Science Intent



Our rigorous, ambitious and relevant curriculum is designed to serve each child within our richly-diverse community, ensure the 'highest standards of learning for all' and prepare all children for a joyful life in the modern world.

Our commitment to the Christian faith and our six core values underpin our curriculum:

Friendship Hope Thankfulness Forgiveness Compassion Endurance

Aspiration, Diversity and Inclusivity

Our values act as drivers for a curriculum which responds to, and embraces, an evolving community. Cranleigh welcomes more than 20 ethnicities, including a significant population of children from the Gypsy/Roma and Travellers of Irish Heritage communities, a greater than average number of children accessing the pupil premium grant, and a higher than average number of children with SEND.

The support we offer our community aims to overcome some low literacy skills, increase understanding in the power of education and ensure all minorities are celebrated. We adapt our provision accordingly, ensure we provide our children with the demanding work they both deserve and seek, and ensure all children are provided with enrichment opportunities to enable them to learn about the world around them.

Communication

We pride ourselves on our commitment to nurture and communicate effectively, and hold exceptionally high expectations of ourselves, each other and our community. Our children are empowered to use their literacy, oracy, and digital communication skills, with scaffolding and support, to purposefully share and articulate their learning with others.

Evaluation

Our reflection procedures which include subject leadership time, responsive professional learning, both summative and formal assessments, and half-termly pupil progress meetings enable us to refine our curriculum offer.

Purpose of Study

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.

Development Matters

Understanding the World

Understanding the world involves guiding children to make sense of their physical world and their community. The frequency and range of children's personal experiences increases their knowledge and sense of the world around

them – from visiting parks, libraries and museums to meeting important members of society such as police officers, nurses and firefighters. In addition, listening to a broad selection of stories, non-fiction, rhymes and poems will foster their understanding of our culturally, socially, technologically and ecologically diverse world. As well as building important knowledge, this extends their familiarity with words that support understanding across domains. Enriching and widening children's vocabulary will support later reading comprehension.

The Importance of Science

"Science knows no country, because knowledge belongs to humanity, and is the torch which illuminates the world." (Louis Pasteur)

Science helps us to better understand ourselves and the Universe in which we live. It provides a way of learning that celebrates resilience and mistake-making, and uses 'failures' to advance human knowledge and understanding. Scientists hypothesise; test theories; find errors; and try again. And this they do over and over again. This critical thinking is crucial in a world where democracy is key, opinions matter and challenge is needed.

The Concepts

At Cranleigh C of E Primary, our children are taught concepts within the following areas: animals including humans, everyday materials; living things and their habitats; light; forces and magnets; rocks; earth and space; electricity; and evolution and inheritance. We aim for all pupils to start their Science journey by experiencing and observing phenomena, looking more closely at the natural and humanly-constructed world around them. We encourage them to be curious and ask questions about what they notice. As they move into Key Stage Two, we broaden and deepen their scientific view of the world around them. They do this through exploring, talking about, testing and developing ideas about everyday phenomena and the relationships between living things and familiar environments, and by beginning to develop their ideas about functions, relationships and interactions. We ensure that 'working and thinking scientifically' is taught throughout and clearly related to substantive Science content.

Aspiration, Diversity and Inclusivity

Aspiration in our curriculum at Cranleigh C of E Primary is seen in our high expectations of pupils, and the depth we expose our children to in lessons. We know that in order for our children to be effective Scientists ready to access the curriculum, our approach to Scientific knowledge, skills and vocabulary development needs to be aspirational, allowing all children to succeed.

We have thought carefully about diversity and inclusion with regards to our Science curriculum and teaching. We ensure there is equity of access to any and all Science teaching and experiences, and that these are scaffolded carefully. We challenge any bias sensitively and age-appropriately including any views on stereotypes.

Communication

Children actively engage by asking simple questions; observing closely and commenting on these observations; performing simple tests and discussing the outcomes; suggesting ideas as answers to questions; and through the use of data collected and recorded.

Evaluation

We aim for all children within our richly-diverse community to leave Cranleigh C of E Primary with a positive attitude and enjoyment of Science. They will be able to think and work scientifically, and ask informed questions about the world around them. The children will have developed an understanding of the need to hear opinions different from their own, and will have the skills and knowledge to discuss these in a sensitive way. Our children will be more solutionfocused overall. We believe all the aforementioned will contribute significantly to our wider school aim of preparing children for a joyful life in the modern world.