Science Programmes of Study

Children will have opportunities to...

To work scientifically

- Ask simple questions.
- Observe closely, using simple equipment.
- Perform simple tests.
- Identify and classify.
- Use observations and ideas to suggest answers to questions.
- Gather and record data to help in answering questions.

Biology

To understand plants:

- Identify and name a variety of common plans, including garden plants, wild plants and trees and those classified as deciduous and evergreen.
- Identify and describe the basic structure of a variety of common flowering plants, including roots, stem/trunk, leaves and flowers.
- Observe and describe how seeds and bulbs grow into mature plants.
- Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.

To understand animals and humans:

- To identify and name a variety of common animals that are birds, fish, amphibians, reptiles, mammals and invertebrates.
- Identify and name a variety of common animals that are carnivores, herbivores and omnivores.
- Describe and compare the structure of a variety of common animals (birds, fish, amphibians, reptiles, mammals and invertebrates, including pets).
- Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.
- Notice that animals, including humans, have offspring which grow into adults.
- Investigate and describe the basic needs of animals, including humans, for survival (water, food and air).
- Describe the importance for humans of exercise, eating the right amounts of different types of food and hygiene.
- Describe and compare the structure of a variety of common animals.

Science Programmes of Study

Children will have opportunities to...

Biology

To investigate living things:

- Explore and compare the differences between things that are living, that are dead and that have never been alive.
- 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.
- Identify and name a variety of plants and animals in their habitats including micro habitats.
- Describe how animals obtain their food from plants and other animals, using the ideas of a simple food chain, and identify and name different sources of food.

To understand evolution and inheritance:

- Identify how humans resemble their parents in many features.

Chemistry

To investigate materials:

- Distinguish between and object and the material from which it is made.
- Identify and name a variety of everyday materials, including wood, plastic, metal, water and rock.
- Describe the simple physical properties of a variety of everyday materials.
- Compare and group together a variety of everyday materials on the basis of their simple physical properties.
- Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.
- Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick/rock, and paper/cardboard for particular uses.

Physics

To understand movement, forces and magnets:

- Notice and describe how things move, using simple comparisons such as faster and slower.
- Compare how different things move.

To understand light and seeing:

- Observe and name a variety of sources of light, including electric lights, flames and the Sun, explaining that we see things because light travels from them to our eyes.

Science Programmes of Study

Children will have opportunities to...

Physics

To investigate sound and hearing:

- Observe and name a variety of sources of sounds, noticing that we hear with our ears.

To understand electrical circuits:

- Identify common appliances that run on electricity.
- Construct a simple series electrical circuit.

To understand the Earth's movement in space:

- Observe the apparent movement of the sun during the day.
- Observe changes across the four seasons.
- Observe and describe weather associated with the season and how the day length varies.

Essential Characteristics of Scientists

- The ability to think independently and raise questions about working scientifically and the knowledge and skills that it brings.
- Confidence and competence in the full range of practical skills, taking the initiative in, for example, planning and carrying out scientific investigations.
- Excellent scientific knowledge and understanding which is demonstrated in written and verbal explanation, solving challenging problems and reporting scientific findings.
- High levels of originality, imagination or innovation in the application of skills.
- The ability to undertake practical work in a variety of contexts, including fieldwork.
- A passion for science and its application in past, present and future technologies.