



SCIENCE

INTENT, IMPLEMENTATION AND IMPACT

What makes a Dore Primary scientist?



INTENT

The National Curriculum (2014) states,

“A high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Science has changed our lives and is vital to the world’s future prosperity, and all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science.”

This statement provides the overarching aims for our science curriculum at Dore Primary School. The National Curriculum also sets out the subject's scope and content that will be studied in Key Stages 1 and 2. For the Foundation Stage, the Early Learning Goals similarly provide guidance to ensure children are developing their Understanding of the World.

Our science curriculum has been designed to generate fascination within learners about the world around them as well as an insatiable curiosity to know and understand more. At Dore Primary School, children gain a deep understanding of scientific knowledge and concepts as well as expertise in the methods and practices of science. Science is taught through half-termly, themed Learning Journeys which allow children to see the interconnectedness of science with other subjects and give rich context and understanding to children's studies.

At Dore Primary School, we aspire to help children develop into scientists, building progressively each year on the following key concepts:

- 1. Working Scientifically**
This concept involves learning the methodologies and practices of Science through the development of experimental skills.
- 2. Structure**
Anything composed of parts arranged together in some way
- 3. Function**
A specific job or procedure
- 4. Cause and effect**
How one or more factors can lead to change
- 5. Evolution**
The process by which living things change over time
- 6. Growth**
Increasing in size and the ways in which things change as they develop
- 7. Energy**
Strength and power. There are many forms such as thermal (heat), radiant (light) or kinetic (movement)
- 8. Changes**
Changing from one material / state to another
- 9. Process**
A series of actions or steps taken to achieve a particular end
- 10. Similarity and difference**
Exploring ways in which things are alike and dissimilar



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IMPLEMENTATION

How do we implement our Science curriculum?

1.	All children are taught science as a subject through regular, high-quality lessons.
2.	The curriculum is ambitious and follows the national curriculum programme of study.
3.	Lesson activities are challenging, varied and engaging.
4.	Children are taught scientific vocabulary and can use correct, subject-specific terminology when discussing their learning or giving a written response.
5.	Lessons are taught as part of sequences which are designed to be progressive and build on prior learning, resulting in children knowing more, understanding more and being able to do more as they move through school.
6.	Children are taught about the effect science has had on the development of modern civilisation. Children are introduced to a diverse range of historically significant individuals from the field of science through their classroom learning as well as subject leader assemblies.
7.	British Science Week is used as a means to celebrate up-to-date achievements in science as well as celebrate science learning from across school.
8.	Children are actively encouraged to make meaningful links between science and other areas of learning.
P4C	The P4C methodology is used to explore both historic and current debates within the realms of science.
TASC	The TASC methodology is used to give children a structure through which they can complete complex projects.
Outdoor Learning	Science is, at its most fundamental, the way in which we understand the world around us, making Outdoor Learning a naturally linked curriculum area. By observing and investigating the natural world, children can develop their substantive knowledge and refine their disciplinary skills in a literal real-world context.

IMPACT

1.	Excellent scientific knowledge and understanding across physics, chemistry and biology.
2.	Excellent disciplinary skills which can be used to carry out experiments effectively. Precise use of scientific equipment and skill at recording and interpreting findings.
3.	Ability to understand and use an extensive range of scientific vocabulary.
4.	Significant levels of originality, imagination and innovation in the application of skills.
5.	Ability to undertake practical work in a rich variety of contexts.
6.	A passion for science, an appreciation of its impact on our lives and an understanding that science is never 'finished' and that exciting, new learning is happening all the time.