Vision for Science

At Brookside Primary School, our vision is to provide children with a Science curriculum that is built upon a desire to acquire exceptional skills in scientific enquiry, enriching natural curiosity and developing a strong questioning mindset. This is to enable children to confidently explore and discover the world around them so that they can progressively develop a deep knowledge and understanding of the world we live in and the scientific concepts within.

We recognise children are naturally curious and passionate about their learning. Therefore, we provide a Science curriculum that nurtures this through exciting, practical hands-on experiences that enable children to receive the joy of exploring, discovering and finding out scientifically.

Our aim is that these stimulating and challenging experiences will enable children to develop, extend and secure their scientific knowledge, skills, understanding and vocabulary from reception to year six ensuring progression is apparent. We believe that the opportunities provided to build upon previous learning will ensure that our children are confident, life-long learners who will continue to ask questions and explore the world around them.

At Brookside, our Science curriculum has been carefully designed through our intent documents to ensure the delivery of the subject is the best it can be. Our intent documents are thoroughly detailed with rich scientific vocabulary, skills and activities that allow the children to develop a secure scientific understanding. It also allows our teachers to feel confident when delivering various topics as it provides a rich and detailed overview of what we want the children to achieve and also what we want to embed in each lesson. Alongside this, they include prior learning to ensure we recap knowledge but not repeat it, misconceptions to be addressed to ensure the children do not take these further and future learning so that we can begin to make links to what they will go on to discover scientifically.

Alongside this, we have developed knowledge organisers to support the intent documents and the children's learning throughout a topic. Our knowledge organisers contain specific scientific vocabulary linking to a topic and 4 main questions or ideas that are to be explored. Within these questions, we have specific and refined information that we want the children to gain and remember. We have made these 'quizable' so that they can be embedded into lessons to ensure the children gain the knowledge we want them to. For

instance, we start a new topic by giving children the vocabulary and definitions that are on the knowledge organiser cut up so that the children match them together to ensure they become familiar with the vocabulary we want them to know. This approach will be used throughout a whole topic so that by the end, the children will develop a secure understanding of a scientific topic where they will be able to recall the information on the knowledge organiser.

With scientific enquiry and questioning being at the heart of our curriculum, we ensure this begins in reception through the EYFS framework and understanding the world. In the Early Years Foundation Stage, the children are enriched with opportunities that allow them to compare similarities and differences in relation to places, objects, materials and living things. The children explore and talk about their immediate surroundings, make observations of animals and plants, ask questions and discover answers. Learning in this way allows the children to develop their curiosity about the world which will continue to support their love for science and discoveries as they progress throughout Brookside.

In Key Stage 1, the children continue to develop their knowledge, curiosity and scientific enquiry about the world we live in. They begin to ask inquisitive and relevant questions about their surroundings and perform simple investigations. The children begin to make connections from the topics covered in Key Stage 1 to those covered in the Early Years Foundation Stage to deepen their knowledge and understanding to ensure the development of their scientific enquiry skills. Through this investigative and hands-on approach that we embrace in our curriculum, the children are able to discuss scientifically, record data and use this to make sound comparisons between different topics covered.

In Key Stage 2, the children extend their knowledge of scientific phenomenon and skills through learning about new topics and also delving further into topics they have covered before. A more independent and child-centred approach is taken in Key Stage 2 where the children's questions evolving around a topic will drive the investigations that are undertaken. Throughout Key Stage 2, the children broaden their scientific skills by changing the variables in their investigations to suit their enquiry and develop their own hypothesis. They make meaningful connections from one scientific topic to another which deepens their understanding of the world. As a result of this, by the end of Key Stage 2 the children are able to make valid scientific predictions and assumptions through the use of evidence they have collected, and knowledge gained. Additionally, they analyse results thoroughly and explain outcomes scientifically.

At Brookside, we pride ourselves on being an inclusive school where everyone is made to feel welcome and equal. We encourage children to be involved in their learning, integrating what they have learnt with their own experiences. We ensure we provide opportunities in a positive, supportive and inclusive environment in which all children are motivated to become independent, confident life-long learners and achievers, who will continue to be inquisitive and explore the world around them, way beyond their time at primary school in a continually changing world.

Elements of our Science Curriculum

Knowledge and Understanding

Scientists develop:

- a knowledge and understanding of scientific concepts across the three disciplines of biology, chemistry and physics

- a knowledge and understanding of the nature, processes and methods of science (working scientifically)

- a scientific vocabulary that includes both: high utility tier 2 words in a scientific context (such as energy) and tier 3 words that are domain specific (such as photosynthesis, evaporation)

Plants	**Living things and their habitats**	**Animals including humans**	**Evolution and inheritance**
Seasonal changes	**Materials**	**Rocks**	**Light**
Forces	**Sound**	**Electricity**	**Earth and space**

Working Scientifically

Asking questions and hypothesising	**Observing and measuring**	**Undertaking practical enquiry to answer questions**
Recording and presenting evidence	**Answering questions and concluding**	**Evaluating and raising further questions**