

Rationale and National Curriculum links to subject

The Primary Knowledge Curriculum aims to instill in children a deep-rooted curiosity about the world around them, fostering a scientific lense through which they can understand and explore. By delving beyond the National Curriculum requirements, pupils gain a comprehensive understanding of the three core scientific disciplines: biology, chemistry, and physics. Additionally, the curriculum incorporates Earth Science, cultivating a sense of environmental awareness and sustainability.

Aims and Objectives

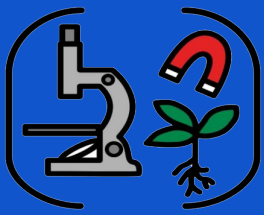
The curriculum strives to:

- Equip pupils with a strong foundation in scientific knowledge and skills.
- Cultivate a lifelong passion for learning and discovery.
- Develop critical thinking and problem-solving abilities.
- Foster effective communication of scientific ideas and findings.
- Instill an appreciation for the diversity of scientific contributions throughout history.

Progression of Knowledge and Skills

The curriculum is designed to build upon prior knowledge incrementally. By revisiting concepts at strategic intervals, pupils can solidify their understanding and apply it to new contexts. This approach ensures a gradual progression in complexity, allowing pupils to master foundational concepts before tackling more advanced topics.

A prime example of this progression is the Human Body strand, which is taught across all year groups. As pupils advance, their understanding of the human body deepens, and their scientific vocabulary expands, enabling them to articulate their knowledge with increasing precision.



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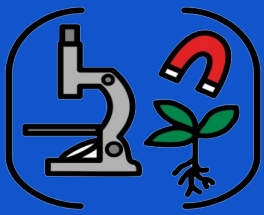
Teaching and Learning Approaches

The curriculum emphasises a hands-on, enquiry-based approach to learning. Pupils are encouraged to:

- Conduct scientific investigations: By designing experiments, collecting data, and analyzing results, pupils develop essential scientific skills and a deeper understanding of scientific processes.
- Engage in collaborative learning: Working in groups fosters critical thinking, communication, and problem-solving skills.
- Utilize a variety of resources: Access to a range of materials, including textbooks, online resources, and scientific equipment, enriches the learning experience.
- Explore the historical context of science: By learning about the contributions of scientists from diverse backgrounds, pupils gain a broader perspective on the development of scientific knowledge.
- Through these approaches, the curriculum aims to inspire a lifelong love of learning and equip pupils with the tools they need to succeed in the 21st century.



Langney Primary Academy



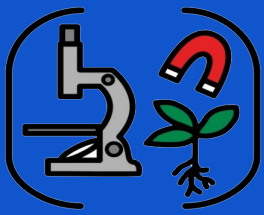
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National Curriculum programme of study

Key Stage 1

Year 1						
	The Human Body	Animals and their Needs	Seasons and Weather	Taking Care of the Earth	Plants	Materials and Magnets
• 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	✓	✓	✓	✓	✓	✓



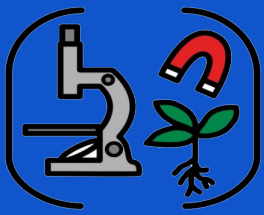
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National Curriculum programme of study

Key Stage 1

		Year 2						
		The Human Body	Living Things and their Environments	Electricity	Plants	Materials and Matter	Astronomy	
<ul style="list-style-type: none"> 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 		✓	✓	✓	✓	✓	✓	
			✓	✓	✓	✓		
					✓	✓	✓	
		✓	✓	✓	✓	✓	✓	
		✓	✓	✓	✓	✓	✓	
		✓	✓	✓	✓	✓		
		✓	✓	✓	✓	✓		



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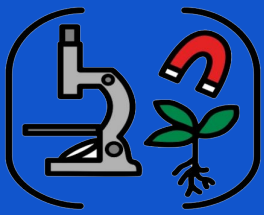


National Curriculum programme of study

Key Stage 2

- 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
- using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions

Year 3					
The Human Body	Cycles in Nature	Plants	Light	Rocks	Forces and Magnets
✓	✓	✓	✓	✓	✓
	✓	✓	✓	✓	✓
	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓
✓	✓	✓	✓	✓	✓
	✓	✓	✓	✓	✓



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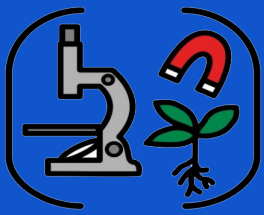


National Curriculum programme of study

Key Stage 2

- asking relevant questions and using different types of scientific enquiries to answer them
- setting up simple practical enquiries, comparative and fair tests
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Year 4					
The Human Body	Classification	Ecology	Sound	States of Matter and the Water cycle	Electricity
✓	✓	✓	✓	✓	✓
✓		✓	✓	✓	✓
		✓	✓	✓	✓
		✓	✓	✓	✓
✓	✓	✓	✓	✓	✓
✓		✓	✓		✓
✓	✓		✓		✓



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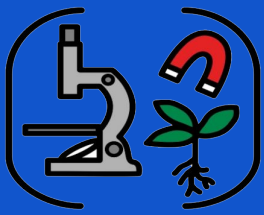


National Curriculum programme of study

Key Stage 2

- 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 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					
	Human Body	Materials	Living Things	Forces	Astronomy	Meteorology
• 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 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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National Curriculum programme of study

Key Stage 2

- 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 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 6					
	Human Body	Classification	Electricity	Light	Reproduction	Evolution
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 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	✓	✓	✓	✓	✓	✓