

Science in Year 3

Animals Including Humans

- Identify and describe simple features of human and other animal skeletons (including key bones), and how muscles are used for support and movement (the arm muscles).
- Describe in simple terms the changes that take place as animals grow (frog and chicken).
- Identify that animals (including humans) need the right types and amount of nutrition and that they need nutrition from what they eat (naming the nutrition groups).
- Describe the link between an animal's diet and their type of teeth naming types of teeth

Forces & Magnets:

- Compare how things move on different surfaces (explaining the effects of friction).
- Observe how magnets attract/repel each other and attract some materials/not others.
- Understand that some forces need contact between 2 objects, but magnetic forces can act at a distance.
- Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet and identify some magnetic materials.
- Predict whether 2 magnets will attract or repel each other, depending on facing poles.

Life Processes

- Describe basic life processes (growth and reproduction).
- Identify and discuss things that can cause illness or decay (including bacteria and poor hygiene).
- Identify and talk about known microorganisms e.g, mould in some cheeses.
- Describe differences and similarities between a range of living and non-living things.

All Living Things

- Describe common features of plants and animals (structure and needs).
- Compare similarities and differences between sub-groups, recognising that all living things can be grouped in different ways (using venn and carol diagrams).
- Explore and use classification keys to help to group, identify and name a variety of living things in the local environment.
- Make and understand a variety of food chains, identifying producers, predators and prey.
- Recognise that environments can change and that this can pose dangers to living things (such as extinction or population decline).

Plants

- Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.
- Identify and describe the functions of different parts of flowering plants, including roots, stem/trunk, leaves and flowers.
- Explore the requirements of plants for life and growth (air, light, water, nutrients from soil and room to grow) and how these vary from plant to plant and the way in which water is transported in plants.



Science in Year 4

As above and...

Changing Materials

- Observe that some materials change state when heated or cooled and that some can be reversed, (freezing water - reversible, baking clay - irreversible).
- Measure, research and explain the temperature at which materials change state when heated or cooled (water, wax).
- Describe the difference between solids and liquids (properties, function, uses).
- Describe how solids can be filtered from liquids by filtration.

Light and Sound

- Describe what happens to a light source in the dark (using explanation and diagrams).
- Explore and explain the change in size and shape of shadows throughout the day.
- Describe how light is reflected from surfaces and compare different surfaces.
- Describe in detail how light travels.
- Describe in detail how sound travels and how this can be changed.
- Find patterns between the pitch of a sound and features of the object that produced it.
- Find patterns between the volume of a sound and the strength of the vibrations that produce it.

Electricity

- Describe why a bulb won't light and identify the problem within the circuit.
- Construct and describe a simple series circuit, and name its basic parts, including cells, wires, bulbs, switches and buzzers.
- Know that a bulb lights up when there is an effective conducting material in the circuit and is part of a complete circuit (naming some common conductors)
- Describe what happens when making and breaking a circuit.
- Recognise that a switch opens and closes a circuit and link to the lighting of a bulb.
- Identify common appliances that run on electricity (within the home and further afield).
- Discuss and explain the dangers associated with electricity.
- Recognise common conductors and insulators and associate metals with being good conductors.



Key studies within Science in

Lower Key Stage 2

Plants

- Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers
- Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant
- Investigate the way in which water is transported within plants
- Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.

Animals including humans

- Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat
- Identify that humans and some other animals have skeletons and muscles for support, protection and movement.

Rocks

- Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties
- Describe how fossils are formed when things that have lived are trapped within rock
- Recognise that soils are made from rocks and organic matter.

Light

- Recognise that they need light in order to see things and that dark is the absence of light
- Notice that light is reflected from surfaces
- Recognise that light from the sun can be dangerous and that there are ways to protect their eyes
- Recognise that shadows are formed when the light from a light source is blocked by a solid object
- Find patterns in the way that the size of shadows changes.

Forces and Magnets

- Compare how things move on different surfaces
- Notice that some forces need contact between objects, but magnetic forces can act at a distance
- Observe how magnets attract or repel each other and attract some materials and not others
- Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials
- Describe magnets as having 2 poles.

