Curriculum Rationale

SCIENCE

INTENT

- To provide a high-quality science education that develops pupils' curiosity, knowledge and understanding of the world around them.
- To ensure pupils develop secure scientific knowledge in biology, chemistry and physics through a carefully sequenced curriculum.
- To enable pupils to work scientifically by asking questions, making predictions, carrying out investigations, recording results and drawing conclusions.
- To develop pupils' scientific vocabulary so they can explain their understanding clearly and confidently.
- To provide regular opportunities for practical, hands-on investigations to develop enquiry skills and deepen understanding.
- To ensure pupils understand how science is used in everyday life and its importance in the wider world.
- To help pupils understand the importance of digital technology in science, including researching, recording data, using simulations and presenting findings.
- To prepare pupils for secondary science by developing strong foundations in scientific knowledge, enquiry skills and investigative thinking.

IMPLEMENTATION

- Science is taught in line with the National Curriculum and programmes of study, ensuring coverage of biology, chemistry and physics across each key stage.
- The curriculum is carefully sequenced so that pupils build scientific knowledge progressively, revisiting and building on prior learning each year.
- In KS2, children work in separate exercise books for Physics, Biology and Chemistry. This helps our children to remember prior knowledge in relation to each scientific area.
- Each unit of work includes a clear focus on key scientific knowledge as well as Working Scientifically skills.
- Working Scientifically skills are taught and developed progressively across the school, including asking questions, making predictions, planning enquiries, observing and measuring, recording data, interpreting results and drawing conclusions.
- Pupils are given regular opportunities to take part in practical investigations and enquiries to develop their understanding through hands-on learning.
- Scientific vocabulary is explicitly taught and reinforced so pupils can explain their understanding clearly and accurately.
- Teachers use questioning, discussion and investigation to address misconceptions and deepen pupils' understanding of scientific concepts.
- Pupils record their learning in a variety of ways including diagrams, tables, charts, written conclusions and digital presentations.
- Links are made between science and real-life contexts to help pupils understand the relevance and importance of science in the world around them.
- Digital technology is used where appropriate to support learning, including research, data logging, recording results, simulations and presenting findings.

IMPACT

By the time pupils leave our school, they will have developed secure scientific knowledge in biology, chemistry and physics, alongside strong Working Scientifically skills such as asking questions, making predictions, carrying out investigations, recording results and drawing conclusions. Pupils will be able to use scientific vocabulary to explain their understanding, show curiosity about the world around them and understand the importance of science in everyday life and the wider world. They will be confident working independently and collaboratively, recording results in a variety of ways including using digital technology, and will be well prepared for the next stage of their science education in secondary school.

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SCIENCE

EYFS

In the Early Years Foundation Stage, science is taught through the Understanding the World area of learning, where children explore the natural world, materials, seasons, plants, animals and everyday technology through play, exploration and first-hand experiences. Children are encouraged to observe, ask questions, talk about what they notice and explore how things work, which begins to develop early scientific thinking skills. A strong focus is placed on vocabulary development and oracy, with adults modelling and encouraging the use of words such as float, sink, melt, freeze, grow, change, hard, soft, heavy and light. Through discussion, questioning and exploration, children learn to describe what they see, explain what they think and talk about what might happen next. These early experiences develop curiosity, observation skills, language development and basic investigation skills, which form the foundations for the Key Stage 1 science curriculum and prepare children for Year 1 by introducing simple scientific concepts, vocabulary and the early skills needed for working scientifically.

Prescot Primary School **KS1 & 2 Overview of National Academy Science Units**

	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	KS1 Working Scientifically		LKS2 Working Scientifically		UKS2 Working Scientifically	
Autumn 1	Seasonal changes	Growing Plants	Introduction to the human skeleton and muscles	Introduction to the human digestive system	Properties and changes and separating materials Split over two half terms	Light and how it travels
Autumn 2	Identifying plants and their basic parts	Uses of everyday materials	Rocks and soils	Introduction to states of matter and changing states	Earth, sun and moon	Changing circuits
Spring 1	Naming and grouping animals (links to Dinosaur Planet)	New Life	Forces and magnets	Introduction to sound	Properties changes and separating materials Part 2	Human circulatory system
Spring 2	Human Body Parts	Healthy Me	Healthy Eating	Simple electrical circuits	Forces including simple machines	Evolution and inheritance
Summer 1	Everyday materials (Links to Moon Zoom)	Living things and where they live	What plants do and what they need	Living things and their environment	Reproduction and life cycles plants	Keeping Healthy
Summer 2	Seasonal changes (spring and summer)	Introduction to food chains	Introduction to light and shadows	More about food chains	Reproduction and life cycles animals	Classification

LINKS

DfE Science National Curriculum

CORNERSTONES EDUCATION

Curriculum Rationale

SCIENCE

ASSESSMENT CRITERIA

- We implement an inclusive curriculum so that all children, including those with SEND, can make progress and demonstrate success in a range of ways.
- We conduct baseline assessments, checking the pupils' existing knowledge and skill level.
- We review and re-cap prior learning and link it to new and current study. We identify curriculum links so that learning can be applied and assessed in new contexts. We encourage the children to 'CONNECT".
- Teachers use a range of assessment activities in their class, including the review of knowledge organisers, mini assessments, digital quizzes and content creation, sketch books, independent tasks, work in books, pupil chats in lessons.
- Children are encouragaed to share their voice, verbally or digitally on how they think they are doing and what they enjoy about learning this subject. This is collated by the subject leader.
- To meet the expected standard, pupils should demonstrate a broad understanding of the key facts in the end points for that year in addition, they retain key knowledge from prior learning.
- At the greater depth standard, pupils demonstrate knowledge and understanding of every aspect of the key specification to the highest degree. and are able to make connections independently.
- We enter teachers assessments into the Cornerstones portal. Subject leaders analyse the data and report to governors annually.
- Peer audits provide quality assurance, moderation of standards and training across trust schools.

At Prescot Primary School and Nursery, we aim to:
Empower Today, Prepare for Tomorrow.