Year 3 Autumn 2

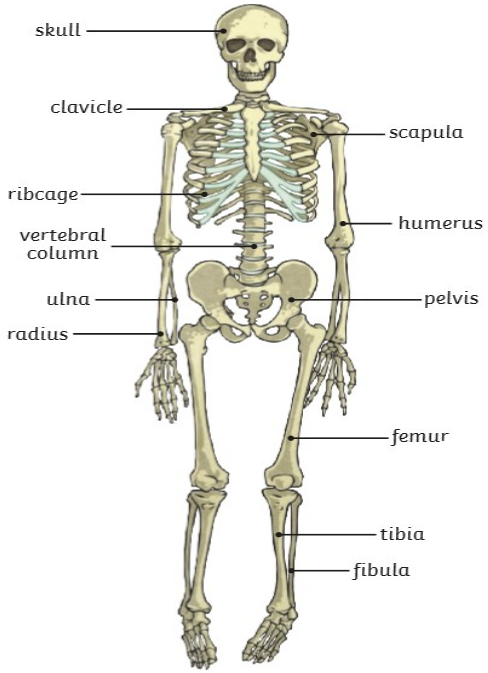
Science Topic : Animals including humans

What should I already know?

- Animals including humans need food and water (basic needs) for survival.
- Animals must have a good sense of hygiene.
- Exercise is important in a healthy lifestyle.

Key Knowledge:

- Plants can make their own food, but animals cannot.
- To stay healthy, humans need to exercise, eat a healthy diet and be hygienic. Food allows living things to grow.
- Animals, including humans, need food, water and air to stay alive.
- Skeletons do three important jobs: protect organs inside the body, allow movement and support the body and stop it from falling on the floor.



	Vocabulary
Healthy	In a good physical and mental condition.
Nutrients	Substances that living things need to stay alive and healthy.
Energy	Strength to be able to move and grow.
Saturated fat	Types of fats considered to be less healthy, that should only be eaten in small amounts.
Unsaturated fat	Fats that give you energy, vitamins and minerals.
Vertebrate	Animals with backbones.
Invertebrate	Animals without backbones.
Muscles	Soft tissues in the model that contract and relax to cause movement.
Tendons	Cords that connects muscles to bones.
Joints	Areas where two or more bones are fitted together.

Year 4 Autumn 2

Science Topic : Electricity

What should I already know?

- Different appliances they use everyday at home.
- Energy comes from mains electricity or a battery.
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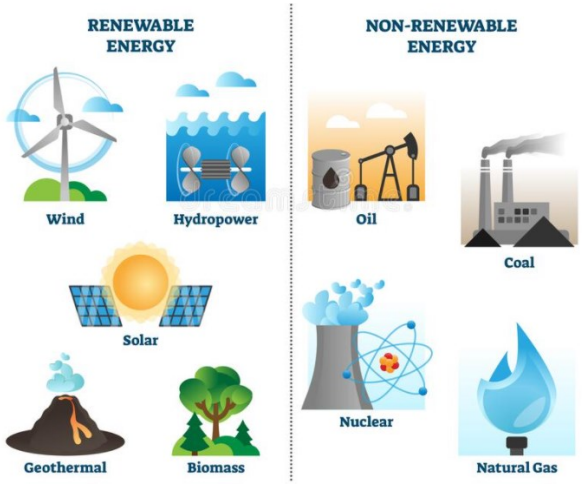
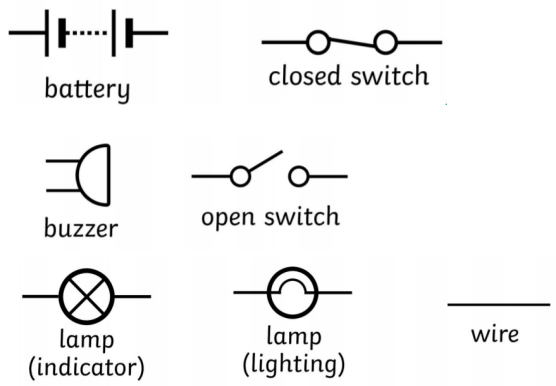
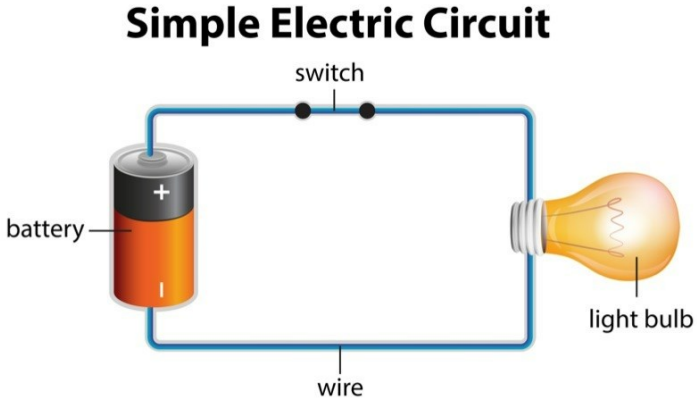
Key Knowledge:

- Lightning and static electricity are examples of electricity occurring naturally but for us to use electricity to power appliances, we need to make it.
- Electricity can only flow around a complete circuit that has no gaps. There must be wires connected to both the positive and negative end of the power supply/battery.
- A conductor of electricity is a material that will allow electricity to flow through it. Materials that are electrical insulators do not allow electricity to flow through them.





	Vocabulary
Electricity	The flow of an electrical current through a material.
Generate	To make or produce.
Renewable	The source of electricity that will not run out. These
Non-Renewable	This source of energy will eventually run out and so will no longer be able to be used to make electricity.
Appliances	A piece of equipment or a device designed to perform a
Battery	A device that stores electrical energy as a chemical.
Circuit	A pathway that electricity can flow around. It includes wires and a power supply and may include bulbs,



Year 5 Autumn 2

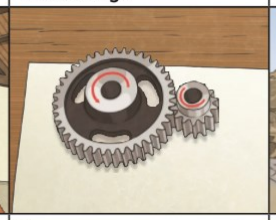
Science Topic : Forces

What should I already know?

- The moon orbits around the Earth.
- There are many different planets orbiting in the solar system.
- Some forces need contact between two objects.
- Magnets show the forces of attract and repel to other objects.

Key Knowledge:

- Mass measured in kilograms (kg) and weight is measured in newtons (N).
- Isaac Newton is famously thought to have developed his theory of gravity when he saw an apple fall to the ground from an apple tree.
- Water resistance and air resistance are forms of friction. Friction is sometimes helpful and sometimes unhelpful.

Pulleys	Gears/Cogs	Levers
		
Pulleys can be used to make a small force lift a heavier load. The more wheels in a pulley, the less force is needed to lift a weight.	Gears or cogs can be used to change the speed, force or direction of a motion. When two gears are connected, they always turn in the opposite direction to each other.	Levers can be used to make a small force lift a heavier load. A lever always rests on a pivot.

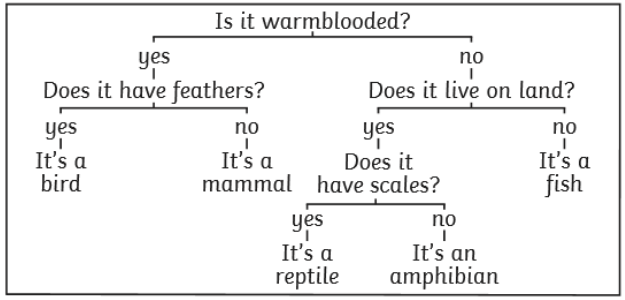
	Vocabulary
Forces	Pushes or pulls.
Gravity	A pulling force exerted by the Earth (or anything else
Earth's gravitational	The pull that Earth exerts on an object, pulling it towards Earth's centre. It is the Earth's gravitational pull
Weight	The measure of the force of gravity on an object.
Mass	A measure of how much matter (or 'stuff') is inside an
Friction	A force that acts between two surfaces or objects that
Air resistance	A type of friction caused by air pushing against any
Water	A type of friction caused by water pushing against any
Buoyancy	An object is buoyant if it floats. This is because the
Streamlined	When an object is shaped to minimise the effects of air
Mechanism	Parts which work together in a machine. Examples of
Upthrust	A force that pushes objects up, usually in water.

Year 6 Autumn 2

Science Topic : Living things and their habitats

What should I already know?

- Animals can be grouped based on their characteristics.
- There are five main animal kingdomss birds, fish, mammals, amphibians and reptiles.



Key Knowledge:

- Microorganisms are viruses, bacteria, moulds and yeast. Some animals (dust mites) and plants (phytoplankton) are also microorganisms.
- Microorganisms are very tiny living things that can only be seen using a microscope. They can be found in and on our bodies, in the air, in water and on objects around us.
- Scientists, called Taxonomists, sort and group living things according to their similarities and differences.
- Living things can be classified by eight levels. The number of living things in each level gets smaller until the one animal is left in its species level.

Domain: Eukarya	jackal, clownfish, cat, dog, ladybird, daisy, rabbit, fox
Kingdom: Animalia	jackal, clownfish, cat, dog, ladybird, rabbit, fox
Phylum: Chordata	jackal, clownfish, cat, dog, rabbit, fox
Class: Mammalia	jackal, cat, dog, rabbit, fox
Order: Carnivora	jackal, cat, dog, fox
Family: Canidae	jackal, dog, fox
Genus: Canis	jackal, dog
Species: Lupus	dog

Vocabulary

Characteristics	Special qualities or appearances that make an
Classify	To sort things into different groups.
Taxonomist	A scientist who classifies different living things into
Key	A key is a series of questions about the characteristics of living things. A key is used to identify a living thing or decide which group it belongs to by answering 'yes' or
Bacteria	A single-celled microorganism.
Microorganism	An organism that can only be seen using a microscope,
Microscope	A piece of equipment that is used to view very tiny
Species	A group of animals that can reproduce to produce fertile