Science

Intent:

Science teaching at Howbridge Church of England Junior School aims to give all children a strong understanding of the world around them whilst acquiring specific skills and knowledge to help them to think scientifically, to gain an understanding of scientific processes and also an understanding of the uses and implications of Science, today and for the future.

At Howbridge Church of England Junior School, scientific enquiry skills are embedded in each topic the children study and these topics are revisited and developed throughout their time at school.

Essential Characteristic of Scientists at Howbridge Church of England Junior School

*Children will acquire the ability to think independently and raise questions about working scientifically and the knowledge and skills that it brings.

* Children will develop confidence and competence in the full range of practical skills, taking initiative in, for example, planning and carrying out scientific investigations, and apply these skills within a range of contexts.

*Children will develop their scientific knowledge and understanding which will be demonstrated in written and verbal explanations, in solving challenging problems through observation and reporting scientific findings.

* Children will undertake practical work in a variety of contexts, including field work.

*Children will have a passion for science and its application in past, present and future technologies.

Science is designed at Howbridge to develop a life-long passion for Science that nurtures curiosity, promotes enthusiasm and helps build confidence in our learners.

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 will be taught in blocks and progresses through the school – this allows topics to be revisited so that knowledge is strengthened and reinforced
- A knowledge organiser is given to all children at the start a unit to show children their end goals for the unit and allows them to develop their understanding, e.g. highlighting key vocabulary
- In planning, problem solving opportunities 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.

- Lessons are engaging and 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.
- Knowledge and skills are built on from previous year groups. 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.
- Trips, visits and extra-curricular opportunities are provided for children to develop their passion and knowledge.
- 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 impact and measure of this is to ensure children not only acquire the appropriate age related knowledge linked to the science curriculum, but also skills which equip them to progress from their starting points, and within their everyday lives.

All children will have:

- A wider variety of skills linked to both scientific knowledge and understanding, and scientific enquiry/investigative skills.
- A richer vocabulary which will enable to articulate their understanding of taught concepts.
- High aspirations, which will see them through to further study, work and a successful adult life