



STEM

Through high-quality engaging experiences, we aim to prepare our pupils to thrive in a highly complex world. Pupils will be competent across Mathematics, Science and Computing; they will be able to understand and prepare research and investigate questions they will face in their futures. Teachers will provide an imaginative curriculum to encourage children's curiosity and expose them to the wonders of the world. Opportunities will be given to pupils to enable them to work collaboratively to problem solve in a meaningful real-life context.

Maths
Computing
Science

Science

Our Vision

Science is about developing an understanding and making sense of our environment, primarily through first-hand experiences, exploration and observation, interaction with scientific phenomena and application of scientific language. Through high quality experiences and cross-curricular contexts, children at Langshott are taught essential aspects of knowledge, methods, processes and use of science, enabling them to broaden their scientific view, recognise the power of rational explanation and to develop their curiosity of the world around them.

Our Aims

Using the Programmes of Study from the National Curriculum, it is our aim to prepare our children for life in an increasingly scientific and technological world by ensuring that all children:

- develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics.
- are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.
- 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.

Knowledge:

Biology:	
	Biology is the study of living organisms and their vital processes. <i>Plants; Living things and their habitats; Animals, including humans; Evolution and inheritance.</i>
Chemistry:	
	Chemistry is the study of matter, defined as anything that has mass and takes up space, and the changes that matter can undergo when it is subject to different environments and conditions. <i>Everyday materials; Uses of everyday materials; States of matter; Properties and changes of materials; Rocks</i>
Physics:	
	Physics is the study of matter and its motion through space and time, along with related concepts such as energy and force. <i>Seasonal changes; Magnets and forces; Forces; Light; Sound; Electricity; Earth and space.</i>

Skills (working scientifically):

Plan:	
In the planning stage, children will have the opportunity to:	
	Ask questions that can be answered using a scientific enquiry.
	Make predictions by using prior knowledge to suggest what will happen in an enquiry.
	Set up tests and decide on the method and equipment to use to plan the enquiry.
Do:	
In the doing stage, children will have the opportunity to:	

	Use sense and measuring equipment to make observations about their enquiry.												
	Perform different types of enquiries from the approaches below: <table> <tr> <td></td><td> Comparative/ fair testing: Changing one variable to see its effect on another, whilst keeping all others the same. </td></tr> <tr> <td></td><td> Research: Using secondary sources of information to answer scientific questions. </td></tr> <tr> <td></td><td> Observation over time: Observe changes that occur over a period of time ranging from minutes to months. </td></tr> <tr> <td></td><td> Pattern-seeking: Identifying patterns and looking for relationships in enquiries where variables are difficult to control. </td></tr> <tr> <td></td><td> Identifying, grouping and classifying: Making observations to name, sort and organise items. </td></tr> <tr> <td></td><td> Problem-solving: Applying prior scientific knowledge to find answers to problems. </td></tr> </table>		Comparative/ fair testing: Changing one variable to see its effect on another, whilst keeping all others the same.		Research: Using secondary sources of information to answer scientific questions.		Observation over time: Observe changes that occur over a period of time ranging from minutes to months.		Pattern-seeking: Identifying patterns and looking for relationships in enquiries where variables are difficult to control.		Identifying, grouping and classifying: Making observations to name, sort and organise items.		Problem-solving: Applying prior scientific knowledge to find answers to problems.
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Record: In the recording stage, children will have the opportunity to:													
	Use tables, drawings and other means to record observations and measurement.												
Review: In the reviewing stage, children will have the opportunity to:													
	<i>Interpret and communicate results</i> using information from the data to say what they have found out.												
	<i>Reflect</i> on the success of the enquiry approach and identify further questions for enquiry.												