



Statement of Intent and implementation for science

Curriculum

We have identified **5 Golden Threads** that weave through our curriculum and underpin everything we do.

Values: “Our children will be good citizens and have a sense of belonging”

Knowledge and skills-based: “Are curious, aspirational and knowledgeable”

Progression led: “Our children will Do more, know more and remember more”

Language and vocabulary rich: “Are good communicators both orally and in writing”

Experience rich: “Are interested and interesting”

Intent

At Larkhill our intent is to provide children with a science curriculum which enables them to confidently explore the world around them and have a deeper understanding of the everchanging world in which they live. We aim to nurture children’s curiosity and motivate children to be inquisitive learners throughout their time at Larkhill and beyond. We strive to enhance children’s understanding of the three areas of the science curriculum through real life and hands-on experiences which foster their knowledge, develop their enquiry skills and immerse them in scientific language. Through the teaching of scientific enquiry skills, every child will be able to both ask and answer scientific questions using predictions, planning, evaluation and data analysis.

To enable this to happen we ensure that:

Skills build progressively overtime and are revisited frequently to ensure retention. All teachers have secure subject knowledge of all 3 areas of the science curriculum which enables them to teach high quality lessons where science vocabulary and knowledge is explicitly taught. Teachers use Reach Out CPD to help develop their understanding of all topics covered. The scientific skills are carefully planned, taught and assessed with confidence and at the appropriate level. Finally, knowledge of the world around them is developed through STEM activities in all areas of the curriculum allowing children to experience, enquire and embed skills and vocabulary throughout the year

Implementation

The use of knowledge organisers and plans will ensure that each aspect of science (biology, physics and chemistry) is taught in the correct year groups with a balance of skills.

Opportunities for working scientifically are highlighted and there is a secure progression of topics (lessons as well as year groups and key stages).

Teachers are asked to complete a 20-minute course on ‘Reach Out CPD’ – this is a free course relating to the topic they will teach before they start planning. (Teachers will gain

certificates for their CPD folders). Each topic will have Knowledge organisers and planning documents which are given to teachers as a scaffolding tool allowing them to maximise the knowledge and vocabulary whilst incorporating the working scientifically skills. To assess knowledge, the children complete knowledge quizzes at the start and end of the topic as well as in subsequent years. This will allow the teacher to track progress but also embed skills and vocabulary. To further embed the children's learning, Science will be revisited during weekly science sessions during terms 1, 2, 4 and 5. (please see cycle maps for plan). The knowledge that had been missed due to COVID will be taught through the weekly science sessions with a focus on vocabulary and knowledge

Knowledge and skills-based implementation:

The knowledge and skills needed in each year group are carefully planned out into a two-year cycle. This includes blocked main topics and weekly sessions. In each topic children will cover all the objectives and scientific skills for both year groups. This has enabled us to make sure there more progression between the years groups as coverage for each topic is fine tuned to the statutory knowledge and skills.

The weekly science session allows teachers to reinforce any misconceptions or embed knowledge and skills. These sessions are modified and taught based on the teacher's assessment of learning.

Progression led implementation:

As well as fostering a positive approach to Scientific enquiry, our teaching is intended to ensure that children are provided with a variety of skills to help structure their understanding of the key areas of the Science Curriculum: chemistry, biology and physics for years 1-6 and including Understanding the World for EYFS.

Language and Vocabulary rich implementation:

Throughout the course of their learning, children will be immersed in a range of Scientific language to help build oracy within and across their year groups. Children will be taught with a focus on both subject-specific vocabulary that links to each module of learning and vocabulary that structures a framework for their skills of Working Scientifically. Children will engage in vocabulary activities at the start of each lesson; this enables and scaffolds the children's learning throughout the lesson. To help scaffold learning for all our children we have 'pre – teaching' packs which go home with the children so they can learn to read and spell each word. This provides children with confidence and prior knowledge before we start learning. This consistent emphasis on language will provide a support for their journey of working and thinking scientifically.

Experience rich implementation:

At Larkhill we aim to provide rich experiences where the fundamentals of Science are at the heart of what we teach. The children develop the 5 areas of working scientifically. This is achieved by participating in a variety of investigations, observations and carefully planned and structured lessons. Our model of teaching encourages children to revisit and build upon previous learning to help embed their knowledge across the curriculum.

In response to COVID 19 the long term plan has been reworked to address gaps created by COVID 19. Weekly science on track meetings are used now specifically to address these gaps and address lost learning as well as revisiting previous learning.

Impact:

When children leave Larkhill they will:

- Have accessed a well thought out, knowledge and skills led science curriculum that has met their needs
- Be able to retain key knowledge
- Use and understand a wide range of scientific vocabulary
- They will develop a sound understanding of all 5 areas of working scientifically (pattern seeking, observation, identifying and classifying, fair and comparative testing and researching/secondary sources.) which will allow them to think scientifically about the world around them.
- Developed a responsible approach to investigations and experiments

Assessment:

- Teachers will assess children throughout a topic of learning to ensure high levels of progress are made. Both summative and formative assessment will be used to ensure lessons are scaffolded effectively and learning is deep and meaningful.
- At the end of each topic, teachers will assess children's learning through our knowledge quizzes.
- At the end of the year, teachers will highlight coverage and record the attainment of each child. This will be kept in the science folders and passed on to the next teacher.
- Teachers will hold curriculum transition meetings where time will be allocated to discuss the last learning delivered by the previous teacher and the latest assessments gathered. Using this, teachers will plan initial assessment sessions at the start of terms one, two and three with the aim to fully understand the starting points of each child and the class as a whole and planning the sequence of lessons for each term. This will ensure missing knowledge is covered and knowledge gained during school closures can be shared.
- At the end of Year 2 and the End of Year 6 teachers will report their assessment results and this will be recoded on Pupil Asset during term 6.