



SCIENCE CURRICULUM MAP

Purpose of study:

A high-quality Science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Science has changed our lives and is vital to the world's future prosperity, and all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes.

Aims:

The national curriculum for Science aims to ensure that all pupils:

- develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics
- develop understanding the nature, processes and methods of science through different types of science enquires that helps them to answer scientific questions about the world around them
- are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future

Key Stage 1 Subject Content:

The principal focus of Science teaching in key stage 1 is enable pupils to experience and observe phenomena, looking more closely at the natural and humanly constructed world around them. They should be encouraged to be curious and ask questions about what they notice. They should be helped to develop their understanding of scientific ideas by using different types of scientific enquiry to answer their own questions, including observing changes over a period of time, noticing patterns, grouping and classifying things, carrying out simple comparative tests, and finding out things using secondary sources of information. They should begin to use simple scientific language to talk about what they have found out and communicate their ideas to a range of audiences in a variety of ways. Most of the learning about science should be done through the use of first-hand practical experiences, but there should be some use appropriate secondary sources, such as books, photographs and videos.

'Working scientifically' is described separately in the programme of study, but must always be taught through and clearly related to the teaching of substantive science content into the programme of study. Throughout the notes and guidance, examples show how scientific methods and skills might be linked to the specific elements of the context.

Pupils' should read and spell scientific vocabulary at a level consistent with their increasing word-reading and spelling knowledge at key stage 1.

Year 1 Programme of Study

Working Scientifically

During years 1 and 2, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- ❖ asking simple questions and recognising that they can be answered in different ways
- ❖ observing closely, using simple equipment
- ❖ performing simple tests
- ❖ identifying and classifying
- ❖ using their observations and ideas to suggest answers to questions
- ❖ gathering and recording data to help in answering questions

Plants:

Pupils should be taught to:

- ❖ identify and name a variety of common wild and garden plants, including deciduous and evergreen trees
- ❖ identify and describe the basic structure of a variety of common flowering plants, including trees

Animals, including humans:

Pupils should be taught to:

- ❖ identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals
- ❖ identify and name a variety of common animals that are carnivores, herbivores and omnivore
- ❖ describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets)
- ❖ identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense

Everyday Materials:

Pupils should be taught to:

- ❖ distinguish between an object and the materials from which it is made
- ❖ identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock
- ❖ describe the simple physical properties of a variety of everyday materials
- ❖ compare and group together a variety of everyday material on the basis of their simple physical properties

Seasonal Change

Pupils should be taught to:

- ❖ observe changes across the four seasons
- ❖ observe and describe weather associated with the seasons and how day length varies

Year 2 Programme of Study

Working Scientifically

During years 1 and 2, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:

- ❖ asking simple questions and recognising that they can be answered in different ways
- ❖ observing closely, using simple equipment
- ❖ performing simple tests
- ❖ identifying and classifying
- ❖ using their observations and ideas to suggest answers to questions
- ❖ gathering and recording data to help in answering questions

Living Things and their Habitats

Pupils should be taught to:

- ❖ explore and compare the differences between things that are living, dead, and things that have never been alive
- ❖ identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other
- ❖ identify and name a variety of plants and animals in their habitats, including microhabitats
- ❖ describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food

Plants

Pupils should be taught to:

- ❖ observe and describe how seeds and bulbs grow into mature plants
- ❖ find out and describe how plants need water, light and a suitable temperature to grow and stay healthy

Animals, including humans

Pupils should be taught to:

- ❖ notice that animals, including humans, have offspring which grow into adults
- ❖ find out about and describe the basic needs of animals, including humans, for survival (water, food and air)
- ❖ describe the importance for humans of exercise, eating the right amount of different types of food and hygiene

Uses of everyday materials

Pupils should be taught to:

- ❖ identify and compare the suitability of a variety of everyday materials including wood, metal, plastic, brick, glass, rock, paper and cardboard for particular uses
- ❖ find out about how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching