



Lowerhouse Junior School, Burnley

SCIENCE POLICY	
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Date	September 2025
Date of Review	September 2027

Inspiring a lifelong love for learning

Aspiration

Integrity

Respect

Resilience

Aspiration Integrity Respect Resilience

INTRODUCTION

Science is all about curiosity, discovery, and understanding the world around us. In our school, we believe science should be exciting, hands-on, and accessible to everyone. Our science policy ensures that all KS2 students explore key scientific ideas through experiments, investigations, and discussions. We encourage questioning, problem-solving, and teamwork, helping students develop skills for the future while fostering a love for learning about nature, materials, and forces.

Intent

Why do we teach science? Why do we teach it the way we do?

When science is taught it encapsulates a variety of skills such as analytical thinking, communication, creative writing and reading. Children are encouraged to develop questions and investigations to deepen their understanding of the world around them. By creating lines of enquiry, children broaden their understanding of the world. The science National Curriculum identifies three key areas in which the children should be taught: knowledge and understanding; working scientifically and the application of science. Our school planning focuses upon these.

Through practical activities and working with others, children are able to develop the skills of observation, prediction, investigation, interpretation, questioning and hypothesising. In line with our school values, children are taught resilience, it is often that investigations may need to be repeated with different variables to test a hypothesis. Children are encouraged to use key scientific vocabulary to be able to share their learning and ideas with others.

Children with SEND or in receipt of pupil premium funding may have work that is different/ scaffolded for them in order to access the science curriculum. It is our belief that children are provided with a range of opportunities to actively carry out different types of scientific enquiries. Lowerhouse strives to enable all children to make strong progress in science, whilst developing enjoyment and passion for the subject. In addition, the wider curriculum provides many opportunities to apply and deepen children's understanding of science.

Implementation

What do we teach? What does this look like?

The National Curriculum focuses on two dimensions for teaching science:

- Developing scientific knowledge
- Developing scientific skills

At Lowerhouse Junior School, science is taught as a discrete subject and focuses on developing pupils' competence in both dimensions. Our scientific teaching is concerned with increasing pupils' knowledge and understanding of our world, and with developing skills associated with Science as a process of enquiry.

To ensure imaginative, purposeful and well managed lessons, we use 'Developing Experts' to support the planning of science within our school. Lessons are delivered in a variety of ways ensuring that all children can access and participate in lessons. Interactive, practical activities encourage the children to discuss their ideas and extend their understanding of difficult concepts and challenging questions. Well planned lessons along with access to a vast range of up-to-date scientific equipment, the use of knowledge organisers and subject specific vocabulary displays in classrooms ensures that children receive the best possible science lessons in our school and can apply science to the wider world and staff are confident teaching science.

Science teaching ensures that:

- All pupils are given the opportunity to develop scientific knowledge and acquire scientific skills in a science lesson.
- Topics are blocked to allow children to focus on developing their knowledge and skills, studying each topic in depth.
- A vast range of up-to-date scientific equipment is utilised within science lessons.
- Children are given opportunities to explore, question, predict, research, plan, carry out investigations and observations as well as conclude their findings.
- Children present their findings and learning using science specific language, observations, diagrams, graphs and charts to enable our children to become effective communicators of scientific ideas, facts and data.

Cross-Curricular links to science

English

For example:

- Scientific Reports & Writing – After an experiment, students can write up their findings using structured reports, including hypotheses, methods, and conclusions, reinforcing both scientific thinking and English writing skills.
- Persuasive Writing – Topics such as climate change, plastic pollution, or animal conservation can inspire persuasive letters or speeches, combining scientific understanding with strong argumentation skills.
- Poetry & Creative Writing – Nature-based poetry can incorporate science themes like habitats, life cycles, or forces. Creative stories about space exploration or mini-biographies of famous scientists link storytelling with scientific knowledge.
- Instructions & Procedural Writing – Writing clear, step-by-step guides for carrying out an experiment helps students develop both scientific accuracy and English writing structure.
- Debates & Discussions – Ethical topics such as genetic modification, space travel, or endangered species can encourage structured discussions, supporting reasoning, speaking and listening skills.
- Reading Scientific Texts – Incorporating non-fiction books and articles about science topics helps improve comprehension and vocabulary while deepening subject knowledge.

Art

For example:

- Nature-Inspired Artwork – Students can create observational drawings or paintings of plants, animals, or microscopic cells, helping them explore scientific detail through artistic techniques.
- Sculptures & Models – Making 3D models of the solar system, the human body, or animal habitats encourages hands-on learning and artistic expression while reinforcing scientific concepts.
- Eco-Art Projects – Learners can design artworks using recycled materials to explore environmental science themes such as sustainability, pollution, and conservation.
- Illustrated Life Cycles – Students can visually represent the life cycle of a butterfly, frog, or plant through a series of drawings, paintings, or collage work.

Geography

For example:

- Weather & Climate Studies – Students can explore the water cycle, weather patterns, and climate change, linking scientific processes with geographical locations and impacts.
- Ecosystems & Biomes – Learning about different habitats, such as rainforests, deserts, and oceans, helps students understand biodiversity while examining geographical features.
- Natural Disasters – Investigating earthquakes, volcanoes, and tsunamis connects scientific concepts like forces and energy with geographical hazards and their effects on communities.
- Map Skills & Scientific Data – Using maps to plot migration routes of animals, global temperature changes, or locations of natural resources encourages both geographical awareness and scientific analysis.

Maths

For example:

- Data Collection & Graphs – Students can record temperatures, plant growth, or experiment results, then represent the data in tables, bar charts, or line graphs.
- Measurement & Units – Learning about forces, speed, and distances in science can be reinforced with practical maths, such as measuring liquids, weighing objects, or calculating speeds.
- Probability in Science – Exploring genetics, biodiversity, or the chances of certain weather conditions introduces probability concepts in a real-world scientific context.
- Time Calculations & Experiments – Investigating reaction times, growth cycles, or astronomical events involves measuring and interpreting time, linking science with numerical problem-solving.

PSHE

- Human Growth & Development – Teaching about puberty, body changes, and reproduction supports scientific learning about the human body while reinforcing PSHE discussions about self-care and emotional well-being.
- Relationships & Respect – Exploring the science of hormones and emotions alongside lessons on friendships, healthy relationships, and consent helps students understand both the biological and social aspects of personal interactions.

- Health & Personal Safety – Learning about hygiene, disease prevention, and the immune system links science with PSHE topics on staying safe, making healthy choices, and avoiding harmful substances.
- Sustainability & Global Responsibility – Exploring human impact on the environment—such as pollution, climate change, and food production—encourages discussions on ethical decision-making, responsibility, and community involvement.

History

- Inventors & Scientific Discoveries – Exploring the work of historical scientists like Isaac Newton, Marie Curie, or Charles Darwin helps students understand how discoveries have shaped the world over time.
- Medicine Through the Ages – Investigating how medical advancements, from medieval remedies to modern vaccines, link biology and historical developments in healthcare.
- Space Exploration History – Studying key moments in space history, such as the Moon landing or early telescopes, connects scientific progress with significant historical events.
- Environmental Changes Over Time – Looking at how climate, ecosystems, and human activity have influenced the environment throughout history ties scientific study to historical shifts in geography and industry.

P.E

- The Science of Movement – Students can explore forces and motion by examining how muscles, joints, and bones work together during different sports and physical activities.
- Heart Rate & Exercise – Investigating how physical activity affects heart rate and stamina helps students understand the role of the circulatory system in maintaining health.
- Nutrition & Energy – Learning about food groups, digestion, and how the body converts food into energy ties biology to healthy eating and sports performance.
- Reaction Times & Coordination – Conducting experiments to measure reaction times in different sports or activities connects science with physical skills and reflex development.

Impact

What will this look like?

By the time children leave Lowerhouse Junior School, children will not only acquire the appropriate age related knowledge linked to the science curriculum, but also skills which equip them to progress from their starting points, and within their everyday lives. They will pursue their natural curiosity in a safe environment, developing an understanding of the nature, processes and methods of science through scientific enquiries and can answer scientific questions about the world around them. They are equipped with the scientific knowledge required to understand the uses and implications of science, today and for the future.

Resources

- PLAN assess Knowledge Matrices
- Science resources (found in Elm stock cupboard).
- The Teacher Assessment in Primary Science (TAPS)
- Primary Science Teaching Trust (PSTT)
- Explorify

To evaluate our effectiveness:

- The subject leader will monitor the outcomes from each assessed unit of work in order to inform next steps in science (see assessment overview).
- Class book scrutiny and observations to take place across school, as outlined in the science action plan. Feedback then given. If support required, this is to take place through 1:1 work or whole staff training (delivered by or arranged by the subject leader).
- The subject leader will produce and implement an annual action plan to support the development of science across school. This will be evaluated on a termly basis.
- An audit of resources will take place annually to ensure that resources are available to support all of our pupils and staff.

- An annual report on standards across the school and key issues for development to be shared with Governors, which will also support the School Development & Impact Plan.