



# Euxton Church of England Primary School



In our Christian family, we all SHINE in the light of Jesus.

## Subject Leader Report - Science

**SUBJECT LEADER(S):** Helen MacDonald

### INTENTION - Subject Overview:

In order to allow all children to SHINE, an enriched science curriculum that provides **many opportunities for learning** is vital. Science in our school provides **opportunity for children to explore** aspects of nature including seasons and other natural phenomenon; find out about Earth, space, and the universe and their place in it; **question and explore** why things happen and how things work; **debate and question 'big' ideas** such as evolution; **develop a sense of 'awe' and 'wonder'** about the world around them. **Teachers create a positive attitude to science learning** within their classrooms and reinforce an **expectation that all children are capable of achieving high standards in science**. We want our pupils to **develop a love for science** that allows them to **explore and understand the world around them**, instilling in them an **awareness of how science is relevant in their day to day lives**.

**Fundamental British Values** are supported through the Science curriculum:

Democracy: Children are encouraged to **work collaboratively and listen to other's opinions and ideas**. Rule of law: Children are taught the importance of following **safety rules** in science; they understand that some laws are put in place to **support a healthy life-style**. Individual liberty: Children are encouraged to **express views or ideas freely**, to express hypotheses and discuss ideas and to make predictions that might be different to those of other children (as seen when learning about famous Scientists). They are encouraged to **express personal views when discussing a sensitive or controversial science issue**. Tolerance and respect: Children are encouraged to **work together** to plan enquiries; decide on roles during shared investigations; listen to feedback and share conclusions; learn from others, including experts; listen to and evaluate the ideas of others.

### IMPLEMENTATION - Planning:

Science is based on the National Curriculum 2014 with working scientifically skills following a progression approach using the Lancashire skills grid. The Association for Science Education (ASE) resources (TAPS and PLAN) are used to support both planning and assessment. Our curriculum is carefully planned to allow **all children to succeed**. Some topics are adjusted across year groups within a key stage in order to closely fit with other subjects and allow for a cross-curricular approach. Science is routinely taught weekly. The curriculum is spiral and therefore units are re-visited, with progression, across several year groups. The Key Knowledge Science document allows teachers to quickly access prior learning and future goals to create effective and appropriate lessons for their year group. In addition to this, teachers are given a half-termly knowledge document which

provides practical ideas, key questions and links to texts. At the beginning of each science unit, children complete a knowledge document which activates their prior learning.

**IMPLEMENTATION AND IMPACT - Assessment, Monitoring and Evidence:**

Ongoing assessment and review allows teachers to make judgements with regards to attainment and understanding within lessons, to adapt future lessons to suit the needs of pupils and to plan intervention for support or further challenge. Assessment also takes place formatively at the end of each topic and this data is used to identify children who might need further support within the class. Children are also assessed at the end of each Key Stage against DfE descriptors and results reported to the DfE. Attainment is recorded on Year Group specific grids that provide an overview for each individual child. Overall attainment is recorded termly to indicate those at, above or below ARE. A brick-wall summary is provided at the end of the school year to indicate progress as each cohort moves through school. A RAG rating is completed by each class teacher at the end of the school year. This is used to inform future planning for the subject.

Standards are monitored in a variety of ways: book scrutiny, teacher discussions, pupil interviews and Science Leader discussions and evidence collecting. Governors are informed of standards annually.

**IMPLEMENTATION AND IMPACT - Enrichment opportunities:**

Class trips are often linked to the Science curriculum (e.g. Bring Yer Wellies; Imagine That; MOSI; World of Glass St Helens; Brockholes Nature Reserve; BAE STEM activity day at Samlesbury; Hedgehogs' Woodland Adventures). Science support and a personalised visit to BAE Systems has been facilitated by a parent who is a STEM Ambassador. A day long Electricity Workshop supports learning in Year 6.

**EVALUATING IMPACT ON LEARNING, SEPTEMBER 2022-23**

INTENT	IMPLEMENTATION	IMPACT
Evolve the assessment of learning	Agree a new structure of teacher assessment at the end of each unit. Use of CPD to create a new framework which allows children greater freedom to highlight conceptual understanding as well as identify common misconceptions.	Assessment of learning 2/3s through a topic has enhanced the ability to identify common misconceptions and to also further deepen children's scientific knowledge. The use of concept cartoons and Explorify have given a platform for more scientific exploration and discussion which has provided teachers' with more opportunity to assess understanding as well as stretch it. These have also allowed for far greater access to exploration and scientific learning for all children, including those with additional needs, therefore improving overall enjoyment and learning within the subject.
To further develop STEM work	Continue liaising with Amanda Fearson from St Michael's and collaborate with Harriet Wiles	Although there are no current meetings with Amanda Fearson, opportunities provided by Bolton School have been taken. CPD

	(D&T) and Hayley King (GAT) to develop STEM projects.	has been given on meta-cognition and this has a positive impact on the children's learning of science, especially with experiments and practical work. There continue to be strong links between STEM and D&T projects which has enhanced the children's enjoyment and understanding of both subjects.
Increase cultural capital through science	Look at the work of inspirational scientists. Make links between scientific learning and careers. Invite in inspirational speakers. School displays.	Parents have been invited into school to discuss their careers and the links with science. Links are made between topics and possible career paths so that children are constantly exposed to a broad array of career ideas.

**FOCUS FOR LEARNING, SEPTEMBER 2023-24**

INTENT	IMPLEMENTATION	IMPACT
Improve accuracy in making observations and taking measurements.	Every science lesson children will either: take measurements/make observations or have the opportunity to discuss how these would be made. For example, if using an Explorify discussion, part of this will include questions which retrieve knowledge of key ways to make observations and take measurements. Children will be taught to identify and use scientific equipment appropriate to their phase. Children will be supported and encouraged to work with independence.	
Meta-cognition will be used to help children to evaluate practical work.	Every science lesson children will discuss possible fair tests which could be carried out to reach a conclusion. In those lessons where children do not carry out practical work, they will be encouraged to hypothesise about potential tests and identify things which could go wrong. During practical sessions, they will be encouraged to 'think aloud' as they complete their work. Time will then be reserved to discuss the accuracy of practical and how they could be improved upon.	

***'I can do all things through Christ who strengthens me,' Philipians 4:13.***