

Science Subject Statement

Subject Lead: S-J Pyne

‘Science is the language of curiosity’
Professor Brian Cox

Intent

We want our children to be curious scientists, fascinated about and investigating the world around them. Our science curriculum encourages the children to ask questions and want to find out more about natural phenomena through tasks such as research, performing tests, and making observations. They will learn key foundational knowledge and concepts and how to ‘work scientifically’ through a range of science enquiries that will enable them to discover, experiment and explore inside and outside the classroom. Our children will be inspired by science and encouraged to draw on their knowledge and skills to explain what is happening around them, predict how things will behave, and analyse causes.

Science has changed our lives and will continue to have an impact on our future; we want our children to feel equipped with the scientific knowledge and skills to be able to take their science learning beyond the classroom and continue to engage with and understand the world around them as lifelong learners.

Implementation

At the Flitch Green Academy we use our own bespoke planning based on the National Curriculum for science, which covers the specific disciplines of biology, chemistry and physics. Our curriculum is designed to cover the teaching of key knowledge and concepts as well as the skills to ‘work scientifically’. ‘Working scientifically’ refers to the disciplinary knowledge of science and means ‘thinking like a scientist’ through different types of science enquiries. These types of scientific enquiry include: observing over time; pattern seeking; identifying, classifying and grouping’ comparative and fair testing (controlled investigations); and researching using secondary sources. Teachers will make cross-curricular links and teach science within meaningful contexts, showing pupils the relevance of their enquiries to the real world, thus building their ‘science capital’.

Topics and lessons are carefully sequenced so that they build on the learning and

misconceptions are addressed proactively and reactively. Teachers ensure that pupils develop a secure understanding of the foundational knowledge and key concepts before more complex material is taught. Teachers will continue to revisit new language being taught and, where appropriate will plan a range of activities to ensure that children's use of new vocabulary is secure.

Oracy and discussion is at the heart of every lesson with opportunities for pupils to challenge their own and others' thinking.

Impact

How will teachers know that pupils have learnt the planned curriculum?

Teachers will plan assessment opportunities within lessons through questioning, specifically designed tasks (e.g. 'What if' questions, the odd one out, concept cartoons) or quizzes to check pupil understanding and address misconceptions. Teachers will use the responses to these tasks as well as examples of work (in books or on iPads) to assess against the milestones based on the National Curriculum objectives. They will make judgements for a child at working towards, expected or greater depth.

How will leaders assure themselves that the planned curriculum is helping pupils to learn more?

Through pupils' work in books, quizzing and assessment, the science lead will be able to see evidence of progress and attainment across science units in each class. The science lead will meet with small groups of pupils with examples of their work and use questioning to check pupils have learnt more and remember more. This is in reference to both the substantive knowledge of each study as well as their working scientifically knowledge. They will ask questions specific to the science they have been learning as well as checking what they can remember from previous years. Any feedback from these meetings with pupils will be given to teachers to inform any future planning.