

Forces and Magnets

Pupils are taught to

- **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.**
- **Compare how things move on different surfaces.**
- **notice that some forces need contact between two objects, but magnetic forces can act at a distance.**

Animals including humans

Pupils are taught to

- **Identify that animals, including humans, need the right types and amounts of nutrition , and that they cannot make their own food; they get nutrition from what they eat.**
- **Identify that humans, and some animals have skeletons and muscles for support, protection and movement.**
- **Describe the simple functions of the basic parts of the digestive system in humans.**
- **Identify the different types of teeth in humans and their simple functions.**
- **construct and interpret a variety of food chains, identifying producers, predators and prey.**

Electricity

Pupils are taught to

- **Identify common appliances that run on electricity**
- **Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.**
- **Identify whether or not a lamp will light in a simple series circuit based on whether or not the lamp is part of a complete circuit with a battery**

- **Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit**
- **Recognise some common conductors and insulators, and associate metals with being good conductors.**

Light and Sound

LIGHT

Pupils are taught to:

- **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 a light source being blocked by a solid object.**
- **find patterns in the way that the size of shadows change**

SOUND

Pupils are taught to:

- **Identify how sounds are made, associating some of them with something vibrating**
- **recognise that vibrations from sounds travel through a medium to the ear**
- **recognise that sounds get fainter as the distance from the sounds source increases**
- **find patterns between the pitch of a sound and features of the object that produces it**
- **find patterns between the volume of a sound and the strength of the vibrations that produce it**

Plants and Evolution

Pupils are taught to:

- **Identify and describe the functions of different parts of flowering plants: roots, stem, leaves and flowers**
- **Explore the requirements of plants for life and growth (air, light, water, nutrients from the 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 role of flowers in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.**
- **Identify and name a variety of living things (plants and animals) in the local and wider environment, using classification keys to assign them to groups**
- **recognise that living things can be grouped in a variety of ways**
- **Recognise that environments are constantly changing and that this can sometimes pose dangers to specific habitats**

States of Matter / Rocks

Pupils are taught to:

- **Compare and group together different kinds of rocks on the basis of their simple physical properties**
- **Describe in simple terms how fossils are formed when things that have lived are trapped within rock.**
- **recognise that soils are made from rocks and organic matter.**
- **Compare and group materials together, according to whether they are solids, liquids or gases**
- **Observe that some materials change state when they are heated or cooled, and measure the temperature at which this happens in degrees Celsius, building on their teaching in mathematics**
- **Identify the part played in evaporation and condensation in the water cycle and associate the rate of evaporation with temperature**

Working Scientifically

- Ask relevant questions
- Set up simple practical enquiries, comparative and fair tests
- Make accurate measurements using standard units using a range of equipment, (measuring cylinders, thermometers, data loggers)
- Present data in tables, labelled diagrams, bar charts (line graphs for more able)
- Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- Use results to draw simple conclusions and suggest improvements, new questions and predictions for setting up further tests
- Identify differences, similarities or changes related to simple scientific ideas and processes

Use straightforward scientific evidence to answer questions to support their findings

Years 3 and 4 PROGRAMMES OF STUDY

In key stage 2 the children are widening their knowledge of science and their ability to pose questions and investigate them scientifically. We work on a two year rolling programme, so children study 3 units in year 3 and then the additional 3 units in year 4. There is a natural progression from Key Stage 1 to Key Stage 2 and always a very strong emphasis on practical learning and the development of skills.