

# Shorne Church of England Primary School



## Science content by year group

In science, children will develop their natural curiosity through a sense of excitement, encouraging questioning, experimenting and analysing to develop scientific skills as well as knowledge. At Shorne C of E Primary School, we cover a wide range of topics such as Plants, Animals including humans, Matter and Materials, Living things and their habitats, Rocks, Light, Forces, Sound, Electricity, Earth and Space and Evolution and Inheritance. Each year group also work scientifically to develop not only their scientific knowledge and conceptual understanding, but also the methods and processes.

### Years 1 and 2

During years 1 and 2, children are taught to use scientific methods, processes and skills such as asking simple questions and recognising that they can be answered in different ways, close observation, using their observations and ideas to suggest answers to questions, performing simple tests using simple equipment, identifying and classifying, gathering and recording data to help in answering questions.

In Year 1, there are many expectations of children. For example, they should be able to identify and name a variety of common wild and garden plants and the basic parts of flowering plants. They should be able to identify and name a variety of common animals including carnivores, herbivores and omnivores and describe the weather associated with the different seasons and how day length varies.

In Year 2, some of the expectations of children are to be able to describe how plants need water, light and a suitable temperature to grow and stay healthy; describe the basic needs of animals (including humans) for survival; identify and compare the suitability of a variety of everyday materials including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.

### Years 3 and 4

During years 3 and 4, children are taught to develop their scientific methods, processes and skills further. This includes asking relevant questions and using different types of scientific enquiries to help answer them. They will also set up simple practical enquiries, comparative and fair tests, make systematic and careful observations, and gather and record results using simple scientific language. They are expected to be able to classify and present data in a variety of ways to help answer questions whilst using their results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.

In Year 3, children will learn a variety of scientific knowledge such as investigating the way in which water is transported within plants; identify that humans and some other animals have skeletons and

muscles for support, protection and movement and recognise that shadows are formed when the light from a light source is blocked by an opaque object.

In Year 4 children are expected to recognise that environments can change and that this can sometimes pose dangers to living things. They should be able to construct and interpret a variety of food chains, identify producers, predators and prey; identify the part played by evaporation and condensation in the water cycle; find patterns between the volume of a sound and the strength of the vibrations that produced it.

### Years 5 and 6

One of the purposes of science teaching in upper Key Stage 2 is to create a deeper understanding of a wide range of scientific ideas through discussion, questioning, experimenting and analysing. In years 5 and 6 children need to work more systematically to plan different types of scientific enquiries to answer questions, including recognising and controlling variables as well as using a range of scientific equipment with increasing accuracy and precision. They will be concerned with the reliability of the data and take repeat readings when appropriate. They must record data and results of increasing complexity and test the results to make predictions to set up further comparative and fair tests. Findings are reported and presented and will be used to support or contest existing ideas or arguments.

In Year 5, children should be able to describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird; describe the changes as humans develop through to old age; use knowledge of solids, liquids and gases to decide how mixtures might be separated (including through filtering, sieving and evaporating) and describe the movement of the Moon relative to the Earth.

In Year 6, children should be able to classify (and give reasons for classifying) plants and animals based on specific characteristics; recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function; identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution and use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.

### Year group topics

Year 1 Plants Animals including Humans Everyday materials Seasonal changes	Year 2 Living things and their habitats Plants Animals, including humans Uses of everyday materials
Year 3 Plants Animals, including humans Rocks Light Forces and magnets	Year 4 Living things and their habitats Animals including humans States of matter Sound Electricity
Year 5 Living things and their habitats Animals including humans Properties and changes of materials Earth and space Forces	Year 6 Living things and their habitats Animals including humans Evolution and inheritance Light Electricity