

Science Vision Statement

Subject Vision - What are we trying to achieve?

Science is using evidence to make sense of the world. It helps us understand our relationships with the world around us (how the physical world behaves, the independence of all living things). Making new discoveries increases our sense of awe and wonder at the complexity of the world we inhabit. At Carlton, our vision is to provide a hands on science curriculum, which empowers pupils to explore and discover the world around them. We aim to do this through practical and exciting experiences, which encourage curiosity and foster learning. Children at Carlton are naturally curious and passionate about learning. We aim to provide a stimulating and open-minded curriculum that nurtures children's natural curiosity, independence and their on-going knowledge and understanding of the world around them. Through hands on, enquiry-based activities, children will confidently experience the joy of exploration, discoveries and improvements.

How the subject is taught?

Our science curriculum offers a broad range of experiences designed to provide pupils with a progression of scientific understanding, skills and knowledge. Importance is placed on first hand experiences as well as using resources readily available to the teachers. For example, the forest school when learning about minibeasts or habitats, stem workshops and science fairs.

We have a whole school approach in how we approach the science curriculum, thus planning and delivering lessons discretely through the Kent Scheme and additionally wherever possible, making cross curricular links throughout school. Understanding of key ideas in science is built on across the key stages and a progression of skills allows pupils to move from early observations and exploration, to consider questioning and drawing upon ideas.

Strategies to allow pupils to show their deeper understanding of key scientific ideas include:

- mind maps and KWL grids
- questioning
- hypothesizing
- independent enquiry based presentations
- scientific diagrams
- investigations
- communicating methodology
- conclusions

Through its practical nature our science curriculum is inclusive and we ensure pupils of all abilities can access a range of different teaching styles and activities to further their learning. We aim to develop a broad, rich and engaging curriculum to all our pupils to enhance both their academic skill and curiosity into the world around them.

What difference is the subject making?

It is evident through work sampling, displays and learning walks that children are increasingly becoming aware of the importance of natural sciences and understand cause and effect at a primary level.

Children's work demonstrates use of scientific processes and terminology and this is progressive from Reception through to Year 6.

SMSC/PSHE links?

For the scientist within us, this is a spiritual experience and drives us to in our search for understanding.

As teachers, we encourage our pupils to be both open minded (generating a hypothesis) and critical (demanding evidence) and to use their understanding of the world around them in a positive manner. We teach children to understand that scientific discovery and invention needs to be used responsibly, and work based on evidence.

Scientists are collaborators who share ideas, data and results. The collaboration is a key process in science. We therefore encourage children to work together to their scientific investigations and to share results etc. Children understand the importance of, variables, fair testing and controlled testing.

Challenge:

Through the graduate approach children are given opportunities to further stretch their scientific understanding of a given concept. There is a focus on metacognition, higher order thinking and problem solving.