



## Intent, implementation, and impact Statement: Science at Bitterley CofE Primary School

At Bitterley, we encourage pupils 'to be courageous, strong and do everything in love.'

The importance of understanding that each of us is rooted in love is not under-estimated at Bitterley.

'Love always trusts, always hopes, always perseveres.' Corinthians 13:7 Trusting in love gives us the courage to be ourselves. Courage is from the Latin 'coeur' which means 'To tell the story of who you are with your whole heart'. Our intention is for our pupils to leave Bitterley prepared for 'Life in all its fullness' and ready to tell their own stories.

Our Christian vision has driven us to create a bespoke curriculum for our pupils that pursues the acquisition of wisdom, knowledge and skills alongside educating for aspiration, dignity, and respect. It is also our intention to nurture a sense of community, so that all members of our school develop a deep sense of belonging, both locally and within the wider world. We believe that these attributes will support our pupils to live well together and flourish, as they move on to High School and beyond.

Our curriculum offer is therefore divided into three focus areas: 'Courage, strength and love':

**Courageous** – Living wholeheartedly. Using the knowledge and skills in our curriculum to choose our own path free from stereotyping; being curious, aspirational. Speaking out for those who do not have a voice.

**Strength** – Having a growth mindset, developing resilience, being able to persevere to achieve our goals to create a confident well-rounded citizen in our diverse world.

**Love** – Embracing our neighbours, developing a greater awareness of the challenge's others face in life and how we can make a difference in our school community, local community and further afield. Through the curriculum we develop pupils understanding of challenges locally and globally. We teach pupils to listen with respect.

At Bitterley CofE Primary School, we believe that a carefully sequenced curriculum can empower our pupils and reduce social inequality, whilst providing the knowledge they need for the next stage of their education and beyond. We view our curriculum as a spiral: the mapped-out journey of concept building leading to a change in long term memory and an increase in knowledge. Through progressive concepts throughout the curriculum, the children will develop a deep and rich understanding, meaning that the knowledge and skills

that are acquired are more likely to be remembered. Our curriculum sets out WHAT will be learned and WHEN it will be learned. We understand that cultural capital is the essential knowledge that children need to prepare them for their future success. Through our curriculum we provide different experiences and opportunities to support the accumulation of knowledge, behaviours, and skills that a child gains over time

## Intent

At Bitterley CE Primary, it is our intent to ensure Science is given the prominence it deserves as one of the core areas of the Primary Curriculum. Pupils will all receive a broad and balanced science curriculum delivered through quality first teaching with vocabulary rich content. They will be taught in a range of environments both within and around the school buildings and grounds, and in the wider community.

It is our intent to ensure that our pupils gain a good understanding of the world. We would like all children to feel able to further develop their scientific understanding no matter what their gender, race, aptitude, disability or background might be. We would like pupils to think scientifically and analytically, using scientific processes. Pupils should question, investigate and develop the skills needed to make a constructive contribution to the world they live in now, and in the future.

To do this, we will follow the 2014 national Curriculum and Kapow curriculum that aims to ensure that all pupils:

- 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.

Concepts taught will be reinforced by focusing on the different types of scientific enquiry so that pupils learn to use a variety of approaches to answer relevant scientific questions. They will be encouraged to question the world around them, be curious about their surroundings and become independent learners.

## Implementation

Scientific learning starts in the Early Years where the youngest children in school are taught to understand the world around them through play. As they progress to KS1 and 2, they follow a two year rolling program that, where appropriate, links scientific learning to their topic but is taught discretely where this is not the case.

To facilitate this, they access a range of resources, both physical and through accessing different environments around the school in it's immediate locality. Where possible, pupils

learning is enriched through specific science trips, accessing activities and learning through the National Science Week and through completing science workshops.

All new learning builds upon previous learning and repetition of key facts, concepts and vocabulary lead to a greater chance of pupils retaining information in the long term.

In KS1 and 2, reading is taught through the use of scientific texts, sometimes discretely and sometimes through cross curricular tasks, maths and DT for instance. Every child also has the opportunity to research a famous scientist, either living or historical, at least once a year.

In each classroom, pupils also have access to specific science displays to aid their learning. These displays are precise and uncluttered, consisting of the three key facts of the topic they are learning about and age appropriate vocabulary that will help them.

Pupils of all abilities access the science curriculum, the SEND pupils receiving 'pre teach activities' where necessary to ensure they do not miss learning opportunities. Teachers also ensure that they are aware of the bottom 20% of learners and provide targeted support.

All children are assessed regularly through pre and post assessments, regular targeted and group feedback and through quick quiz activities. See the marking and feedback policy for more information.

## Impact

All children will enjoy science. They will leave Bitterley CE with a good understanding of the world around them and feel that they are ready for the next phase of their learning. All pupils will have retained the knowledge they have been taught and will be able to show progress in their understanding. They will be able to ask scientific questions, know how to conduct simple observations, experiments and carry out fair tests, scrutinise data and find answers.

Most pupils will have achieved age related expectations by the end of the school year and will be able to work independently and confidentially and talk about their learning.

All pupils should be able to clearly articulate how science has changed the world they live in and how it will continue to be crucial in the future.