

BROOK INFANT SCHOOL AND NURSERY

# Science Intent

At Brook Infant School, whenever we touch Science in our curriculum, we always begin with the question 'What are you curious about and want to find answers to?'. This is because we are passionate about giving our children the experience of scientific enquiry within all areas of knowledge and we want our children to experience awe and wonder. We believe that through the enquiry led approach, we can ensure that our children can experience the thrill of science, or as we call it, the 'fizz, pop and bang.'

In the background of this, is our hands on and connected approach to learning and we endeavour to make science concepts more concrete through our enquiry led approach and hands on experiences. This is also supported with our cross curriculum approach as we can then be exploring science through other subjects and particularly as part of our Woodland Wonders provision.

As a school we follow the areas of knowledge for Years One and Two, but we combine the year groups as appropriate to support our creative approach and our thematic learning journeys. However, whenever we combine the knowledge across year groups, we always teach the Year One parts before we go on to the **Year Two** parts (laid out on Page Three).

Our progression is developed through this intent as this structure provides the progression, along with our own professional judgement of the questions we need to ask the children at each point. As progress is made, less time needs to be spent on the grounding questions and we can spend time going deeper on the questions about refinement.



### WHAT ARE YOU CURIOUS ABOUT AND WANT TO FIND ANSWERS TO?

- What questions do we want to ask?
- How can we plan to answer these questions through a scientific enquiry?
- What tools or resources will we need?
- How can we plan to keep our tests fair?



### WHAT STEPS WILL WE TAKE TO ANSWER OUR QUESTIONS?

- How can we carry out a simple test?
- What are we observing and identifying?
- How will we conduct our test fairly?
- What do we need to explore and or compare to help us answer our questions?
- How can we gather data to answer our questions?
- How will we record our findings in a variety of ways?



### WHAT HAVE WE FOUND OUT?

- What have we noticed?
- How will we classify our findings?
- What are the key messages we are learning from our investigation?
- How does this compare to your prediction and thinking?
- How can we use our understanding of science to explain what have we noticed?



### HOW CAN WE SHOW WHAT WE HAVE FOUND OUT?

- How can we make our thinking and learning clear for others?
- What scientific vocabulary do we need to use?
- Do we need to use pictures, words or charts to help me present my work?



### WE WILL ALWAYS ASK:

- Have we been fair in our testing approaches?
- How has this deepened our understanding of the world?
- What is the purpose of our investigation?
- How does what we have found out help us?



### OUR PROMISE IS THAT OUR CHILDREN WILL LEARN ABOUT:

- 'Hands on' science investigations.
- Using a range of equipment.
- Planning and creating an investigation to answer scientific questions.
- Specific scientific language (see separate vocabulary sheet).
- How secondary sources, such as books and films can be used.
- How to appreciate the 'wow' moments we can have with science.



## PLANTS

- Can you identify and name a variety of common wild and garden plants, including deciduous and evergreen trees?
- Can you identify and describe the basic structure of a variety of common flowering plants, including trees?
- Can you observe and describe how seeds and bulbs grow into mature plants?
- Can you find out about and describe how plants need water, light and a suitable temperature to grow and stay healthy?



## ANIMALS INCLUDING HUMANS

- Can you identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals?
- Can you identify and name a variety of common animals that are carnivores, herbivores and omnivores?
- Have you noticed that animals, including humans, have offspring which grow into adults?
- Can you find out about and describe the basic needs of animals, including humans, for survival (water, food and air)?
- Can you describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene?



## EVERYDAY MATERIALS

- Can you distinguish between the object and the material which it is made from?
- Can you identify and name a variety of everyday materials, including wood, plastic, glass, metal and rock.
- Can you describe the simple physical properties of a variety of everyday materials.
- Can you compare and group together a variety of everyday materials on the basis of their simple physical properties?



## SEASONAL CHANGES

- Can you observe changes across all four seasons?
- Can you observe and describe the weather associated with the seasons and how day length varies?



## LIVING THINGS AND THEIR HABITATS

- Can you explore and compare the differences between things that are living, dead, and things that have never been alive?
- Can you identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other?
- Can you identify and name a variety of plants and animals in their habitats, including micro-habitats?
- Can you describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.



## USES OF EVERYDAY MATERIALS

- Can you identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses?
- Can you find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching?