

SUBJECT INTENT for SCIENCE

Intention 1: Develop our learner's learning –Inspire (Our head and body: what we learn)

To develop the appropriate subject specific knowledge, skills and understanding as set out in the National Curriculum, so that children can flourish, reach and exceed their potential academically, physically and artistically.

At Hady Primary School we recognise the importance of science in every aspect of daily life. As one of the core subjects taught in Primary Schools, we give the teaching and learning of Science the prominence it requires. The scientific area of learning is concerned with increasing pupils' knowledge and understanding of our world, and with developing skills associated with science as a process of enquiry. It will foster and develop the natural curiosity of the child about our universe, encourage respect for living organisms and the physical environment and provide opportunities for critical evaluation of evidence. 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 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, building arguments and explaining concepts confidently and continue to ask questions and be curious about their surroundings.

At Hady Primary School, focusing on the aims of the 2014 National Curriculum, our science teaching offers opportunities for children to:

- 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 knowledge required to understand the uses and implications of science, today and for the future.
- develop the essential scientific enquiry skills to deepen their scientific knowledge.
- Use a range of methods to communicate their scientific information and present it in a systematic, scientific manner, including I.C.T., diagrams, graphs and charts.
- Develop a respect for the materials and equipment they handle with regards to their own, and other children's safety.
- Develop an enthusiasm and enjoyment of scientific learning and discovery.

Assessment is an integral part of all aspects of the teaching and learning of science so that any misconceptions can be identified, ensuring that all children can achieve or exceed the progress and attainment that they are capable of.

Intention 2: Develop the character of our learners-Nurture (Our heart and character: Who we are when we learn)

To develop learners to have a holistic set of values that prepares them for life in the modern world in a diverse and ever changing community.

Teachers create a positive attitude to science learning within their classrooms and reinforce an expectation that all children achieve high standards in science. Our whole school approach to the teaching and learning of science is through cross-curricular links within a themed approach where children Engage, Develop, Innovate and Express their learning.

Science will be taught through themed Cornerstones units where science becomes an integral part of the learning journey. This is a strategy to enable the achievement of a greater depth of relevance, knowledge and understanding. Through analysis of the Cornerstones themes, any identified gaps in the curriculum are delivered by closely linking to, or in addition to, Cornerstone topics.

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, assessing children regularly to identify those children with gaps in learning, so that all children maintain progress.

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.

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, educational visits and expert visitors in school.

Intention 3: Develop the moral compass of our learners and develop behaviours and habits - Grow (Our place in the community and wider world: Who we are)

To develop the behaviours, learners need to succeed in the world such as concentration, perseverance, imagination, co-operation, the enjoyment of learning, self-improvement and curiosity. To understand spirituality in themselves and others, develop social skills and understand society, build

a firm set of personal morality, and to engage in the culture they live in and understand the cultures of others.

The Cornerstones themed approach at Hady results in a fun, engaging, high-quality science education, that provides children with the foundations and knowledge for understanding the world. Our engagement with the local environment ensures that children learn through varied and first- hand experiences of the world around them.

Frequent, continuous and progressive learning outside the classroom is embedded throughout the science curriculum. Through educational visits and expert visitors in school, children have the understanding that science has changed our lives and that it is vital to the world's future prosperity.

Pupil voice is used to further develop the science curriculum, through questioning of pupil's views and attitudes to science to support the children's enjoyment of science and to motivate learners. Children at Hady overwhelmingly enjoy science and this results in motivated learners with sound scientific understanding.

Children express their learning through annual science days where children celebrate British Science Week; they question, develop and enquire about science in even further detail. The local community is invited in and this gives an additional opportunity for children to engage with the wider community to share and discuss their learning.