Science Firsy Foundation

Updated: September 2025

Intent

What are the aims for Science?

We follow the **national curriculum** to ensure the coverage is consistent and progressive across the school. Children learn specific **subject knowledge** relating to the curriculum. These cover **biology, chemistry, and physics** to develop conceptual understanding. During each Science topic, children will embed their skills relating to the '**working scientifically**' aspect of the curriculum.

Children will conduct their own **enquiries** using **scientific skills** to work like scientists. Here at Firs, we look at **practical approaches** to ensure **inclusive** lessons that meet the needs of all children, engaging them in a curious learning culture. We aim to make lessons fun and engaging so the children want to continue to develop their Science learning journey.

Children will develop their knowledge of **Science capital**—seeing the importance of science in every day life and how this links to future careers. Children will build upon the current research out there produced by scientists and look how theories have progressed over the years. Where possible, we will provide wider opportunities with **career advisors and outside agencies** through our new careers related learning project. We provide opportunities during British Science Week and other extra opportunities to link lessons to the wider curriculum including STEM.

They will continue to develop their vocabulary through the progression guidance provided. For each science unit, we split subject content vocabulary into three tiers. These are what we expect the children to use to provide age related statements within their learning. Working scientifically vocabulary has a specific progression document to ensure we are building the language linked to their learning.

Implementation

Subject content in EYFS, KS1 and KS2

The EYFS "Early Learning Goals" have been linked clearly to the KS1 National Curriculum to map progression. This shows what knowledge from "Understanding of the World" for a "Good Level of Development" (GLD) child should have when they enter KS1. As we follow the National Curriculum, we know that there is progress and coverage across the school. This can be seen in more detail in the whole school overview and the topic booklets for each half term.

Retention and Adaptation

To monitor retention, pre-unit quizzes have been introduced to assess prior knowledge of pupils and to allow teachers to identify the required starting points. These questions linked to previously taught areas of learning based on subject content and working scientifically skills.

Retrieval quizzes are placed at the start of most lessons to retrieve core knowledge from the prior lesson to mitigate the 'forgetting curve'.

The school adopts inclusive practice to ensure all children are supported to meet the required outcome. Where possible, science is practical and includes many visual images embedded within the lesson to support all children to understand the content that is delivered, this particularly supports our EAL learners. SEND and disadvantaged children receive a broad and balanced curriculum through tailored visual resources, practical activities and scaffolded support where appropriate.

Formative and Summative Assessment

Assessment for learning is carried out throughout every lesson by the teaching using key questioning. At the end of every lesson, self-assessment and teacher-assessment are completed to assess whether each individual child has met the required learning objective by achieving the success criteria. This can then be used to tailor and support future learning such as follow-up interventions or addressing the objective in another context. End of unit assessment (attainment) is monitored across the school using the assessment sheets provided within the topic booklets. Children complete mini-quizzes to support teacher's end of unit assessment.

Staff Knowledge

Teachers receive appropriate CPD when needed, this may be done in house by members of the STEM team or they are done outside of school from external providers. The topic booklets provide clear guidance of what must be taught in that unit and are provided to staff with enough time to do any self-study or ask support from other members of staff.

Timetable and Rationale

Science, where possible, is linked to the topic of that half term. Through mapping the national curriculum, science isn't taught every half term, children continue to learn aspects of science throughout other areas of the curriculum. Children will learn about careers which link to STEM, look at scientists within reading comprehension (ERIC) lessons and continue to look at inventors within DT. Timetabling is flexible throughout the school and therefore science may not always be taught in the same slot to ensure wider opportunities are met. Science is usually taught weekly during these half terms, to support spaced retrieval. Science weeks may be

Impact

Monitoring—Book scrutinies, staff voice, pupil voice, learning walks, lesson drop ins, data analysis, question level analysis

Impact on learning and retention

Following the national curriculum, all children will receive a broad and balanced curriculum that ensures progress throughout the year groups. Children will develop their understanding of concepts throughout the years and build upon their initial vocabulary. While children work scientifically, they will learn how to work like scientists, ensuring they have an opportunity to conduct a range of enquiry types while fully understanding the skills needed to work scientifically. This will allow them to use vocabulary correctly while following a process to develop positive attitudes towards Science. Ensuring teachers have carefully planned the initial starting points and thought about inclusive strategies, means all children will be able to progress from the range of starting points we have here in the school. Teachers can plan for misconceptions or gaps within their knowledge and build up their schemas to ensure children have a comprehensive understanding of the curriculum. Science taught practically ensures all children have the ability to succeed regardless of their proficiency in English, this also encourages children to be curious and develop a love for Science. As we develop our career learning journals, children have the opportunity to listen to real scientists which will support their understanding of careers they can work towards in later life.