**Middlewich Primary School Curriculum**

At Middlewich Primary School, we aim to provide pupils with a high-quality science education. Our Science curriculum aims to ignite curiosity and foster a love for learning about the world around us. Through hands-on investigations and a variety of practical activities, we encourage children to explore the natural world, develop critical thinking skills, and ask meaningful questions. Our curriculum is designed to promote understanding of key scientific concepts while encouraging children to think scientifically and approach problems with a methodical mindset. By developing their investigative skills, we help students to not only gain knowledge but also build confidence and enthusiasm for learning about science, which will serve them throughout their education and beyond.

Learning across the school is based on the following key strands of enquiry:

- Identifying and classifying
- Fair/comparative testing
- Research
- Observation over time
- Pattern seeking

**Curriculum Overview EYFS**

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| **EYFS** | • Take seasonal walks around the school grounds to identify different features in nature.<br>• Learn about different woodland animals.<br>• Understand chronology from baby-adult. Use images to identify what being a baby was like in the past. | • Learn about planet Earth and other planets in the universe.<br>• Talk about famous explorers and the role of an astronaut.<br>• Seasonal walks to identify signs of winter and spring.<br>• Understand which animals live in the polar regions. | • Caring for our world: planting seeds and caring for plants, attracting wildlife, birdwatching, growing, tasting and preparing vegetables<br>• Understanding life cycles, animals and their offspring<br>• Observing animals: snails, worms, tadpoles/frogs, caterpillars/butterflies<br>• Learning about bees and tasting honey<br>• Looking at changes in objects through time |

**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:

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

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

**Curriculum Overview Upper Key Stage 2**

Working Scientifically

Pupils in Years 5 and 6 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

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

**Wider Opportunities**
EYFS – Regular walks in the local area
KS1 – Macclesfield forest
KS2 – World museum, Murgatroyd Brine Pump