Whimple Primary School

Science Curriculum Statement, Knowledge and Skills Progression

Subject Vision: **"Somewhere, something incredible is waiting to be known." Carl Sagan, astronomer.**

Our vision for Science is to enable children to confidently explore and discover the world around them, so that they have a deeper understanding of the world we live in. We realise that young children are naturally curious and passionate about learning; we provide a stimulating science curriculum that nurtures children's natural curiosity and their on-going intellectual development. Through a hands-on, enquiry-based curriculum, children will experience the joy of having wonderful ideas, exploration and investigation – that is, the joy of finding out. Our aim is that these stimulating and challenging experiences help children secure and extend their scientific knowledge and vocabulary. We believe that these opportunities will ensure that our children are confident, life-long learners who will explore the world around them.

Statement of Intent:

We intend that children will:

· 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

· be equipped with the scientific skills required to understand the uses and implications of science, today and for the future

We encourage children to be inquisitive throughout their time at the school and beyond. The science curriculum fosters a healthy curiosity in children about our universe and promotes respect for the natural world. We believe science encompasses the acquisition of knowledge, concepts, skills and positive attitudes. Throughout the programmes of study, the children will acquire and develop the key knowledge that has been identified within each unit and across each year group, as well as the application of scientific skills. We ensure that the skills of working scientifically are built-on and developed throughout children's time at school so that they can apply their knowledge of science when using equipment, conducting experiments, building arguments and explaining concepts confidently and continue to ask questions and be curious about their surroundings. Through Whimple's 6 Rs and the skills builder whole school programme, we develop and celebrate general skills of questioning, observation, creativity and resilience that are embedded in our approach to children's engagement with their science learning. The 2002 Education Act requires schools to provide a 'balanced and broadly based curriculum' which promotes the spiritual, moral, cultural, mental and physical development of children at our schools and prepares them for the opportunities, responsibilities and experiences of later life. We intend to deliver the 2014 National Curriculum in a purposeful, engaging and creative way by providing a broad curriculum that ensures that there are enough subjects on the timetable and a balanced curriculum that ensures that each subject is given sufficient space on the timetable to deliver its distinct contribution. The school curriculum is broader than the National Curriculum and our intention is to give children a richer and deeper experience that is not limited by the National Curriculum.

Statement of Implementation:

At Whimple Primary School, Science is taught in half-termly topics based on the National Curriculum Programmes of Study. Where appropriate, and beneficial to learning, links are made between Science and other curriculum areas and topics. Teachers create a positive attitude to science learning within their classrooms and reinforce an expectation that all children are capable of achieving high standards in science. Our whole school approach to the teaching and learning of science involves the following;

· A sequence of lessons for each programme of study, which carefully plans for progression and depth

· Through our planning, we involve problem solving opportunities that allow children to find out 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. This curiosity is celebrated within the classroom. Planning involves teachers creating engaging lessons, often involving high-quality resources to aid understanding of conceptual knowledge. Teachers use precise questioning in class to test conceptual knowledge and skills, and assess children regularly to identify those children with gaps in learning, so that all children keep up

· We build upon the learning and skill development of the previous years. As the children's knowledge and understanding increases, and 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

· The skills of working scientifically are embedded into lessons to ensure these skills are being developed throughout the children's time in school and new vocabulary and challenging concepts are introduced through direct teaching and revised using a range of methods (knowledge organisers, quizzes)

· Teachers demonstrate how to use scientific equipment, and the various Working Scientifically skills in order to embed scientific understanding. Teachers find opportunities to develop children's understanding of their surroundings by accessing outdoor learning whenever possible

· Children are offered a wide range of extra-curricular activities, visits, trips and visitors to complement and broaden the curriculum. These are purposeful and link with the knowledge being taught in class

· Regular events such as Science Week, Fantastic Friday, Science Club or specific projects, allow all pupils to come off-timetable, provide broader provision and allow for the acquisition and application of knowledge and skills. These events often involve families and the wider community.

· Wherever possible, links are made to the the MUGA, local environment and our community

Statement of Impact:

Our Science Curriculum is high quality, well thought out and is planned to demonstrate progression. Our children are curious and inquisitive about the world, demonstrating joy in discovering new learning. As a result of this, all children make good or better progress from their own starting points. Children are able to carry out independent scientific enquiry. We measure the impact of our curriculum through the following methods:

· A reflection on standards achieved against the planned outcomes

· Tracking of knowledge in formative assessment to build on existing knowledge and summative assessment from the TAPs resources to indicate pupils' understanding of knowledge alongside working scientifically skills.

· Pupil discussions about their learning · Evidence of high quality work in books and through pupil discussion and practical investigations.
This Curriculum Statement should be read in conjunction the whole school overview of learning for this subject.