



# St Monica's R.C Primary School – Nursery Knowledge Organiser – Science



## Science in Nursery

We become Scientists through the following EYFS areas of learning:

- Understanding the World
- Physical Development
- Communication and Language
- Personal, Social and Emotional Development

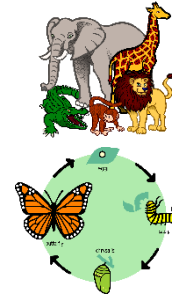
In Reception, we cover Science through the following themes:

- Me, Myself and I
- Autumn – Why do leaves go crispy?
- Winter Wonderland – Polar
- Signs of Spring
- Growth and Change
- Marvellous Machines

## Living Things and Their Habitats

### Animals (inc. humans)

- Animals are living things.
- Animals change as they grow e.g. people change from babies to adults.
- Our bodies include different parts e.g. head, shoulders, knees, toes.
- Baby animals have different names to their adults.
- A butterfly starts off as a caterpillar.
- We can see some wild animals in a zoo



### Plants

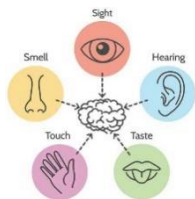
- Plants are living things too.
- Plants can be habitats e.g. birds nests in trees, bug hotels, woodlands.
- We need to look after the natural environment and all living things.
- Sunflowers start off as seeds then grow a stem, leaves and petals.



## Materials

### Senses and Textures

- Our 5 senses are: sight, smell, touch, hear and taste
- We use our senses to explore and describe different materials and food
- Materials can have similar and different properties e.g. rough, smooth.



### Materials Changing

- We can feel different forces e.g. push, pull, stretch.
- Materials can change e.g. cooking, melting, floating and sinking.
- Water can be frozen which turns it hard, or melted to turn it into a liquid.



## Seasonal Changes

### The Seasons

- Seasons are a time of the year.
- The seasons are Autumn, Winter, Spring and Summer.



### Changes in the Seasons

- Leaves change colour through the seasons and in Autumn they fall off trees.
- Water can turn to ice when it is very cold in Winter.
- Buds grow when it gets warmer in Spring



## Healthy Living

- Brushing our teeth is good oral hygiene
- A healthy balanced diet includes exercise and eating healthy foods.



## Key Vocabulary

Seasons, Changes, Animals, Plants, Environments, Habitats, Healthy, Texture, Senses

## Science Links to EYFS Statutory Framework and Development Matters

### Science

Communication and Language	Physical Development	Understanding the World	Personal, Social, Emotional Development
<p><b>3 / 4 Year olds:</b> Understand ‘why’ questions, like: “Why do you think the caterpillar got so fat?”</p> <p><b>Reception:</b></p> <ul style="list-style-type: none"> <li>- Learn new vocabulary.</li> <li>- Ask questions to find out more and to check what has been said to them.</li> <li>- Articulate their ideas and thoughts in well-formed sentences.</li> <li>- Describe events in some detail.</li> <li>- Use talk to work out problems and organise thinking and activities. Explain how things work and why they might happen.</li> <li>- Use new vocabulary in different contexts</li> </ul> <p><b>ELG: C&amp;L: Listening, Attention and Understanding</b> Make comments about what they have heard and ask questions to clarify their understanding.</p>	<p><b>3 / 4 Year olds:</b> Make healthy choices about food, drink, activity and tooth brushing.</p> <p><b>Reception:</b> Know and talk about the different factors that support their overall health and wellbeing: regular physical activity, healthy eating, toothbrushing, sensible amounts of ‘screen time’, having a good sleep routine, being a safe pedestrian.</p>	<p><b>3 / 4 year olds:</b></p> <ul style="list-style-type: none"> <li>- Use all their senses in hands-on exploration of natural materials.</li> <li>- Explore collections of materials with similar and/or different properties.</li> <li>- Talk about what they see, using a wide vocabulary.</li> <li>- Begin to make sense of their own life-story and family’s history.</li> <li>- Explore how things work. - Plant seeds and care for growing plants.</li> <li>- Understand the key features of the life cycle of a plant and an animal</li> <li>- Begin to understand the need to respect and care for the natural environment and all living things.</li> <li>- Explore and talk about different forces they can feel.</li> <li>- Talk about the differences between materials and changes they notice.</li> </ul> <p><b>Reception</b></p> <ul style="list-style-type: none"> <li>- Explore the natural world around them. - Describe what they see, hear and feel while they are outside.</li> <li>- Recognise some environments that are different to the one in which they live.</li> <li>- Understand the effect of changing seasons on the natural world around them.</li> </ul> <p><b>ELG: UTW: The Natural World</b></p> <ul style="list-style-type: none"> <li>- Explore the natural world around them, making observations and drawing pictures of animals and plants.</li> <li>- Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class.</li> <li>- Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.</li> </ul>	<p><b>ELG: PSED: Managing Self:</b> Manage their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices</p>

## KS1 Science National Curriculum Areas of Learning

### Year 1

#### **Plants**

Pupils should be taught to:

- identify and name a variety of common wild and garden plants, including deciduous and evergreen trees
- identify and describe the basic structure of a variety of common flowering plants, including trees.

#### **Animals including Humans**

Pupils should be taught to:

- identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals
- 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 (fish, amphibians, reptiles, birds and mammals, 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.

#### **Everyday Materials**

Pupils should be taught to:

- distinguish between an object and the material from which it is made
- identify and name a variety of everyday materials, including wood, plastic, glass, 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.

#### **Seasonal Changes**

Pupils should be taught to:

- observe changes across the four seasons
- observe and describe weather associated with the seasons and how day length varies.

### Year 2

#### **Living things and their habitats**

Pupils should be taught to:

- explore and compare the differences between things that are living, dead, and things 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 idea of a simple food chain, and identify and name different sources of food.

#### **Plants**

Pupils should be taught to:

- 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.

#### **Animals, including Humans**

Pupils should be taught to:

- notice that animals, including humans, have offspring which grow into adults
- find out about 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.

#### **Uses of Everyday Materials**

Pupils should be taught to:

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