

Science

Vision and approach for Science

At Swanmore, our science curriculum encourages children to develop a sense of excitement and curiosity about the world around them, both now and in the future. Through building up a body of key knowledge and concepts, teamed with practical experiences to develop scientific skills, children are encouraged to ask questions and evaluate evidence to explore living organisms and the physical environment. Science is taught through classroom based activities, exploring habitats and life in our extensive school grounds or during offsite or residential visits such as to Minstead in Year 4 and Swanage in Year 5. It is our wish that as children leave Swanmore they are equipped with the knowledge, skills and enthusiasm to continue on their scientific learning journey.

Key Concepts

Life
Organisation
Force
Cause and effect
Changes
Systems
Reactions
Diversity
Matter
Variation

Content and Sequencing

Our curriculum provides opportunities for children to build upon and develop their scientific knowledge. Acting as scientists, children will learn the skills and knowledge necessary to solve problems, discovering how science can be used to explain what is occurring, predict how things will behave and explore possible causes. They will learn to ask questions, plan fair tests and carry out practical enquiry using scientific equipment, make careful observation, record and report findings using scientific vocabulary and draw conclusions. Our learning is supported by HIAS learning journeys, introducing knowledge sequentially across the key stages, giving children opportunities to make links to and build upon prior learning, as well as exploring new concepts.

Curriculum Drivers

Motivation

Motivation is shown through practical, hands-on investigations that spark curiosity about the world. Teachers use experiments, observations, and enquiry-based learning to encourage pupils to ask questions and find answers for themselves. Activities such as testing materials, exploring habitats, or conducting simple experiments help make learning exciting and relevant. Positive encouragement, teamwork, and opportunities to discover surprising results help pupils stay engaged and motivated to explore scientific ideas further.

Reflection

Reflection is shown when pupils think about what they have discovered during investigations and how their understanding has changed. Teachers often encourage children to discuss results, compare findings, and consider whether their predictions were correct. Pupils may record observations in science books or through class discussions and review what worked well in their experiments and what could be improved. This helps them develop a deeper understanding of scientific concepts and learn from their practical experiences.

Perseverance

Perseverance is shown when pupils keep trying during investigations even if their experiments do not work as expected. Children may need to repeat tests, adjust their methods, or try different materials to find accurate results. Teachers encourage them to learn from mistakes, refine their predictions, and continue observing carefully. This helps pupils understand that scientific enquiry often involves trial and error, building resilience and a deeper understanding of how science works.

Independence

Through collaborative or individual practical experiences, children will have the opportunity to problem solve and reflect on their work to make improvements.

Curiosity

Science teaching and learning begins with asking questions. Throughout a unit of learning, children are encouraged to question phenomena with a sense of excitement and curiosity.

Links with Mathematics and English

Progressive

Inclusive

<p>Opportunities to apply their English skills:</p> <ul style="list-style-type: none"> ➤ Explanations about experiments ➤ Use of scientific vocabulary ➤ Labelling/annotations/summarising <p>Opportunities to apply their Mathematics skills:</p> <ul style="list-style-type: none"> ➤ Data collection and analysis ➤ Rounding, averages ➤ Measures 	<ul style="list-style-type: none"> ➤ Scientific enquiry will be evident in books. ➤ Evidence of “working scientifically” skills will be clear (EG. Planning, making predictions, presenting results, using evidence to draw conclusions) ➤ HIAS learning journeys used to support knowledge and skills development. 	<ul style="list-style-type: none"> ➤ Task varied to support children to access the task. ➤ Learning is challenging. ➤ Children’s starting point are identified using assessment tools and teaching builds on prior knowledge. ➤ The curriculum is practical to engage all. ➤ The outside environment and other resources are used to aid understanding.
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