Harper Bell SDA Primary School: Approach To Science

Intent : At Harper Bell SDA Primary School, we aim to develop active, inquisitive scientists who explore and question the world around them. Our practical and investigative curriculum fosters curiosity, creativity and critical thinking. Pupils develop secure knowledge and understanding across biology, chemistry and physics, learning how science explains, predicts and analyses the natural world. Lessons promote respect for living and non-living things while equipping pupils with scientific skills for life. Our curriculum is a comprehensive, spiral curriculum for primary schools in the UK that aims to develop both scientific knowledge (substantive knowledge) and practical investigation skills (disciplinary knowledge) through engaging, hands-on, and real-world examples.

Implementation

- **Curriculum Design:** Science is taught through KAPOW. Knowledge and skills are revisited with increasing complexity as children progress through year groups, allowing them to build on their prior learning and deepen their understanding (recall and retention are key components).
- **EYFS:** Science learning is woven through the Understanding the World strand of Development Matters, providing thematic, exploratory experiences. Children explore areas such as: animals, planets and being scientist!
- **KS1:** Pupils study biology, chemistry and physics strands termly, including Forces and Space to inspire curiosity. Long-term investigations (e.g. making connections, Growing Plants) run alongside.
- **KS2:** Knowledge units are taught in termly blocks for physics, chemistry and biology. Working Scientifically skills are introduced at the start of each year and revisited throughout all units.
- **Inclusion:** Science is highly practical, with reasonable adjustments made so all pupils can explore, record and discuss their findings effectively.

Impact

- Pupils enjoy practical, hands-on investigations that build long-term understanding and enthusiasm.
- Children confidently use scientific vocabulary to explain and justify findings.

Pupil Voice: 'I love space. I enjoy science because we get to explore and investigate.' Mohamud Y3

'When we get to do experiments it feels fun. I love to discover.' Kaycee Y6

Assessment

- Ongoing AfL informs teaching and supports responsive feedback.
- Feedforward and End-of-unit assessments measure knowledge and enquiry skills.
- Evidence includes written conclusions, oral explanations and use of scientific vocabulary.
- Data recorded on Insight Tracker supports progress monitoring across year groups.
- In Years 2 and 6, assessments align with teacher assessment frameworks.
- Gaps identified through assessment inform Smart Start activities, targeted support and co-planning with science lead..

Subject Knowledge, Skills and Vocabulary

Our science curriculum builds conceptual understanding and investigative skills through practical enquiry. Pupils develop:

- Scientific knowledge – secure understanding of biology, chemistry and physics concepts.
- Enquiry skills – planning, testing, measuring and drawing conclusions accurately.
- Observation and recording – using equipment safely and recording data effectively.
- Analysis and explanation – interpreting results using scientific reasoning and vocabulary.
- Curiosity and reflection – questioning evidence, making predictions and evaluating findings.

Progression from EYFS to Year 6 ensures pupils become confident, analytical thinkers who see science as relevant to their lives and future learning.

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Inclusion

Science at Harper Bell ensures inclusive investigation by providing practical, scaffolded enquiry tasks that allow all pupils — including those with disabilities or language barriers — to access hands-on exploration. Lessons are differentiated with digital assistants, peer-partnering and varied recording methods so every child collects and analyses data, engages with key scientific vocabulary and participates fully in the learning process.

Science Curriculum Coverage Overview: *Updated December 2026*

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
R	Animal Adventures		I am a scientist		Our beautiful planet	
1	Forces and space: Seasonal changes	Materials: Everyday materials	Animals: Sensitive bodies	Animals: Comparing animals	Plants: Introduction to plants	Making connections: Investigating science through stories
2	Living things: Habitats	Living things: Microhabitats	Materials: Uses of everyday materials	Animals, including humans: Life cycles and health	Plants: Plant growth	Making connections: Plant-based materials
3	Animals: Movement and nutrition	Forces and space: Forces and magnets	Materials: Rocks and soil	Energy: Light and shadows	Plants: Plant reproduction	Making connections: Does hand span affect grip strength?
4	Animals including humans: Digestion and food	Energy: Electricity and circuits	Materials: States of matter	Energy: Sound and vibrations	Living things: Classification and changing habitats	Making connections: How does the flow of liquids compare?
5	Materials: Mixtures and separation	Materials: Properties and changes	Forces and space: Earth and space	Living things: Life cycles and reproduction	Forces and space: Unbalanced forces	Animals: Human timeline (3 lessons)/ Making connections: Does the size of an asteroid affect the diameter of its crater? (3 lessons
6	Living things: Classifying big and small	Energy: Light and reflection	Living things: Evolution and inheritance	Energy: Circuits, batteries and switches	Animals, including humans: Circulation and health	Making connections: Are some sunglasses safer than others?