



The Pebblebed Hub of the Jubilee with Pebblebed Federation

Subject Intent Statement for Science

Our Vision

I have come to you that you will have life and have it to the full
John 10:10

Intent

At The Pebblebed Hub, we believe that 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.

The Pebblebed Hub understands the need for all pupils to develop their Scientific ability as an essential component of all subjects and as a subject in its own right. A good understanding of scientific knowledge and conceptual understanding helps to support pupils work across the curriculum.

Science in our schools is about developing children's ideas and ways of working that enable them to make sense of the world in which they live through investigation, as well as through using and applying process skills. Staff within The Pebblebed Hub ensure that all children are exposed to high quality teaching and learning experiences, which allow children to explore their outdoor environment and locality, thus developing their scientific enquiry and investigative skills. They are immersed in scientific vocabulary, which aids children's knowledge and understanding not only of the topic they are studying, but of the world around them. We intend to provide all children, regardless of ethnic origin, gender, class, aptitude or disability, with a broad and balanced science curriculum.

Implementation

In ensuring high standards of teaching and learning in science, we implement a curriculum that is progressive throughout the whole school. The Cornerstones planning scheme is being used to support this(except in EYFS at Littleham CofE Primary where they follow Understanding of the World.'). This ensures coverage and progression throughout the school.

Science teaching at The Pebblebed Hub involves adapting and extending the curriculum to match all pupils' needs. Teachers plan to suit their children's interests, current events, their own teaching style, the use of any support staff and the resources available.

We ensure that all children are provided with rich learning experiences that aim to:

- Prepare our children for life in an increasingly scientific and technological world today and in the future by ensuring children develop enquiring minds through investigations.
- Help our children acquire a growing understanding of the nature, processes and methods of scientific ideas. Here, our forest school areas are used.
- Help develop and extend our children's scientific concept of their world. Children are exposed to current scientific ideas in the world – space exploration, new medicines.
- Build on our children's natural curiosity and developing a scientific approach to problems. This is done through investigations and observations.
- Encourage open-mindedness, self-assessment, perseverance and developing the skills of investigations – including: observing, measuring, predicting, hypothesising, experimenting, communicating, interpreting, explaining and evaluating. All of these are done through scientific investigations in the various disciplines.
- Develop the use of scientific language, recording and techniques. Vocabulary sheets are put into children's books at the start of a new project.
- Develop the use of computing in investigating and recording. This is done through the use of data handling programs such as Excel and sensing equipment (temperature, light and sound) in UKS2.
- Make links between science and other subjects. Maths and data handling, History and key scientists/discoveries, English and biographies, science experiment write-ups and explanations, DT (catapults for example)and Music (sound).
- Reinforce learning, and capture the science around us, through visits to local sites such as the estuary, local farms, Plymouth Aquarium and Paignton Zoo.

Science is taught as part of the Cornerstones scheme and may be taught in many different contexts throughout all areas of the curriculum. For example, through English, i.e. writing a letter to a local politician regarding the closure of a park or a biography of a famous scientist's life. They might write an explanation text for a scientific concept.

At The Pebblebed Hub , we have also developed scientific vocabulary lists from the Cornerstones planning scheme. At the beginning and end of a topic, children complete a pre-learning task and a post-learning task in order to show clear progression and children's new found knowledge and understanding. These tasks also enable the children to articulate scientific concepts clearly and precisely, assisting them in making their thinking clear, both to themselves and others.

Visits to local attractions such as World of Country Life, Plymouth Aquarium, Paignton Zoo, local farms and supermarkets, Charmouth beach and the Norman Lockyer observatory in Sidmouth enhance the pupils' learning and illustrate to the children how science is important in every day life. The Pebblebed Hub is lucky to have forest school areas at each school where children can explore nature at first hand and set up investigations. Littleham School also has a small allotment where children help to sow seeds, pot on plants, look after the crops and finally harvest and eat or sell the produce. This helps them become aware of the need to reduce the environmental impact of food miles and food grown out of season.

Intended Impact

The impact and measure of this are to ensure children 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.

All children will have:

- A wider variety of skills linked to both scientific knowledge and understanding, and scientific enquiry/investigative skills.
- A richer vocabulary which will enable to articulate their understanding of taught concepts.
- High aspirations, which will see them through to further study, work and a successful adult life.
- A love of asking questions and carrying out investigations to find the answers.
- Accessed their local environment and become aware of the impact humans can have on it in both positive and negative ways. They are encouraged to help with the allotment (Littleham CofE School) and to explore the forest school area.