Groveside School

Primary Science

Curriculum Statement

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Groveside School's primary science curriculum aims to develop a sense of excitement and curiosity about natural phenomena and an understanding of how the scientific community contributes to our past, present and future.

We want pupils to develop a knowledge of Biology, Chemistry and Physics, but also adopt a broad range of skills in working scientifically and beyond. Studying science allows children to appreciate how new knowledge and skills can be fundamental to solving increasing global challenges.

Our curriculum aims to encourage critical thinking and empower pupils to question the hows and whys of the world around them.

Our scheme encourages:

- A strong focus on developing knowledge *alongside* scientific skills across Biology, Chemistry and Physics.
- Curiosity and excitement about familiar and unknown observations.
- Challenging misconceptions and demystifying truths.
- Continuous progression by building on practical and investigative skills across all units.
- Critical thinking, with the ability to ask perceptive questions and explain and analyse evidence.
- Development of scientific literacy using wide-ranging, specialist vocabulary.

In order to meet the aims of the National Curriculum for Science and in response to the Ofsted research review into science, we have identified the following key strands:

Scientific knowledge and understanding of:

- Biology - living organisms and vital processes
- Chemistry - matter and its properties
- Physics - how the world we live in 'works'

Working scientifically - processes and methods of science to answer questions about the world around us.

Science in action - uses and implications of science in the past, present and for the future.

Groveside's science scheme is a spiral curriculum, with essential knowledge and skills revisited with increasing complexity, allowing pupils to revise and build on their previous learning. A range of engaging recall activities promote frequent pupil reflection on prior learning, ensuring new learning is approached with confidence. The **Science in action**

strand is interwoven throughout the scheme to make the concepts and skills relevant to pupils and inspiring for future application.

The expected impact of following the Groveside science scheme of work is that children will:

- Plants; Animals, Including Humans; Living Things and Their Habitats; Evolution and Inheritance.
- Develop a body of foundational knowledge for the Chemistry topics in the National curriculum: Everyday Materials; Uses of Everyday Materials; Properties and Changes of Materials; States of Matter; Rocks.
- Develop a body of foundational knowledge for the Physics topics in the National curriculum: Seasonal Changes; Forces and Magnets; Sound; Light; Electricity; Earth and Space.
- Be able to evaluate and identify the methods that 'real world' scientists use to develop and answer scientific questions.
- Identify and use equipment effectively to accurately gather, measure and record data.
- Be able to display and convey data in a variety of ways, including graphs.
- Analyse data in order to identify, classify, group, and find patterns.
- Use evidence to formulate explanations and conclusions.
- Demonstrate scientific literacy through presenting concepts and communicating ideas using scientific vocabulary.
- Understand the importance of resilience and a growth mindset, particularly in reference to scientific enquiry.
- Meet the end of key stage expectations outlined in the National curriculum for Science.

Each unit is based upon one of the key science disciplines; Biology, Chemistry and Physics. To show progression throughout the Key Stage we have grouped the National curriculum content into six key areas of science:

Plants

Animals, including humans

Living things and habitats

Materials

Energy

Forces, Earth and space

How is reading promoted in Science?

All teachers are expected to be aware of each child's current reading age, this will allow staff to differentiate all learning resources so independent reading can be encouraged every lesson and appropriate questioning of knowledge is utilised, so each learner is more able to build upon their scientific knowledge.

Measuring impact in Science

At Groveside School, staff use an online platform called Evidence for Learning to record pupil attainment in Science. This system uses the **Groveside Progress Steps** Assessment Framework.

All the knowledge and skills that we would like our leaners to achieve by the end of the Key Stage are set out in sequential order on Evidence for Learning. It is our intention to ensure that all pupils progress at an expected rate, so they are able to achieve their personal best.

Pupils will be assessed against the criteria each term. Each set of criteria will have 4 aspects.

1 - Fully Supported
2 - Partially Supported
3 - Independence
4 - Wow (transferrable skills /Application