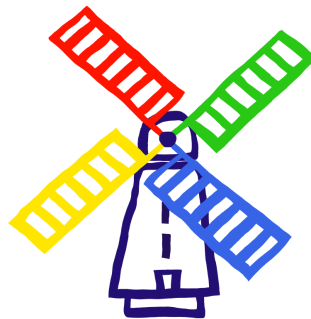


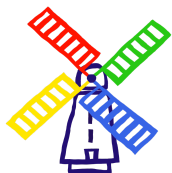
# Science Policy

Unity  
Trust  
Courage  
Curiosity  
Respect  
Kindness



A community for learning. Raising expectations. Fulfilling high standards.

Policy Revised: **December 2024**  
Policy Review Date: **September 2025**  
Headteacher: **Mrs Gemma Hillier**



# Widmer End Community Combined School & Pre-School

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### Vision

At Widmer End we aim to ensure that our Science Curriculum enables all pupils to take part in high quality Science lessons to allow all children to:

- Think critically and communicate their understanding;
- Have opportunities to apply their scientific skills in different contexts across the curriculum;
- Develop enquiry skills useful for science and across the curriculum.

As pupils progress, they also learn about its uses and significance to society and their own lives. For example, through our understanding of how to maintain a healthy body. Pupils will also learn about the continuing importance of science in solving contemporary global challenges such as climate change and food availability.

### Intent

We aim to fulfil the requirements of the National Curriculum by providing a broad and balanced curriculum and by ensuring a progressive development of skills and knowledge.

The National Curriculum states that Science teaching should ensure pupils develop:

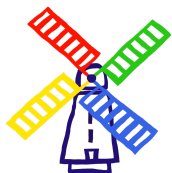
- their scientific knowledge and conceptual understanding in the specific disciplines of biology, chemistry, and physics
- an understanding of the nature, processes, and methods of science through different types of science enquiries that help them to answer specific questions about the world around them
- a 'toolkit' of the scientific knowledge required to understand the uses and implications of science today and for the future.

### Early Years Foundation Stage

The section of the Early Years Framework of 'Understanding the World' gives three Early Learning Goals for this section. The goals below provides pupils with a strong foundation on which to build on their science knowledge and skills:

Children at the expected level of development will:

- Explore the natural world around them, making observations and drawing pictures of animals and plants.
- Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class.



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- Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.

The Key Stage 1 and Key Stage 2 curriculum builds on the National Curriculum framework for Early Years Foundation Stage, especially the area of learning and development 'Understanding the World'.

### Key Stage One

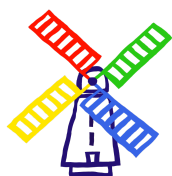
- Asking simple questions and recognising that they can be answered in different ways.
- Observing closely, using simple equipment.
- Performing simple tests.
- Gathering and recording data to help in answering questions.
- Identifying and classifying.
- Using their observations and ideas to suggest answers to questions.

### Lower Key Stage Two

- Asking relevant questions and using different types of scientific enquiries to answer them
- Using results to draw simple conclusions, make predictions for new values, suggest improvements, and raise further questions.
- 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
- Identifying differences, similarities, or changes related to simple scientific ideas and processes.
- 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 straightforward scientific evidence to answer questions or to support their findings.

### Upper Key Stage Two

- 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.



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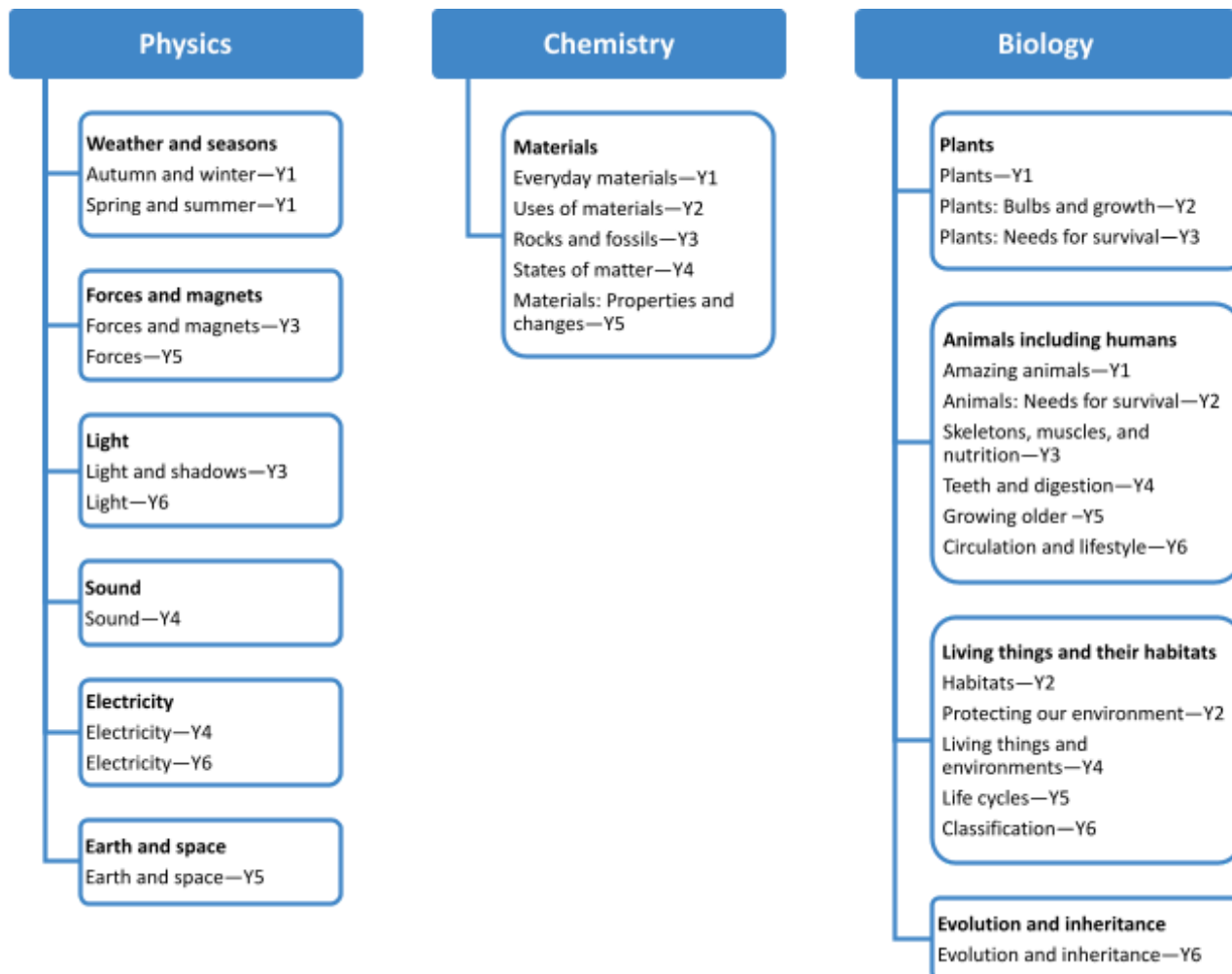
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- Using test results to make predictions to set up further comparative and fair tests.
- Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, and bar and line graphs.
- Reporting and presenting findings from enquiries, including conclusions, causal relationships, explanations of and 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.

### Implementation

We use the Ark Curriculum + scheme as the basis for our curriculum planning in Science. The curriculum plan comprises 5 units per group from Year 1 to Year 6. The units are built sequentially in the three disciplines of Biology, Chemistry and Physics with pupils often revisiting an idea or concept in a later unit.

Within these three disciplines they are broken down into units by Ark for each year group as shown below.





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### Assessment

Children's work in Science is assessed during the lesson in the form of feedback given on their work. At the beginning of every lesson the children complete a knowledge quiz based on learning from the previous lesson. This feedback is then used in the planning of future lessons to ensure that key knowledge and skills are covered. Pupils at the end of each term are marked at either working towards, working at or working at greater depth standard and this data is recorded on Arbor.

### Monitoring Arrangements

Monitoring takes place regularly by the subject leader through sampling children's work, pupil voice and teacher planning, through book scrutinies and lesson observations/learning walks.

The subject leader will also:

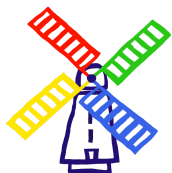
- Monitor the teaching and learning of Science and to ensure that children are progressing in their understanding of the subject during their journey through the school.
- Review and adapt the school's Science coverage.
- Maintain and develop a rich and varied range of resources (update the Budget Bid annually).
- Identify and attend INSET/ courses including regular updating on subject knowledge and providing staff with appropriate feedback.
- Provide guidance and support to all members of staff, and generally promote Science within the school.
- Enable staff to provide enriching learning experiences for pupils such as visits and school trips.
- Write, implement, monitor and evaluate the annual Science subject action plan. This ensures that coverage within units is complete and that assessment arrangements across the school are consistent.

### Science outside of the curriculum

The children participate in Science Week annually which is centred around a theme, for example 2024 theme was Time. During this week the children participate in a variety of activities linked to the theme.

The children also have the opportunity to go on a trip to the Science Museum in Year 3.

### Equal opportunities and inclusion



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We comply with the Equality Act 2010 and are proactive in ensuring that all pupils, including those with SEND or other children in vulnerable groups are provided with a comprehensive programme of Science.. We will endeavour to adapt activities to suit specific individual needs, where possible. Where appropriate, this may mean providing specialised equipment, differentiating activities, offering a parallel or separate activity with a teaching assistant, or setting a challenge appropriate to their skill level.

### **Expectations**

Widmer End children will acquire and build upon life-long skills in practical and engaging ways. They will become learners who evaluate their own work and understand how and why they can make improvements. They will have been encouraged to develop a passion for Science. They will demonstrate school values by persevering while learning new skills and by being respectful of other peoples' work. They will learn new, technical vocabulary and use it in context.

### **Impact**

Pupils will be curious about the world around them and express this through the use of scientific language. Pupils will make connections between different science topics, subjects and learning from previous years. Science profiles across the school will be embedded across the curriculum, children are empowered to explore, investigate and question.