



Brompton and Sawdon Community Primary School

Subject Intent Statement for Science

Through the teaching of Science at Brompton and Sawdon Primary School, we aim to give all children a strong understanding of the world around them whilst acquiring the specific skills and knowledge to help them to think scientifically, gain an understanding of scientific processes and also an understand the uses and implications of Science, today and in the future. We want our pupils to use this scientific knowledge to understand their role in the global **Family**, and **Respect** the responsibilities and opportunities which that go with this.

By referencing human innovation and impact on a global scale within the science curriculum, we intend to provide our pupils with the widest possible horizons – horizons which inspire, excite and give them the knowledge to want to make a difference – wherever that might be. This is another key facet of our **Rural Aspirations** programme. This, alongside enabling our pupils with an enquiring mind, the regular opportunities to explore and test their ideas, and confidence to challenge concepts, will allow them to draw upon the scientific knowledge required to be truly **Ready to Fly**.

Science surrounds us. Science explains how and why we do what we do. Science is the world around us, in us, our school, our village, our Forest School and surroundings. By also being able to recognise and understand this on a local scale, and being given regular opportunities to explore the similar scientific challenges that Sir George Cayley faced and overcame, we intend for our pupils to fully **Respect** and enjoy the processes of experimentation, investigation and the critical evaluation of evidence, as part of the learning process. We encourage the consideration of different ideas and opinions as part of the learning process, as reflected in our **Rainbow** Pillar, giving the pupils opportunities to source, provide and evaluate evidence in order to crystallise their understanding.

By linking our science teaching and learning with Forest school, we intend to further develop the natural curiosity of the children, at the same time encouraging a deep respect for **Nature** and the physical environment of which we are all custodians.

Implementation:

At Brompton and Sawdon Primary School, scientific enquiry skills are embedded in each topic that the children study, the **scientific concepts within these being revisited and developed** throughout their time at school. Topics, such as Plants, are taught in Key Stage One and studied again in further detail throughout Key Stage Two. This model allows children to build upon their prior knowledge, increasing their enthusiasm for the topics whilst embedding this procedural knowledge into long-term memory. All children are encouraged to question the world around them. They are regularly encouraged to develop and use a range of skills, including observations, planning and investigations, to become independent learners and explore possible answers for question posed.

A **progression in scientific vocabulary** is planned within Topics from Reception to Year 6, and effective questioning to communicate ideas is encouraged. Concepts taught are reinforced by focusing on the key features of scientific enquiry, so that pupils learn to use a variety of approaches to answer relevant scientific questions.

Knowledge Organisers, which outline the knowledge and vocabulary that all children must master, are developed at the start of each topic, acting as a constant reference point to reinforce prior learning. Similarly, Medium Term planning draws upon the Science topic which the children have covered in previous terms, constantly revisiting prior learning in order to deepen understanding and develop long term retention of knowledge.

The National Curriculum for Science is covered in full, however the school's Long Term Overview for Science has been **updated to include additional key learning to reflect the needs of our pupils**. Alongside our School Pillars, we are also keen to:

- develop the essential scientific enquiry skills to deepen their scientific knowledge.

- develop the children's use of a range of methods to communicate their scientific information and present it in a systematic, scientific manner, including I.C.T., diagrams, graphs and charts.
- develop a respect for the materials and equipment they handle with regard to their own, and other children's safety.
- develop an enthusiasm and enjoyment of scientific learning and discovery.

We have the highest expectations for our pupils with SEND. Rather than simplifying tasks, we intend that they receive the support, adaptations and resources needed to allow them to achieve learning objectives in line with their peers.

This might include:

- adult support, different groupings, adapted tasks to reflect different learning styles,
- Pre-teaching of specific vocabulary or concepts
- Over-teaching to reinforce
- Adult support in a small groups or 1:1
- 1:1 support where and when necessary.
- Word mats / visual cues that explain some of the key concepts or vocabulary
- Knowledge organisers to refer back to if they are unsure of a particular concept
- Further / additional or adapted resources around the classroom
- Adapted worksheets / books
- Carefully considered Peer buddies / pairings / groupings
- Adapted timings

If they can't learn the way we teach, we teach the way they learn.

Comparative / fair testing

Changing one variable to see its effect on another, whilst keeping all others the same.



Research

Using secondary sources of information to answer scientific questions.



Observation over time

Observing changes that occur over a period of time ranging from minutes to months.



Pattern-seeking

Identifying patterns and looking for relationships in enquiries where variables are difficult to control.



Identifying, grouping and classifying

Making observations to name, sort and organise items.



Problem-solving

Applying prior scientific knowledge to find answers to problems.



Impact

The above approach results in a fun, engaging, high-quality science education, that provides children with the foundations for understanding the world. Our engagement with the local environment ensures that children learn through varied and first hand experiences of the world around them. So much of science lends itself to outdoor learning and so we provide children with opportunities to experience this, many in Forest School or the local Village. Through various workshops, trips and interactions with experts and local charities, children have the understanding that science has changed our lives and that it is vital to the world's future prosperity. Children learn the possibilities for careers in science as a result of our **Rural Aspirations Programme**, our community links and connection with national agencies such as the STEM association. Pupil voice is used to further develop the Science curriculum, through questioning the pupil's views and attitudes to Science.