

Science on a Page

Intent:

Our aim at LFADM is to provide a rich and exciting Science curriculum, which prepare pupils for life in a world where challenges are increasingly overcome through technological and scientific developments. We aim for our children to:

- Develop enthusiasm and positive attitudes towards Science
- Understanding of scientific methodology
- Critically evaluate both their own and others' work, extending and improving their ideas
- Promote cooperative social skills enabling successful team work
- Be aware of the historical and social perspective of science that has formed the modern world.

We aim to provide all children with bountiful opportunities to Work Scientifically and develop their questioning and investigative skills. Working scientifically specifies the understanding of the nature, processes and methods of science for each year group and is embedded throughout the different topics of the science curriculum. We aim for our children to be equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.

The curriculum in science:

A more detailed overview of each project is highlighted in our subject narrative section whereby various links and building upon prior knowledge are built upon. We use Cornerstones Maestro to support us in sequencing key concepts and knowledge.

Our two year mixed age overview highlights when each topic and content for science are covered. This has been mapped out alongside curriculum experts at Cornerstones to ensure there is correct coverage of science across all year groups. For a more in depth study of what is taught, please refer to our two year mixed age overview. We aim to encompass key aspects of substantive knowledge throughout our science curriculum, such as: evolution, functions of the body and how energy is used. This is underpinned by key building blocks of disciplinary knowledge such as learning key vocabulary.

Focus actions for 2021/2022:

- Ensure there is correct coverage and breadth across all year groups of science being taught by using the National Curriculum and Cornerstone Maestro guidance as support
- Ensure curriculum planning is fit for purpose and has all the necessary active ingredients to cater for needs of all learners
- To raise the profile of Working Scientifically and the use of specific scientific vocabulary
- To implement a fit for purpose QA cycle to monitor the quality of LFADM's science curriculum
- Evaluate and enhance available resources

Implementation:

- The different topics from the science curriculum have been mapped out across the two year cycle
- A clear pathway of knowledge and skills is mapped out to ensure the correct pitch and expectation across different year groups
- Learning environment reflects the lesson sequence with high quality examples of children's learning shared
- Meaningful cross curricular links to support children's application of disciplinary knowledge
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What does our planning include?

- Do Now and retrieval
- Lessons sequence of how this lesson fits into the bigger picture of the project
- Knowledge organisers
- Progression of knowledge and skills
- Learning objective
- Working Scientifically opportunities

What approaches to T&L do we use?

- Adapted Rosenshine principles which are outlined on our short term planning template
- Quizzes
- Partner/group talk during whole class teaching
- Investigative opportunities for Working Scientifically through Innovate phase of learning journey

How do we provide feedback for children?

- Live marking is a strategy used by teachers and LSAs
- Written marking in books to recap key learning point or extend learning
- Self-assessment from children to promote ownership of targets and next steps
- End of project quizzes to check what children have remembered

Key resources in school:

- NC documents
- Cornerstones Maestro platform
- Deepening Understanding lesson plans and resources
- Progression of skills outline
- Topic-specific resource boxes (e.g. Rocks, Human Body, etc.)
- Scientific Measuring Devices (e.g. force meters, thermometers, etc.)

Adapted approaches to learning:

- Teachers will have a range of scaffolded strategies to use for individual children including:
- Writing frames
 - Verbal opportunities using QR codes

How do we evaluate the impact of T&L?

- Learning analysis to help us understand the quality of learning within the classroom and an opportunity to provide feedback throughout our Walkthrus CPD curriculum for staff.
- Monitoring planning to help us understand when progression of skills and knowledge is being taught.
- Book look to see if planning matches outcomes.
- Pupil voice to help us understand pupils' knowledge in science and their thoughts and opinions.
- Evaluate content being covered for the next time this is taught.