LONG WHATTON C OF E PRIMARY | Live, Learn, Grow and Be Thankful

Science

Intent

What is happening before the planning?
What are the aims?
What needs to happen before the children learn?
How are we supporting children to become successful?

At Long Whatton C of E Primary we aim to give all children a strong understanding of the world around them whilst acquiring specific skills and knowledge to help them to think scientifically. They will gain an understanding of scientific processes and also develop competency of the uses and implications of Science, today and for their future. We aim to provide children with a solid foundation and deep love for science, to entice natural curiosity, promote questioning and independent problem solving. Our aim is to engage children in the question of 'why' and 'how' on their road to discovery.

At Long Whatton, our Cornerstones curriculum carefully matches partner science projects to enrich the topic covered by a key stage that term. Topics are uniquely selected to ensure that skills and knowledge taught in EYFS are built upon and revisited so children can develop a rich scientific toolkit. Teachers ensure that by following the 'Big Ideas' (woven throughout the Cornerstones science curriculum) understanding is nurtured and developed through a strategic order of delivery.

We aim for children to develop an ever growing knowledge in the three main scientific disciplines - chemistry, biology and physics. We aim for children to use a range of methods to communicate their scientific information and present it in a systematic, scientific manner, including computing, diagrams, graphs and charts.
Children should develop a respect for the materials and equipment they handle with regard to their own, and other children's safety.
Through the use of our natural, stimulating and outdoor environment we want to encourage an enthusiasm and enjoyment of scientific learning and discovery. We aim to promote children's own independent study by providing a range of opportunities beyond the classroom, creating science based school groups, clubs and extracurricular activities. We aim to bring childrens scientific visions to life through establishing a school chicken coop, polytunnel and nature reserve.
We aim to grow scientific vocabulary and questioning by embodying our Long Whatton values, in particularly 'Thinking for myself'. Our aim as staff is to motivate and develop children's confidence to ensure every learner can flourish.

Implementation

How is it going to be delivered?

How is it going to be taught, assessed and feedback given?

What are the long term learning goals?

Staff at Long Whatton have a love and positive attitude to learning science both within their classrooms and the wider school environment. Our goal is for children to become confident, curious, independent learners who are passionate about investigating and building upon their existing knowledge.

Science will be planned and taught using the schools companion science projects from the engaging Cornerstones curriculum built on the EYFS framework and National Curriculum. Over a two year rolling program children will cover the key objects for their age range through a multi-sensory and carefully structured approach. The program plans specifically for progression and depth of knowledge.
Lessons are engaging with high-quality resources to aid understanding of conceptual knowledge. Teachers use precise and varied questions to test conceptual knowledge and skills, and assess children regularly to identify those children with gaps in learning or address any misconceptions. Teachers recall prior knowledge and build stepping stones of skill to help embed learning into children's long term memories.

Long Whatton children use scientific equipment to perform fair tests with an 'I can do it' attitude. Children are taught to predict, conduct experiments and draw conclusions to answer big questions. Teachers use predominantly verbal feedback to support and extend learning. The use of challenge questions for pupils to apply their learning in a philosophical/open manner encourage children to establish a wider and deeper understanding. Children are assessed against the learning objective structured from the curriculum.
We aim for children to grow in confidence by applying their scientific knowledge and skills in the school's forest school, vegetable patch, nature reserve and local area.
Additional opportunities are provided, such as 3M Young Innovators Challenge, external speakers, Stem Science days in school and educational visits.

Impact

What knowledge and skills do pupils gain throughout?

How are they achieving the goals?

How does their knowledge gained compare to expectations?

Our Science Curriculum is high quality, well thought out and is planned to demonstrate progression and knowledge building. If children are keeping up with the curriculum, they are deemed to be making good or better progress. The successful approach at Long Whatton results in a fun, engaging, high-quality Science education, that provides children with the foundations for understanding the world. In addition, we measure the impact of our curriculum through the following methods: Regular assessment at the end of each topic, quizzes and questioning. Our engagement with the local environment ensures that children learn through varied and first hand experiences of the world around them. So much of science lends itself to outdoor learning and so we provide children with many opportunities to experience this. Through various workshops, trips and residentials, 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 such as the STEM association. 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 will be able to demonstrate their scientific knowledge throughout all stages of their Long Whatton journey verbally, via demonstration or in written form.
Build upon knowledge learnt at each key stage to develop their scientific understanding in each area of science, deepen their understanding and broaden their scientific enquiry skills.
Be able to ask scientific questions and develop enquiry skills to answer those questions through experimentation and understanding of fair testing. Children are confident to use a range of methods and equipment to experiment and then communicate results. Throughout their journey children collect and build on scientific vocabulary that deepens knowledge and helps spark connections.