

Science curriculum statement

Through the teaching and learning of Science we will provide the foundations for understanding the world and will strive to create opportunities for children to gain an understanding of how science has changed our lives.

Our aims are to:

- Develop children's excitement and curiosity about natural phenomena
- Encourage them to ask their own questions about what they observe
- Provide them with opportunities to work scientifically and explore different ways to answer their questions about the world around them
- Challenge them to think about how science can be used to explain what is happening
- Ensure that children develop scientific knowledge and conceptual understanding through the teaching of physics, biology and chemistry
- Equip children with the scientific knowledge required to understand the uses and implications of science today and for the future
- Support children in making their thinking clear to themselves and others
- Use discussion to probe and remedy misconceptions

In this way they will:

- Develop a secure understanding of each block of knowledge and concepts in order to make progress within physics, biology and chemistry
- Use scientific vocabulary accurately and precisely and build up an extended specialist vocabulary, including the reading and spelling of scientific vocabulary
- Apply their mathematical knowledge, including collecting, presenting and analysing data, to their understanding of science
- Work scientifically, including observing overtime; pattern seeking; identifying, classifying and grouping; comparative and fair testing; and researching using secondary sources
- Become increasingly independent in following their own lines of enquiry, making predictions, recording results and drawing conclusions

As part of our cross curricular approach, some of our **'themes'** taught will have a strong science focus and will be taught in **blocks** of work across the year. Science teaching will be on going throughout the year with other units being taught alongside the overall topic or theme.

Each year group will be taught specific biology, chemistry and physics units and whilst it is important that they make progress, it is vital that they develop a secure understanding within each block.

'Working Scientifically' will be embedded within the content of these blocks so that pupils learn to use a variety of approaches to answer scientific questions. There will be an element of Working Scientifically within each science lesson taught to enable children to make progress and build on these skills.

In Key Stage One children will be taught to:

- Ask simple questions and recognise that they can be answered in different ways
- Observe closely, using simple equipment
- Perform simple tests
- Identify and classify
- Use their observations and ideas to suggest answers to questions
- Gather and record data to help in answering questions

In Lower Key Stage Two children will be taught to:

- Ask relevant questions and using different types of scientific enquiries to answer them
- Set up simple practical enquiries, comparative and fair tests
- Make systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers
- Gather, recording, classifying and presenting data in a variety of ways to help in answering questions
- Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables
- Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions
- Use 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

In Upper Key Stage Two children will be taught to:

- Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary
- Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate
- Record 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
- Report and present findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations
- Identify scientific evidence that has been used to support or refute ideas or

These practical scientific methods, processes and skills will underpin the lessons we deliver.

Opportunities will be taken to positively promote equality and diversity.

See Curriculum Plan for Year Groups
See Long Term Science Plan