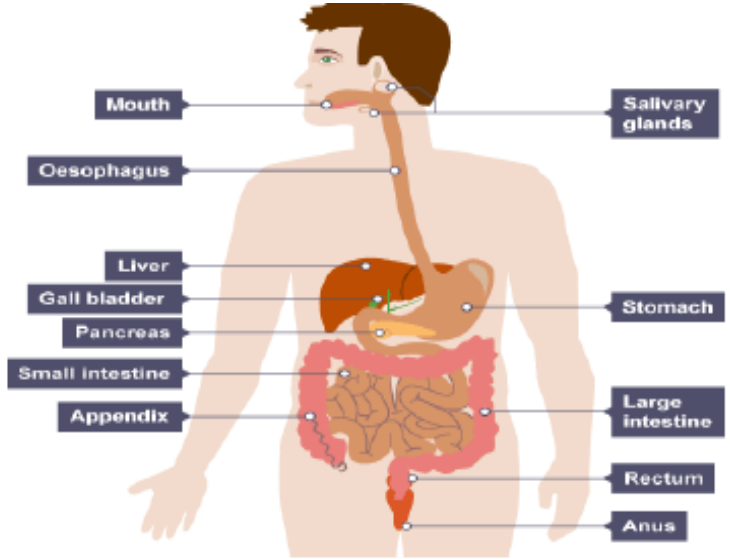
Blood vessels

A network of arteries and veins that provide the pathway for blood to travel.

The circulatory system allows blood to circulate and transport nutrients, oxygen, hormones and blood cells to and from the cells in the body to provide nourishment and help fight diseases.

Blood

- Transports oxygen and nutrients to the lungs and tissues
- Forms blood clots to prevent blood loss
- Carries cells to fight infection
- Brings waste produces to organs
- Regulates body temperature



Key Vocabulary

Nutrients	A substance that provides nourishment essential for the maintenance of life and for growth.
Organs	Part of an organism that has a vital function
Muscles	A band of fibrous tissue that can contract and produce movement in the body.
Veins	Tubes forming part of the bloody circulation system of the body, carrying blood without oxygen to the heart.
Blood vessel	A tubular structure carrying blood through the tissues and organs
Blood	Red liquid that circulates in arteries and veins, carrying oxygen to and carbon dioxide from tissues in the body.
Arteries	Muscular-walled tubes that transport bloody from the heart to other parts of the body

A healthy and balanced diet and regular exercise is important in helping the body to function.

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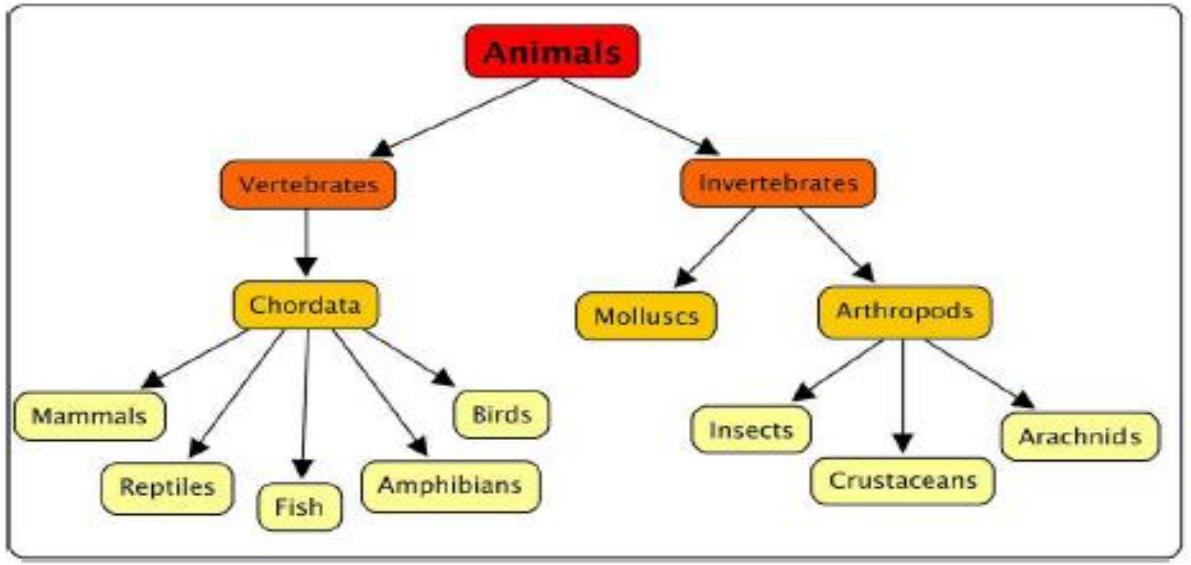
LIVING THINGS AND THEIR HABITATS

Domain	Bacteria	Archaea	Eukarya			
Kingdom	Bacteria	Archaea	Protista	Fungi	Plantae	Animalia
Example						
Characteristics	Bacteria are simple unicellular organisms.	Archaea are simple unicellular organisms that often live in extreme environments.	Protists are unicellular and are more complex than bacteria or archaea.	Fungi are unicellular or multicellular and absorb food.	Plants are multicellular and make their own food.	Animals are multicellular and take in their food.



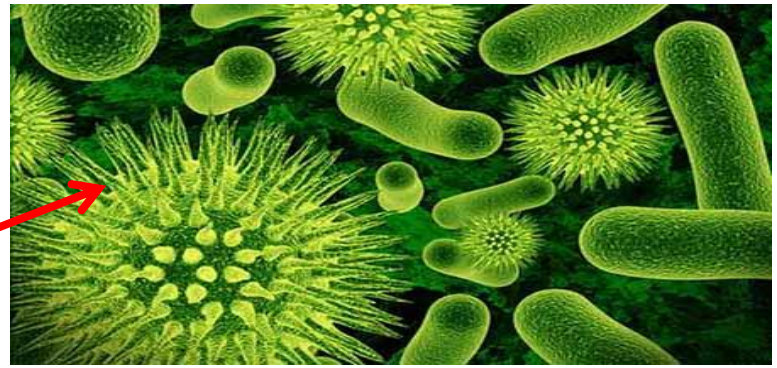
Classification

Living things can be classified into broad groups according to observable characteristics that are similar or different.

Microorganisms, plants and animals can be subdivided.

Microorganism

An organism that is microscopic, for example, a bacterium, fungus or virus.



Key Vocabulary

Arachnid	An animal that has eight legs and a body formed of two parts
Reptile	A vertebrate animal that has dry scaly skin and lays eggs on land
Amphibian	An animal that is born with gills then develops lungs, lays eggs in water, damp skin, body temperature changes
Crustaceans	Mostly live in water with a hard shell and segmented body
Vertebrate	An animal with backbone
Invertebrate	An animal without a backbone
Bird	A warm-blooded egg-laying vertebrate animal with feathers, wings and normally able to fly.

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EVOLUTION AND INHERITANCE

Fossils

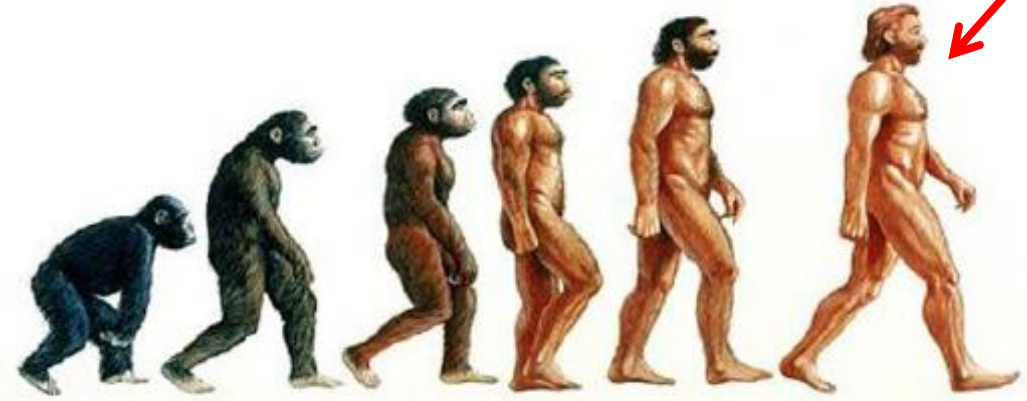
These can provide information about living things that inhabited the Earth millions of years ago.

Living Things

Living things produce offspring of the same kind, but normally offspring vary and are **not** identical to their parents

Evolution

The process by which living organisms have developed from earlier forms during the history of earth



Adaption can lead to **evolution.**

Adaptation

Living things are adapted to suit their environment in different ways

Key Vocabulary

Breeding	The mating and production of offspring by animals
Environment	The surrounding or conditions in which a person, animal or plant lives
Inherit	To gain a quality or characteristic genetically from a parent or ancestor
Fossil	The remains or impression of a prehistoric plant or animal embedded in rock and preserved
Offspring	A person's child or children/ an animal's young
Reproduction	The production of offspring by a sexual or asexual process
Variation	A change or slight difference

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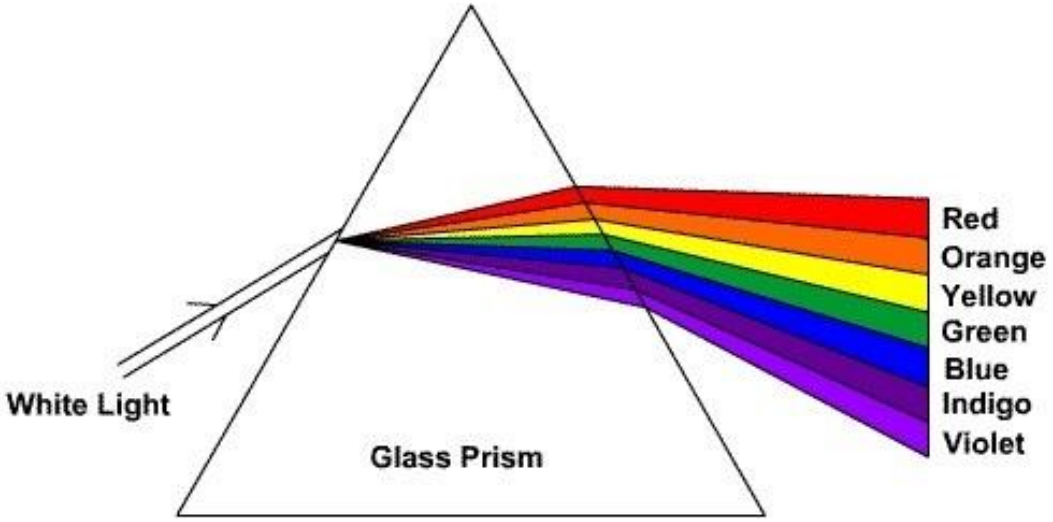
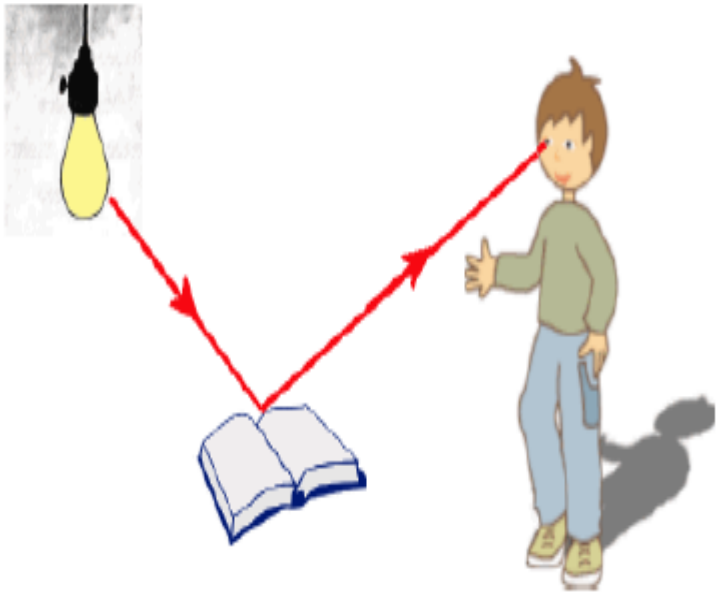
LIGHT

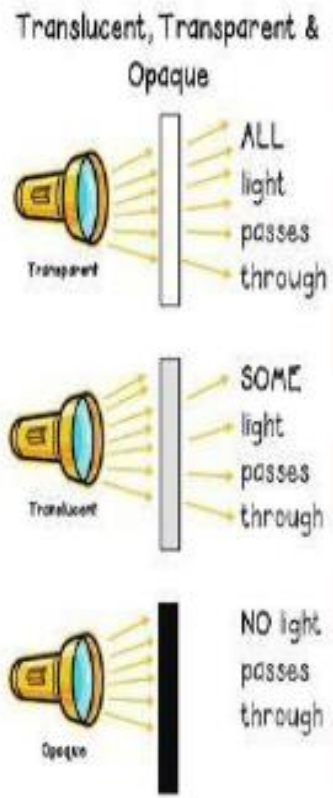




Light travels in straight lines.

Objects are seen because light travels from a light source to our eyes or from light sources to objects and then to our eyes.

Objects are seen because they give out or reflect light into the eye.



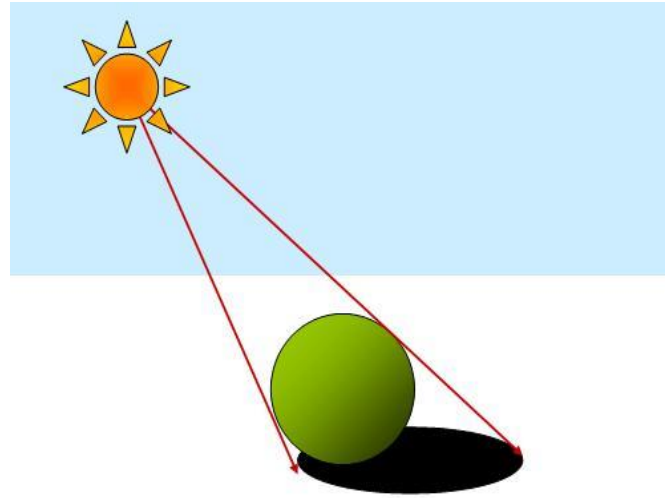
Shadows

When light from a light source is blocked by an opaque or translucent object a shadow is formed.

Shadows have the same shape as the objects that cast them due to light travelling in straight lines.

Key Vocabulary

Light Source	Something that provides light.
Reflection	The throwing back by a body or surface of light, heat or sound without absorbing it
Refraction	The bending of light as it passes from one substance to another
Spectrum	A band of colours, as seen in rainbows, produced by separation of parts of light
Shadow	A dark area or shape produced by a body coming between light and a surface
Light	The natural agent that stimulates sight and makes things visible.



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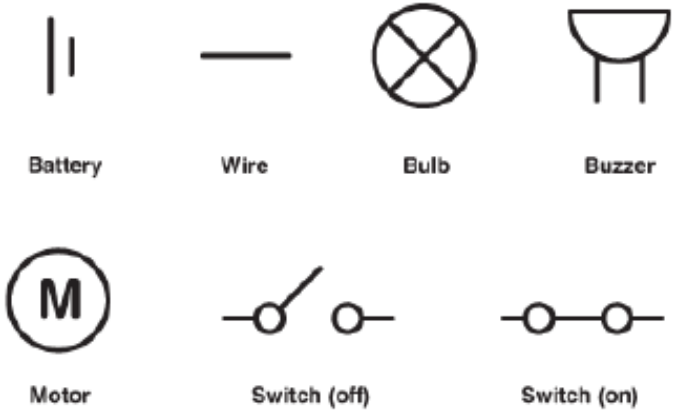
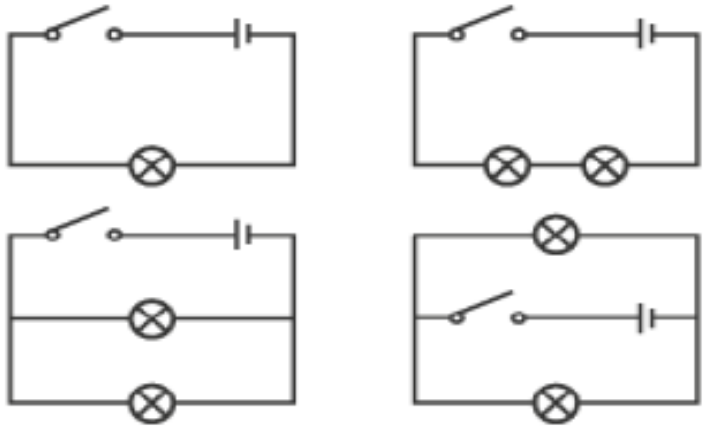
ELECTRICITY

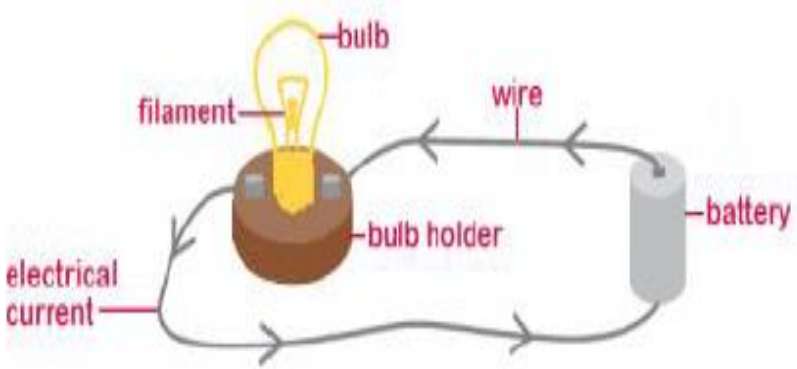
Components of a circuit



Circuits



Circuits



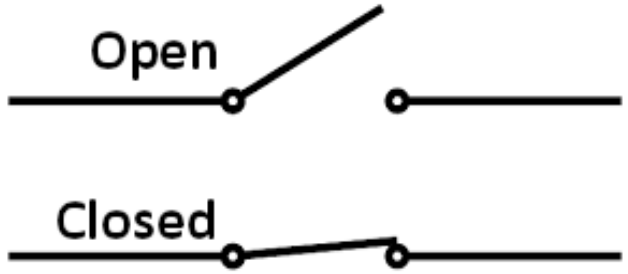
What changes the components?

The brightness of a bulb or volume of a buzzer can be changed depending on the voltage or number of cells in the circuit.

The higher the voltage of the cells/more cells in the circuit, the brighter the bulbs or louder the buzzer will be.

Key Vocabulary

Voltage	An electrical force that makes electricity move through a wire.
Switch	A device making and breaking the connection in an electric circuit
Current	A flow of electricity
Cell	A device containing electrodes used for generating current.
Conductor	A material that allows heat or electricity to carry through
Circuit	A complete and closed path that an electric current can circulate
Buzzer	An electrical device that makes a buzzing noise
Bulb	A glass bulb that provides light by passing an electrical current through it.



If a switch is open, the circuit is not complete and the bulb not light nor will the buzzer sound.