Science through the Early years at St Mary's

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.

In Nursery and Reception we teach science through the EYFS area of Understanding the world.

Nursery

By the end of their time in Nursery, children will have had many opportunities to learn using St Mary's Big Ideas **investigate, observe and explain** through exploring their learning environment both indoors and outdoors, during child- initiated play, through stories, non-fiction, rhymes and poems, through questioning, talk time and through topics.

Learning environment

The nursery has an exploration table where children can explore a variety of natural and manmade objects.

The children are encouraged to explore their indoor and outdoor learning areas during their child initiated play which are rich in natural objects and mechanical objects.

Questioning

Children are asked open ended questions such as 'I wonder why/how' during child initiated play and through talk times.

Talk times

Adults respond to the children's interests in science and children are encouraged to explore their ideas through sustained shared thinking where a child suggests an idea and the adult carefully questions that idea and a conversation develops with all the children building on the first idea.

Topics

Children learn about the four seasons by exploring their outdoor learning area and objects are brought inside to explore and discuss. Adults also respond to items of interest brought into school from home and a science topic may develop from this.

Books

Nursery has a wide range of fiction and non-fiction texts with scientific links that the children can look at and share during child-initiated learning.

By the end of their time in nursery children will have learned to:

- Use all their senses in hands-on exploration of natural materials.
- Explore collections of materials with similar and/or different properties.
- Talk about what they see, using a wide vocabulary.
- Explore how things work.
- Plant seeds and care for growing plants.
- Understand the key features of the life cycle of a plant or an animal.
- Begin to understand the need to respect and care for the natural environment and all living things.
- Explore and talk about different forces they can feel.
- Talk about the differences between materials and changes they notice.

Reception

In Reception, we build on the scientific skills that the children have learned in Nursery through encouraging them to explore the natural world around them, describing what they see, hear and feel whilst outside, recognise that some environments are different from the one in which they live and through understanding the effect of changing seasons on the natural world around them

By the end of Reception, children will have had many opportunities to **investigate, observe and explain** through exploring the exploration table, exploring their learning environment both indoors and outdoors during child-initiated play, through questioning, through stories, non-fiction, rhymes and poems, adult focus activities and through topics.

Adult focus activities

Adults continue to respond to the children's interests in science and continue to encourage them to explore their ideas through sustained shared thinking. We have adult focus activities where scientific topics are explored and discussed. Non-fiction books and use of the internet are used to deepen the children's understanding and thinking.

Topics

Adults continue to respond to the children's areas of scientific interest but also introduce children to new scientific topics and ideas. Children learn more about the features of the four seasons. Other common topics in Reception include:

- Mini-beasts
- Animals
- Plants and growing
- Our bodies

The big ideas of **Investigation, observation and explanation** are further developed through:

- Cooking activities
- Extending the children's understanding of the 5 senses.
- Extending the children's scientific vocabulary.

By the end of their time in Reception children will have had opportunities to:

- Explore the natural world around them.
- Describe what they see, hear and feel whilst outside.
- Understand the effect of changing seasons on the natural world around them.

By the end of their time in Reception most children will have be able to:

- Explore the natural world around them, making observations and drawing pictures of animals and plants
- Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.