

At Spring Grove Primary School, ensure that all our children through their journey in school are not only equipped with the scientific vocabulary, skills and knowledge of the world around us, but leave the school as caring, inquisitive individuals who show a scientific understanding of the past and present and its implications for our future.

## Intent - We aim to...

Not only provide a structured framework for all our children's journey from the EYFS to Year Six, but also harness opportunities for the enriched curriculum.

Install a love of learning in our children which embraces curiosity and caring for the environment and the world around us.

Foster critical thinking and resilience in our children and develop sound skills in working scientifically.

Ensure that our children understand the implications of the past and the future and how scientists and individuals have contributed to the world of Science.

Ensure that our children receive a good quality education and make good progress in the disciplines of Biology, Chemistry and Physics.

## Implementation - How do we achieve our aims?

### Our Curriculum

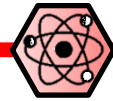
We recognise that science is underpinned by four **key concepts**- Physics, Biology, Chemistry and Working Scientifically. Therefore, our Science curriculum ensures that children learn all of the key concepts, in an age-appropriate way, that meets the aims of the KS1 and KS2 Science National Curriculum, Development Matters and the Early Learning Goals. We use the National Curriculum Programmes of Study to plan a **progressive** and **effective** curriculum, that includes the teaching of RSE. Class teachers in KS1 and KS2 make a judgment based upon the objectives taught throughout the year and at the end of each term **children's progress** is reordered which supports to inform future planning.



Biology



Chemistry



Physics



Working Scientifically

### A Consistent Approach

Our Science curriculum is **personal** to Spring Grove Primary School, and meet the aims of the national curriculum. It shows progression in knowledge and specific opportunities for working scientifically. The topics taught in Science can be categorized into the following concepts, as outlined below, and some concepts are revisited over the primary curriculum building on prior knowledge to deepen understanding.



Forces & Magnets



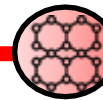
Light



Earth Space & Seasons



Living Things & their Habitats



Materials & States of Matter



Plants



Animals Including Humans



Evolution & Inheritance

### Strong Foundations

In EYFS, children learn about the world around them as part of **Understanding the World**. They make **observations** of nature and the school environment and develop an understanding of seasons and what plants and animals need to grow. Adults plan **practical**, hands-on activities so children are able to experience the topic being explored. Displays in the learning environments show photographs taken over time to allow children to notice changes that have happened and adults are able to **ask questions** to further develop children's **understanding** and **enquiry** skills.

### Development of Key Skills

Throughout Science lessons children learn a **range of skills**, that are **continually developed** in science lessons, though we have identified some key skills that are transferable across topics and age groups. This development of the same key skills strengthens understanding of the technical aspects of Science. The following skills have been identified as a key skill:

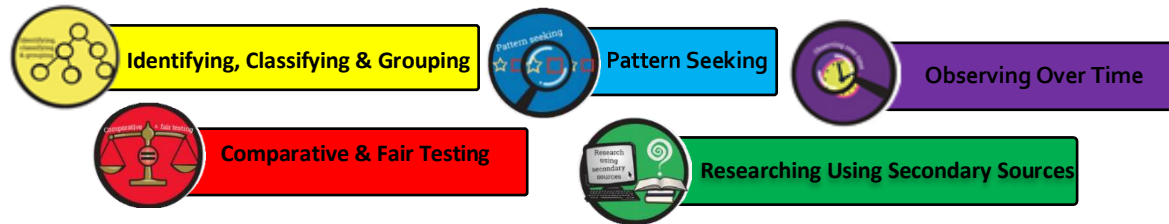
- Asking questions
- Making predications
- Observing over time
- Measuring
- Handling data
- Drawing conclusions
- Evaluating



# Implementation (continued)

## Working Scientifically

Our Science curriculum offers opportunities for inquiry-led learning using different types of scientific enquiry (See below). Children investigate key questions and, for some enquiry types, follow a process of stating predictions, carrying out tests/observations, recording results, analysing data, and drawing conclusions. From Year Three children begin to consider how to conduct a fair test. To support the development of scientific enquiry teachers are guided by the National Curriculum programs of study.



## Reading in Science Lessons

We place an emphasis on reading across the curriculum including in Science. In Science, children use a range of reading material in lessons to develop their **knowledge** and **understanding** of the **concepts** and researching **key scientists** and their **discoveries** learning how they have impacted **society**. We regularly order texts from *Hounslow School Library Service* around the class project drivers and read and complete comprehensions which may link during English lessons. In addition, the children have access to the school library that has a range of scientific fiction and non-fiction to support learning.



## Strong Vocabulary Development

Specific topic vocabulary has been **carefully planned** for and scientific vocabulary is **progressive**. In KS1 and KS2 classrooms **display** scientific vocabulary and these words are explored with the children and introduced at specific points in the **learning sequence**, to enable children to fully understand their meaning. All adults model the correct use of language through their teaching and children are expected to use the correct scientific vocabulary whilst **discussing** their thoughts and findings and when **writing**.



## Love of Learning

Through the key concepts of Biology and Physics we encourage our children to **take care** and **respect** living things, plants and the environment. Central to our topics, and where appropriate, we continually revisit and discuss the impact of **climate change**. We foster a love for learning and **curiosity** through Science Days / Weeks around the subjects of: climate change, engineering or the impact of scientists. Children are given the opportunity to learn outside the classroom and where appropriate are taken on **school trips** to further develop their scientific knowledge. Children are also able to opt to join our weekly **Science Club** to further develop their scientific enquiry skills.



## Teacher Support

To further improve children's outcomes, we provide many opportunities for staff to improve their **science pedagogy**. Specific areas of development are addressed, in line with the School Development Plan, through **whole staff training** sessions, forming **small working parties** or **individually** supported by the science lead. Integral to raising children's outcomes the science lead supports teachers with planning to ensure that **teaching is progressive and challenging**. Learning outcomes are shared with the science lead and next steps are discussed.



## Impact - How will we know we achieved our aims?

