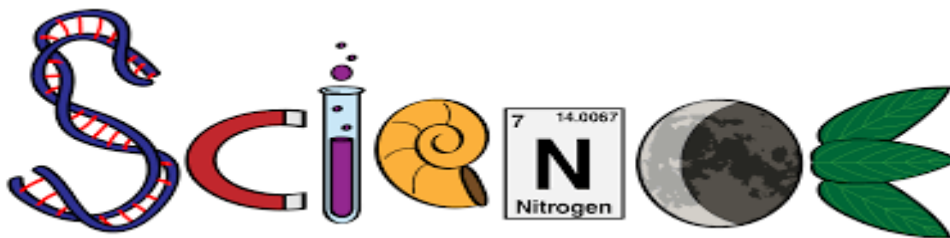


Science at Exwick Heights Primary School.



INTENT: The 2014 National Curriculum for Science aims to ensure that all children:

- *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 skills required to understand the uses and implications of science, today and for the future. We understand that it is important for lessons to have a skills-based focus, and that the knowledge can be taught through this*

Science is a vibrant subject at Exwick Heights Primary School of which we are incredibly proud. Children are naturally inquisitive and we provide them with the learning environment to answer their questions about the world around them. Taught weekly, our curriculum provides a rich variety of topics that cover all the core scientific disciplines of physics, biology and chemistry.

Children explore and learn in Science through a variety of investigative skills, engaging with and developing the elements of working scientifically. These include skills such as experimenting with their own lines of enquiry, making predictions, analysing results, observing changes over time, collecting results in a variety of ways, drawing conclusions from their observations and evaluating their own method and the reliability of their results. Within each unit studied, children will build on their prior learning while developing new scientific vocabulary.

Science education at Exwick Heights inspires the development of scientific knowledge through the practical nature of the subject. Children develop their scientific skills, utilizing the classroom, wider school environment and the local environment and community. Children are equipped with the scientific knowledge they require to understand the importance of science in today's world and that of the future.

Implementation

Teachers create a positive attitude to science learning within their classrooms and reinforce an expectation that all pupils are capable of achieving high standards in science. Our whole school approach to the teaching and learning of science involves the following:

- Science is taught weekly in carefully planned and arranged topic blocks by the class teacher, to have a project-based approach. This is a strategy to enable the achievement of a greater depth of knowledge which supports long term memory through regular looping. Topics are revisited and knowledge developed across each phase.
- 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, we involve 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. 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 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. This is developed through the years, in-keeping with the topics.
- Teachers demonstrate how to use scientific equipment in order to embed scientific understanding. Teachers find opportunities to develop children's understanding of their surroundings by accessing outdoor learning and workshops with experts.
- 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.
- At the end of each topic, key knowledge is reviewed by the children and rigorously checked by the teacher and consolidated as necessary.

Impact

The successful approach at Exwick Heights results in a fun, engaging, high-quality science education, that provides children with the foundations and knowledge for understanding the world. Through various workshops, trips and interactions with experts and local charities alongside our work both in and out of the classroom, children have the understanding that science has changed our lives and that it is vital to the world's future prosperity. Children learn the possibilities for careers in science, as a result of our community links and connection with national agencies including the STEM association. They learn from and work with professionals, ensuring access to positive role models within the field of science from the immediate and wider local community. From this exposure to a range of different scientists from various backgrounds, all children feel they are scientists and capable of achieving. Children at Exwick Heights overwhelmingly enjoy science and this results in motivated learners with sound scientific understanding.