



## *Seek, Believe and Achieve* in Science!

### **Science Rationale**

At Speen School, we nurture the natural curiosity of our children and shape it into scientific enquiry. We scaffold learning and skills so that children develop their understanding of the world around them and develop the confidence to explore, collect evidence and test their own hypothesis. Our pupils love to spend their time in our uniquely beautiful and inspiring setting. Their opportunities to understand and explore the world around us as well as develop scientific skills are extensive, whether it is listening for different sounds, searching for mini beasts within our home-designed 'Btingham Palace', sensory garden or pond area, or observing the changing seasons within our natural environment.

### **Intent**

At Speen School we place investigation at the heart of our science curriculum. Our pupils learn about plants, animals, habitats, materials and changing seasons (please see curriculum overview for more details). We want to develop the children's natural curiosity and give them the opportunity to develop scientific skills like asking questions and finding ways of answering these questions. Children are given many opportunities to carry out practical observations within our school grounds as well as researching footage for things we cannot observe in school. Children will plan, carry out and evaluate experiments and observations throughout their time here and by the end of Year 2 we expect that they are able to do this independently with confidence. Children choose what, how and why they use resources and discuss with their friends their reasoning for doing so. We strive to give the children at our school real life experiences linked to their science topic. We believe this will give the children the confidence and motivation to further develop their skills into the next stage of their education and throughout their life. Alongside developing scientific skills, our aim is to provide the children with knowledge about the world around them. Throughout this, the children are immersed in scientific vocabulary, which supports children's knowledge and understanding not only of the topic, but of the world around them.

### **Implementation - how the curriculum is tailored to our pupils**

Science is taught in topic blocks over a two-year cycle, (please see curriculum overview for more details). This ensures that key concepts are built upon, as the children move through the school, so that children's understanding deepens. Each unit starts with an opportunity for children to show their prior knowledge.

This is then added to during the unit. Within Science lessons, new learning is introduced in small, memorable blocks. To support language, vocabulary banks are developed throughout the unit, kept live and referred to during each lesson.

We also make the most of our rich natural environment e.g., trees in different seasons, looking outside for different types of materials. We plan carefully to ensure there is progression within each science unit at Speen School for e.g., within Early Years, children learn about the different seasons being encouraged to observe the changes that happen during the course of each year. Their knowledge is developed further when they explore the weather and plants in KS1.

Within Speen's science units, recording of measurements are modelled and children are taught to use different strategies and equipment. To promote enthusiasm in science, we hold special workshops with support from for e.g., Science Oxford and RAF Wycombe. The use of big questions in science has been successful in motivating children and stimulating deeper thinking.

When relevant, a cross-curricular approach enables science content to be explored in other areas of the curriculum, for example in a KS1 DT topic on Puppets, children explored materials, fabric and its uses.

Children are encouraged to ask their own questions and be given opportunities to use their scientific skills and research to discover answers collaboratively. Curiosity is celebrated within the classroom and discussion is encouraged, developing reasoning, social and listening skills whilst giving children a safe place to practice scientific vocabulary.

Teachers use questioning to assess children's knowledge and conceptual understanding and quickly identify any misconceptions. Regular practical investigations and experiments provide opportunities for teachers to formatively assess children's skills and understanding of scientific working.

## **Impact**

Children feedback that they enjoy science and are well motivated in this subject. End of term assessments show that pupils' attainment in science is at least in line with attainment in core subjects in all year groups.

We strive for:

- Motivated children who are passionate about science.
- Questioning, curious and inquisitive minds
- A deep vocabulary that explains their understanding of scientific concepts
- The knowledge and skills that are needed to access science within the KS2 curriculum