

Subject	Science
Overview Intent	<p>National Curriculum Overview</p> <p>A high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Science has changed our lives and is vital to the world’s future prosperity, and all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes.</p> <p>The Aims of Science</p> <p>The national curriculum for science aims to ensure that all pupils:</p> <ul style="list-style-type: none"> ● develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics ● 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 ● are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.
Planning provision Implementation	<p>How are lessons, schemes of work, units sequenced to help make pupils progress?</p> <p>There are rolling programmes of work in each key stage as detailed in the school’s curriculum map documentation. These programmes take into account the mixed age nature of the classes and are designed to offer opportunity to revisit subject knowledge to reinforce and extend.</p> <p>How is Science timetabled, delivered, staffed & resourced?</p> <ul style="list-style-type: none"> ● Science will be taught in planned and arranged topic blocks by the class teacher. ● Existing knowledge is checked at the beginning of each topic. This ensures that teaching is informed by the children’s starting points and that it takes account of pupil voice, incorporating children’s interests. ● Through our planning, teachers provide problem solving opportunities that allow children to apply their knowledge, and find out answers for themselves. Children are encouraged to ask their own questions and be given opportunities to use their scientific skills and research to discover the answers. ● Medium term planning involves teachers creating sequences of engaging lessons. Where appropriate, these sequences of lessons might be delivered as a block during science days or when undertaking field studies. ● Teachers use precise questioning in class to test conceptual knowledge and skills, and assess pupils regularly to identify those children with gaps in learning, so that all pupils keep up. ● Tasks are selected and designed to provide appropriate challenge to all learners, in line with the school’s commitment to inclusion. ● We build upon the knowledge and skill development of the previous years. As the children’s knowledge and understanding increases, they become more proficient in selecting, using scientific equipment, collating and interpreting results, they become increasingly confident in their growing ability to come to conclusions based on real evidence. ● Working scientifically skills are embedded into lessons to ensure that skills are systematically developed throughout the children’s school career and new vocabulary and challenging concepts are introduced through direct teaching. ● Teachers demonstrate how to use scientific equipment, and the various Working Scientifically skills in order to embed scientific understanding. Teachers find

	<p>opportunities to develop children’s understanding of their surroundings by accessing outdoor learning.</p> <ul style="list-style-type: none"> • At the end of each topic, key knowledge is reviewed by the children. • Opportunities to use cross curricular approaches are developed by class teachers.
<p>Example of sequence of learning</p>	<p>How does Science build on prior knowledge & understanding?</p> <p>A coherent long term plan where pupils get plenty of opportunities to revisit and recall previous learning.</p> <p>Science is taught regularly, either as a sequence of linked lessons over a period of weeks or as dedicated days and short blocks.</p> <p>Ks1 – Focus – animals including humans</p> <p>lesson 1 – identify and name some common animals</p> <p>lesson 2 – animals and their offspring</p> <p>lesson 3 – features of common animals</p> <p>lesson 4 – change in animals as they grow</p> <p>lesson 5 – herbivores, carnivores and omnivores</p> <p>lesson 6 – parts of the human body</p> <p>Ks2 – Focus – Plants</p> <p>lesson 1 – Compare different kinds of rocks based on their appearance in the context of understanding the difference between natural and human-made rocks.</p> <p>lesson 2 – Making systematic and careful observations by examining different types of rocks.</p> <p>lesson 3 – Describe in simple terms how fossils are formed when things that have lived are trapped within rock by explaining the fossilisation process and by comparing fossils to the animals they belong to.</p> <p>lesson 4 – Identifying changes related to simple scientific ideas in the context of theories about fossils.</p> <p>lesson 5-Recognise that soils are made from rocks and organic matter by explaining how soil is formed.</p> <p>lesson 6-Recording findings using simple scientific language. Reporting on findings from enquiries, including presentations of results and conclusions.</p>
<p>Assessment</p> <p>Impact</p>	<p>Focus on Science objective</p> <p>National curriculum learning objectives are used to inform the school’s ‘Skills Progression Ladders’. The science skills progression ladder identifies 13 discrete strands for assessment, with the first three strands covering the ‘working scientifically’ aspect of the Curriculum Orders and the remaining 10 concerned with individual areas of science.</p> <p>Each of these strands is split into seven stages with criteria for skills, knowledge and understanding which become incrementally more sophisticated.</p> <p>Science work is assessed against these criteria.</p>

	Teachers both during and after lessons; making observations; questioning learners; providing written feedback where appropriate. Children are encouraged to refine their understanding and challenge their misconceptions via the use of 'purple polishing'.
CPD	How do we ensure teachers are equipped? Science lead is a member of a cross MAT group led by the Science team at Helston Community College. There are regular meetings of this group to explore opportunities for developing science provision. These opportunities include CPD; joint planning sessions and chances to share ideas and best practice.