Subject: Science

Rationale

At St. Vincent de Paul Catholic Primary school our children will learn about how the physical and natural world works and equips them with a broad, balanced and working knowledge of the world around them and their place in it. Inspiring awe, wonder and curiosity as the children relate to and make sense of the world around them. The children will learn first-hand about where food comes from, how it grows and caring for our environment through our school allotment and science lessons. Our curriculum is deeply rooted in spiritual, moral, social and cultural values, to encourage children to navigate the 'Big Ideas of Science', moving from the concrete to the abstract and learning that everything is connected in our physical world and beyond. Learning to accept that science cannot provide all the answers and that imagination and creativity can lead to new discoveries. The children will leave Year 6 with a secure scientific base and will understand what it means to be a scientist and the important role science plays in our lives.

Characteristics of Well-rounded Scientist

Our work in Science will enable our children to develop:

- Respect for the world around us
- Listening and communication skills
- To work systematically and with increasing precision

The national curriculum for England aims to ensure that all children:

- To develop scientific knowledge and conceptual understanding through the specific disciplines of biology, chemistry and physics,
- To provide opportunities for children to acquire specific skills and knowledge to help them think scientifically and gain an understanding of scientific processes,
- To develop an 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,
- Are equipped with the scientific knowledge required to understand the uses and implications of science, today and in the future.

Curriculum Intent

Our whole curriculum is shaped by our school vision which aims to enable all children, regardless of background, ability, additional needs, to flourish and become the very best version of themselves they can possibly be. As Scientists we foster and promote a healthy curiosity in the children about the world around them and the universe. It provides opportunities to nurture children's curiosity through an inquiry-based curriculum that promotes exploration and investigation. Our inclusive creative curriculum provides scope, sequencing, coherence and rigour, placing enquiry and working scientifically skills at the heart of every science activity. These principles ensure that attainment and progression is maximised. Proving a common thread, helping children to understand that science is about more what they do as about what the know.

Curriculum Implementation – EYFS / KS1

Science in the **Foundation Stage** is covered in the **'Understanding the World'** area of the EYFS Curriculum. It is introduced directly through activities that inspire every child to explore, problem solve, observe, predict, think, make decisions and talk about the world around them. During their first years at school our children will follow a discovery-based scientific enquiry that is conducted through guided sessions and in continuous provision. Exploring Working Scientifically, Forces and Motion, Properties of Matter, Life Processes, Earth and Space, Earth's Resources and Engineering. They will be encouraged, at a developmentally appropriate level, to ask questions about why things happen and how things work, to strengthen their problem-solving and analytical skills. In **KS1** we continue to build on the knowledge and understanding that the children have learnt in the Foundation Stage. We follow a creative approach to the Science curriculum to motivate and challenge the children, linking different areas of the curriculum which enables science learning to become more meaningful and deeply embedded. Enquiry skills are at the forefront of our learning, encouraging children to work scientifically, forming a common thread helping the children to understand that science is more about what they know.

Curriculum Implementation – KS2

Science in KS2 we follow the HEP Science, evidence-based curriculum. We embed working scientifically across all programs of study not as a standalone strand. This involves the children working practically to develop a range of skills that will be useful in real life situations such as observation, measuring, comparing, testing and drawing conclusions. The units have been sequenced based on the most effective connections between topics within and across the scientific disciplines of Biology, Chemistry and Physics. Progression is key and sequencing of substantive and disciplinary knowledge over time support the hierarchical nature of science. Within this layered approach, children are also guided from concrete to abstract concepts to develop schema. Enabling children to develop a deeper understanding of a wide range of scientific ideas.

Curriculum Impact

Science progress in St. Vincent de Pauls Catholic Primary school, is measured through the child's ability to obtain sustainable knowledge, remember more and explain more. Our successful, consistent approach results in fun, engaging, high-quality science education, that provides children with the foundations and knowledge for understanding the world around them. We encouraged questioning, debate, experimentation, presentation, reflection and personal achievement. This is evident in pupils' work, photos, and display. Impact *of* learning will be assessed though interviews, deep dives, assessing whether or not children can answer questions about BIG IDEAS and make links to prior learning.