



## Goldsmith Primary Academy: Approach To Science

### Intent

At Goldsmith Primary Academy, 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.

### Implementation

- **Curriculum Design:** Science is taught through the WAT 5Es Model – Engage, Explore, Explain, Elaborate, Evaluate – placing practical investigation at the heart of learning.
- **EYFS:** Science learning is woven through the Understanding the World strand of Development Matters, providing thematic, exploratory experiences.
- **KS1:** Pupils study biology, chemistry and physics strands termly, including Forces and Magnetism and Earth and Space to inspire curiosity. Long-term investigations (e.g. Seasonal Changes, 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 like investigations because they help me remember what I’ve learned.”  
“Science is fun – we learn about the world by doing experiments.”

### Assessment

- Ongoing AfL informs teaching and supports responsive feedback.
- End-of-unit assessments measure knowledge and enquiry skills using WAT guidance.
- 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 leads.

### 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 Goldsmith 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.