



Middlewich Primary School Curriculum Science



Our Science curriculum follows the guidelines and aims of the National curriculum in England for Key Stages 1 and 2.

These ensure that all pupils:

- develop scientific knowledge of biology, chemistry and physics
- develop understanding of the nature, processes and methods of science through different types of science enquiries that help 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

Curriculum Overview Key Stage 1

Working Scientifically

Pupils in Years 1 and 2 will use the following practical scientific methods, processes and skills:

- 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

Pupils will work scientifically to learn about:

Year 1	<u>Plants</u> Learn to identify and name a variety of plants and describe their basic structure.	<u>Animals including humans</u> Identify and name a variety of animals including humans and describe their structure.	<u>Everyday materials</u> Identify and describe the properties of some materials.	<u>Seasonal changes</u> Learn about the changes that occur across the four seasons.
Year 2	<u>Plants</u> Build on knowledge from year one by finding out what plants need to survive.	<u>Animals including humans</u> Learn what animals, including humans, need in order to survive and stay healthy.	<u>Everyday materials</u> Compare the suitability of materials for their uses. Look at how a material's shape can be changed by bending, twisting squashing and stretching.	<u>Living things and their habitats</u> Develop an understanding of plants and animals by learning how they depend on each other. Learn about different habitats and food sources.

Curriculum Overview Lower Key Stage 2

Working Scientifically

Pupils in Years 3 and 4 will use the following practical scientific methods, processes and skills:

- asking relevant questions and using different types of scientific enquiries to answer them
- setting up simple practical enquiries, comparative and fair tests
- making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
- gathering, recording, classifying and presenting data in a variety of ways to help in answering questions
- recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
- reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions
- identifying differences, similarities or changes related to simple scientific ideas and processes
- using straightforward scientific evidence to answer questions or to support their findings.

Year 3	<u>Plants</u> Develop an understanding of plants by learning about the functions of each part of the plant.	<u>Animals including humans</u> Learn how animals including humans need the right amounts of nutrition. Learn about the importance of our skeleton and muscles.	<u>Rocks</u> Learn the simple physical properties of rocks, soils and the formation of fossils.	<u>Forces and Magnets</u> Learn how things move on different surfaces and explore magnets.	<u>Light</u> Begin to understand light and shadows.
Year 4	<u>Living things and their habitats</u> Identify and name a variety of living things grouping them in different ways using classification keys. Explore how changes in the environment effect living things.	<u>Animals including humans</u> Learn about the digestive system in humans and begin to look at food chains.	<u>States of matter</u> Develop an understanding of solids, liquids and gases and how they can change as a result of the temperature.	<u>Sound</u> Learn how sounds are made by vibrations. Look at patterns with volume and pitch.	<u>Electricity</u> Learn about simple circuits and recognise conductors and insulators.

Curriculum Overview Upper Key Stage 2

Working Scientifically

Pupils in Years 3 and 4 will use the following practical scientific methods, processes and skills:

- planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
- taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
- recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
- using test results to make predictions to set up further comparative and fair tests
- reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations
- identifying scientific evidence that has been used to support or refute ideas or arguments

Year 5	<u>All living things and their habitats</u> Describe and compare the life cycles of animals and plants.	<u>Animals including humans</u> Describe the changes as humans develop to old age.	<u>Properties and changes to materials</u> Group materials based on their properties and explore reversible and irreversible changes of state.	<u>Earth and space</u> Describe the movement of the sun, earth and moon in relation to day and night.	<u>Forces</u> Learn about the effects of different forces on moving surfaces and mechanisms.
Year 6	<u>Living things and their habitats</u> Explore classification of living things based on their characteristics.	<u>Animals, including humans</u> Learn about the circulatory and digestion systems of humans.	<u>Evolution and inheritance</u> Explore evidence to show that living things have changed over time. Learn about offspring and adaptations.	<u>Light</u> Explore how we see things and properties of shadows.	<u>Electricity</u> Relate voltage to output and use symbols when drawing diagrams.