# Science Policy

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# Science Policy

At Claygate Primary School, our vision in science is to encourage curiosity in children to develop their scientific enquiry skills about the world around them, enabling them to become confident scientists. By the end of their primary education, our pupils should be equipped to make informed decisions about new technologies, their health and the scientific opportunities around them. We aim to achieve this through a practical and inspiring curriculum taught both as a discrete subject and through our creative curriculum closely linked with our enrichment sessions.

**Statement from the National Curriculum:**

A high-quality science education provides the foundations for understanding the world through the specific disciplines of biology, chemistry and physics. Science has changed our lives and is vital to the world's future prosperity, and all pupils should be taught essential aspects of the knowledge, methods, processes and uses of science. Through building up a body of key foundational knowledge and concepts, pupils should be encouraged to recognise the power of rational explanation and develop a sense of excitement and curiosity about natural phenomena. They should be encouraged to understand how science can be used to explain what is occurring, predict how things will behave, and analyse causes. (Department of Education, 2013)

**Intent:**

In the Foundation stage, children begin to develop an understanding of science through the theme of 'Understanding the World'. Children explore and find out about the world around them and begin to ask questions about it. With the recent introduction of our Mini Woodies Learning Zone, our Foundation stage children have already been exploring the environment around them.

As the curriculum progresses through KS1 & KS2, children develop their scientific knowledge and conceptual understanding through a variety of topics. We encourage children to work scientifically throughout their time at CPS, this is established by providing opportunities for all children to observe changes over time; pattern seek; identify, classify and group; plan, carry out and evaluate controlled investigations; and research. With our rich and creative curriculum, children are able to apply their mathematical knowledge to their understanding of science, including collecting, presenting and analysing data. We also aim to identify and provide high quality writing opportunities within science, enabling children to express their understanding of key scientific vocabulary.

**Aims:**

- Learners will have a positive attitude towards science and be curious to learn more.
- Learners will be able to make informed decisions about new technologies, their health and the scientific opportunities available to them.
- Learners will understand the importance of science and value its role in shaping our world, both in the past and in the future.
- Learners will build their resilience through understanding how experimentation helps challenge our ideas.
- To develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics.

- To develop understanding of the nature, processes and methods of science through different types of science enquiries that help them to answer scientific questions about the world around them

**Implementation:**

We use the national scheme of work for science as the basis for our curriculum planning in science alongside our vision and rationale. We ensure that there are opportunities for children of all abilities to develop their skills and knowledge in each unit and we build planned progression into the scheme of work so that the children are challenged as they move up through the school.

The curriculum overview maps the science topics studied in each term during each year group and key stage. Each topic is then broken down into key questions, which focus on the sticky knowledge children need to take away from each lesson.

Science teaching focuses on enabling children to think as scientists. We place an emphasis on questioning and being curious about the world around us. This is enhanced by one segment of our Claygate Charter, 'Brilliant Botanists'. The children spend an afternoon engaged in an additional block of Science, based outside, which develops their learning of Plants or Living things and their habitats. Each block is approximately one half term.

**Impact:**

Children will be able to recall and explain key scientific processes and be able to describe the effect they have on our lives. They will understand how to conduct scientific enquiries by suggesting how to create a fair test, observing changes, spotting patterns and analysing results. At the beginning of each lesson, children have time for retrieval. This both helps them to recall information ready for the lesson ahead and to strengthen their memory of previous learning. Verbal feedback is given throughout the lesson to swiftly address misconceptions and support children in making connections between concepts to deepen their understanding.

**The contribution of science to other subjects:**

***English***

Science contributes to the teaching of English in our school by actively promoting the skills of reading, writing, speaking and listening. Some of the texts that we use in English are scientific in nature. For example, using non-fiction information and explanation texts to understand different scientific processes and phenomena to support the structure our own writing and develop the use of key scientific vocabulary. Children develop oracy through discussing scientific questions or presenting their findings to the rest of the class or school.

***Mathematics***

Science teaching contributes to the teaching of mathematics by supporting children in data collection and data handling. Children have the opportunity to interpret data and present data in a range of graphical and diagrammatic forms.

***Information and communication technology (ICT)***

Children use ICT in science to enhance their skills in data handling and in presenting written work, and they research information using the Internet.

**Resources:**

There are sufficient resources for all science-teaching units in the school. We keep some of these in a central store and some in classrooms. The library contains a good supply of topic books to support children's individual research. The internet provides a rich wealth of information and resources. We undertake science trips and have experts in to visit.

**Inclusion:**

At our school we teach science to all children, whatever their ability. Science forms part of the school curriculum policy to provide a broad and balanced education to all children. Through our science teaching we provide learning opportunities that enable all pupils to make progress. We do this by setting suitable learning challenges and responding to each child's different needs.

Our assessment process looks at a range of factors – classroom organisation, teaching materials, teaching style, differentiation – so that we can take some additional or different action to enable the child to learn more effectively. This ensures that our teaching is matched to the child's needs.

Intervention through School Action and School Action Plus will lead to the creation of an Individual Education Plan (IEP) for children with special educational needs. The IEP may include, as appropriate, specific targets relating to science.

We enable pupils to have access to the full range of activities involved in learning science. Where children are to participate in activities outside the classroom, we carry out a risk assessment prior to the activity, to ensure that the activity is safe and appropriate for all pupils.

**The role of the Science Lead**

The Science Lead has the responsibility of overseeing history within the school, including;

- Formulating and updating the policy where appropriate;
- Ensuring staff are aware of the content of the policy and that it matches classroom practice;
- Liaising with the subject's link governor;
- Ensuring appropriate resources are available and regularly updating them according to need;
- Disseminating information on science to both staff and pupils;
- Supporting staff with science where required;
- Attending science subject meetings and training events where appropriate;
- Offering science Inset sessions and promoting science within the school.