Inspire. Challenge. Learn

At Pool Hayes Primary School, we are committed to providing our children with a curriculum that inspires and challenges them to learn

Curriculum statement for the teaching and learning of Science

INTENT	At Pool Hayes Primary we value the importance of science and scientific enquiry. Our intent is to give every child a broad and balanced science curriculum which enables them to confidently explore and discover what is around them, so that they have a deeper understanding of the world we live in. We do this through fully adhering to the aims of the national curriculum and fostering a healthy curiosity and interest in the sciences. As one of the core subjects taught in Primary Schools, we give the teaching and learning of Science the prominence it requires. At the heart of our progressive science curriculum is scientific investigation. Wherever possible we intend to deliver lessons where children learn through varied investigations, leading to them being equipped for life to ask and answer scientific questions about the world around them. 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 Working Scientifically skills are built-on and developed throughout children's time at the school so that they can apply their knowledge of science when using equipment, conducting experiments and investigations, building arguments and explaining concepts confidently, being familiar with scientific terminology and, most importantly, to continue to ask questions and be curious about their surroundings. The national curriculum for Science aims to ensure that all pupils: • 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

Underpinned By	High Expectations	Modelling	Vocabulary
	All children are expected to succeed and make progress from their starting points. All children should see themselves as scientists, with a sense of excitement and curiosity for the world around them.	Teachers will teach and model the skills needed to be a successful scientist. They will provide examples of good practice and have high expectations.	Subject specific vocab is taught explicitly and is expected to be used when articulating scientific concepts clearly and precisely.

Implementation	<u>Teaching and learning</u> • Science topics are taught within each year group in accordance with the National Curriculum. Lessons will be taught in planned, and arranged, topic blocks by the class teacher. • The progression of skills for working scientifically are developed through the year groups and scientific enquiry skills are of key importance within lessons. • Our curriculum is progressive. We build upon the learning and skill development of the previous years (see progression document). • Planning involves teachers creating practical, engaging lessons with opportunities for precise questioning in class to test conceptual knowledge and skills. • Working Scientifically skills are embedded into lessons to ensure these skills are being developed throughout the children's school career, and new vocabulary and challenging concepts are introduced through direct teaching. This is developed through the years, in keeping with the topics. • 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 where possible. • Children are given a knowledge organiser at the start of each topic which details some key Science Curriculum Statement information and vocabulary. This is not used as part of an assessment, but to support children with their acquisition of knowledge and are used as a reference document. • Through enrichment days, such as 'Science Week', we promote the profile of Science and allow time for the children to freely explore scientific topics. <u>EYFS</u> • The Early Years Foundation Stage Curriculum supports children's understanding of Science through the planning and teaching of 'Understanding the World.' • Children find out about objects, materials and living things using all of their senses looking at similarities, differences, patterns and change. • Both the environment and skilled practitioners foster curiosity and encourage explorative play, children are motivated to ask questions about why things happen and how things work. • Our children are encouraged to use their natural environment around them to explore. <u>Assessment</u> • Assessment for learning in each lesson helps teachers identify those children with gaps in their learning that require extra support. • KS1 and KS2 children are assessed at the end of each topic using the Head Start materials. This will give a standardised score for each

child that is recorded on DCPro. Teachers can then identify and address and misconceptions.

Inclusion

- The Science curriculum is ambitious and gives all learners the knowledge they need to succeed.
- Our strategy is to enable all children to be catered for through adapted planning suited to their abilities.

	Taught discretely Children learn about different scientists and about aspects of science in history. Is it important that children know how science contributes, shapes and reflects our history. Important Scientific figures will broaden the knowledge of the children by teaching them about a diverse and multi-cultural range of scientists throughout history.	**External Stimuli** Through trips and visits, children will be given the opportunity to develop their skills and knowledge beyond the classroom.	**Health and Safety** Children will develop responsibility and autonomy, following important safety procedures during science lessons. It is important to take into account children's safety during science lessons as we aim to provide the children with opportunities to use different equipment safely. The class teacher is responsible for the safety of children. Children need to be made aware of these procedures before the lesson begins. All staff working with the children need to be made aware of the safety procedures for each lesson.
	Cross Curricular Children have lots of opportunity to apply skills that they have been taught in other curriculum areas, e.g. measuring and graph work in maths, problem solving skills, computing skills, drawing skills in art and reading skills.	**Showcasing our Achievements** We celebrate children's achievements in science through star of the week awards and photographs of the children's work.	
	Themed Days We take part in British Science week through a science day to celebrate and raise the profile of important scientific findings. We celebrate by completing fun and exciting experiments based around the theme given each year.	**Extra-Curricular** Each year we invite Fizz Pop Science into school to give a science assembly, showcasing a range of exciting experiments and raising the profile of science in our school. The children then have an opportunity to join an after school club where they can take part in their own experiments and investigations.	

Impact					
	At the end of each year, pupils will have a comprehensive understanding of the science curriculum and a positive outlook on their learning journey through Pool Hayes Primary. They will be able to discuss their findings using key vocabulary and references from their completed work. Children will have covered the five areas of scientific enquiry, developing their analytical and questioning skills along the way. Also, the children will have consolidated learning from other curricular areas due to the creative recording of data using a variety resources and methods.				
	PUPIL VOICE Through discussion and feedback, children talk enthusiastically about their science lessons and show genuine curiosity and interest in areas they have explored. They talk confidently about the knowledge they have gained and their aspirations for future careers in science.	EVIDENCE IN KNOWLEDGE Pupils can call on their prior learning to propel their understanding of Science. They can verbally explain their learning clearly using key vocabulary. Every year group builds upon the learning from prior year groups therefore developing depth of understanding.	EVIDENCE IN SKILLS Pupils use acquired vocabulary to interpret and convey their understanding of the subject. They are able to record data in a variety of ways and can prove or disprove a hypothesis in a fair and safe manner.	BREDTH AND DEPTH Teachers plan opportunities for pupils to study across concepts and deepen their conceptual understanding in aspects of particular scientific value. Pupils have the confidence and are inspired to further their knowledge.	OUTCOMES At the end of each year we expect the children to have achieved Age Related Expectations (ARE) for their year group. Some children will have progressed further and achieved greater depth (GD). Children who have gaps in their knowledge receive appropriate support in lessons.