Murdishaw West Community Primary School
Science Curriculum Overview

Year 1 (Science) – Plants (Plant Detectives)

The **BIG** Picture

Pupils will use the local environment to explore and answer questions about plants growing in their habitat. They will observe the growth of flowers and vegetables that they have planted and look at the structure of flowers and plants. They will become familiar with the names of common flowers and deciduous and evergreen trees.

Additional experiences to enhance learning: STEM visitors and experiences, links with the local High School, can visit the pond at a local Primary School and use the school grounds

What do we already know?

•Plant seeds and care for growing plants. (Nursery – Plants)
•Understand the key features of the life cycle of a plant and an animal.
•(Nursery – Plants)
•Begin to understand the need to respect and care for the natural environment and all living things. (Nursery – Plants)
•Explore the natural world around them. (Reception – Living things and their habitats)
•Recognise some environments that are different to the one in which they live. (Reception – Living things and their habitats)

Sticky Knowledge:

Can they name the petals, stem, leaves and root of a plant?

Can they identify and name a range of common plants and trees?

Can they recognise deciduous and evergreen trees?

Can they describe the parts of a plant (flower, stem, leaves and root)?

Challenging: Can they identify some common plants on our school grounds?

NC Objectives: Working Scientifically taught throughout Year 1/2:

•Asking simple questions and recognising that they can be answered in different ways

•Observing closely, using simple equipment

•Performing simple tests

•Identifying and classifying

•Using their observations and ideas to suggest answers to questions

•Gathering and recording data to help in answering questions

National Curriculum Knowledge: Year 1:

- 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.

Types of Scientific Enquiry:

- Identifying and classifying
- Comparative / fair testing
- Changes over time
- Research

Scientists across the Curriculum:

Choose from the following options:

Maria Sibylla Merian – German artist, scientific illustrator and naturalist

Key vocabulary:

Leaf, flower, blossom, petal, fruit, berry, roots, seed, trunk, branch, stem, bark, stalk, bud, evergreen, deciduous

Key Knowledge:

Growing locally, there will be a vast array of plants which all have specific names. These can be identified by looking at the key characteristics of the plant. Plants have common parts, but they vary between the different types of plants. Some trees keep their leaves all year while other trees drop their leaves during autumn and grow them again during spring.

Murdishaw West Community Primary School
Science Curriculum Overview

Year 1 (Science) – Animals, including Humans (Using our Senses)

The **BIG** Picture

Pupils will be encouraged to develop their awareness of the world around them, their body and their senses. They are constantly exploring the world around them using their senses, even from a very young age. Pupils will build upon their knowledge from EYFS and use investigations to develop their understanding of see, smell, taste, touch and hear. They will be able to describe these using basic adjectives. Pupils will be able to name and show you the basic parts of the body.

Additional experiences to enhance learning: STEM visitors and experiences, links with the local High School, and use the school grounds

What do we already know?

•Use all their senses in hands-on exploration of natural materials. (Nursery - Humans)
•Name and describe people who are familiar to them. (Reception - Humans)

Sticky Knowledge:

Can they name the 5 senses?

Can they name the parts of the human body that they can see?

Can they identify the main parts of the human body and link them to their senses?

Can they name which body parts are used for each sense?

Challenging - Can they name some body parts that cannot be seen?

NC Objectives: Working Scientifically taught throughout Year 1/2:

•Asking simple questions and recognising that they can be answered in different ways

•Observing closely, using simple equipment

•Performing simple tests

•Identifying and classifying

•Using their observations and ideas to suggest answers to questions

•Gathering and recording data to help in answering questions

National Curriculum Knowledge: Year 1:

- Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.

Types of Scientific Enquiry:

- Comparison tests
- Pattern seeking
- Research

Key vocabulary:

senses, touch, see, smell, taste, hear, fingers, skin, eyes, nose, ear, tongue

Key Knowledge:

Humans have key parts in common, but these vary from person to person. Humans (and other animals) find out about the world using their senses. Humans have five senses – sight, touch, taste, hearing and smelling. These senses are linked to particular parts of the body.

Scientists across the Curriculum:

Choose from the following options:

Leonardi Da Vinci – anatomical drawing

Miller Hutchinson – Engineer who invented the first electric hearing aid

Patricia Bath – Ophthalmologist and inventor of lasers used in cataract operations

Murdishaw West Community Primary School
Science Curriculum Overview

Year 1 (Science) – Animals, including Humans (Animal Antics)

The **BIG** Picture

Pupils will learn that animals are different and can be sorted based on common observable features. They will become familiar with the common names of some fish, amphibians, reptiles, birds and mammals, including those that are kept as pets. They will learn the types of food that animals eat and learn some to look after pets.

Additional experiences to enhance learning: STEM visitors and experiences, links with the local High School, can visit the pond at a local Primary School and use the school grounds

What do we already know?

•Understand the key features of the life cycle of a plant and an animal. (Nursery – Animals, including Humans)
•Begin to understand the need to respect and care for the natural environment and all living things. (Nursery – Animals, including Humans)
•Explore the natural world around them. (Reception – Living things and their Habitats)

Sticky Knowledge:

Can they name some common animals?

Can they point out some of the differences between different animals?

Can they name the parts of an animal's body?

Can they classify common animals?

Can they describe how an animal is suited to its environment?

Can they name a range of domestic animals?

Can they classify animals by what they eat?

Challenge - Can they compare the bodies of different animals?

Challenging - Can they say why certain animals have certain characteristics?

NC Objectives:
Working Scientifically taught throughout Year 1/2:

•Asking simple questions and recognising that they can be answered in different ways

•Observing closely, using simple equipment

•Performing simple tests

•Identifying and classifying

•Using their observations and ideas to suggest answers to questions

•Gathering and recording data to help in answering questions

National Curriculum Knowledge: Year 1:

- 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).

Types of Scientific Enquiry:

- Identifying and classifying
- Pattern seeking
- Research

Scientists across the Curriculum:

Choose from the following options:

Joan Beauchamp Procter – Herpetologist and Curator of Reptiles, London Zoo

Tanesha Allen – Zoologist who studies badgers

Key vocabulary:

head, body, eyes, ears, mouth, teeth, leg, tail, wing, claw, fin, scales, feathers, fur, beak, paws, hooves, names of animals experienced first-hand from each vertebrate group,

Key Knowledge:

Animals vary in many ways having different structures e.g. wings, tails, ears etc. They also have different skin coverings e.g. scales, feathers, hair. These key features can be used to identify them.
Animals eat certain things - some eat other animals, some eat plants, some eat both plants and animals.

Murdishaw West Community Primary School
Science Curriculum Overview

Year 1 (Science) – Everyday Materials (Everyday Materials)

The **BIG** Picture

Pupils will be given the opportunity to explore, name, discuss, raise and answer questions about everyday materials so that they become familiar with the names and properties of materials. Pupils will be given the opportunity to explore and experiment with a wide variety of materials.

Additional experiences to enhance learning: STEM visitors and experiences, links with the local High School and use the school grounds

What do we already know?

•Use all their senses in hands-on exploration of natural materials. (Nursery - Materials, including changing materials)
•Explore collections of materials with similar and/or different properties. (Nursery - Materials, including changing materials)
•Talk about the differences between materials and changes they notice. (Nursery - Materials, including changing materials)

Sticky Knowledge:

Can they name some different materials?

Can they explain what material an object is made from?

Can they sort objects into groups based on the material they are made from?

Can they describe materials using their senses?

Can they sort materials into groups based on their properties?

Challenge - Can they explain why a material might be useful for a specific job?

Challenge - Can they explain how solid shapes can be changed?

NC Objectives: Working Scientifically taught throughout Year 1/2:

•Asking simple questions and recognising that they can be answered in different ways

•Observing closely, using simple equipment

•Performing simple tests

•Identifying and classifying

•Using their observations and ideas to suggest answers to questions

•Gathering and recording data to help in answering questions

National Curriculum Knowledge: Year 1:

- 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.

Types of Scientific Enquiry:

- Identifying and classifying
- Research
- Comparison tests
- fair tests
- Identifying and classifying

Scientists across the Curriculum:

Choose from the following options:

Chester Greenwood – Inventor of earmuffs

Becky Schroeder – Inventor of Glo-sheets which she patented as a 12 year old

Key vocabulary:

Object, material, wood, plastic, glass, metal, water, rock, brick, paper, fabric, elastic, foil, card/cardboard, rubber, wool, clay, hard, soft, stretchy, stiff, bendy, floppy, waterproof, absorbent, breaks/tears, rough, smooth, shiny, dull, see-through, not see-through

Key Knowledge:

All objects are made of one or more materials. Some objects can be made from different materials e.g. plastic, metal or wooden spoons.

Materials can be described by their properties e.g. shiny, stretchy, rough etc. Some materials e.g. plastic can be in different forms with very different properties.

Murdishaw West Community Primary School
Science Curriculum Overview

Year 1 (Science) – Seasonal Changes (can be taught throughout the year)

The **BIG** Picture

Pupils will observe and talk about changes in the weather and the seasons. Pupils will be made aware that it is not safe to look directly at the sun.

Additional experiences to enhance learning: STEM visitors and experiences, links with the local High School, can visit the pond at a local Primary School and use the school grounds

What do we already know?

- Understand the key features of the life cycle of a plant and an animal. (Nursery – Plants & Animals, excluding humans)
- Explore the natural world around them. (Reception – Seasonal changes)
- Describe what they see, hear and feel whilst outside. (Reception – Seasonal changes)
- Understand the effect of changing seasons on the natural world around them. (Reception – Seasonal changes)

Sticky Knowledge:

Can they name different types of weather?

Can they name the four seasons?

Can they discuss the weather for different seasons?

Can they discuss how day length varies in Winter and Summer?

Challenge – can they use their senses when describing the weather during different seasons?

NC Objectives: Working Scientifically taught throughout Year 1/2:

- Asking simple questions and recognising that they can be answered in different ways
- Observing closely, using simple equipment
- Performing simple tests
- Identifying and classifying
- Using their observations and ideas to suggest answers to questions
- Gathering and recording data to help in answering questions

National Curriculum Knowledge: Year 1:

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

NB: This topic links to Geography topic Weather and Climate

Types of Scientific Enquiry:

- Identifying and classifying
- Changes over time
- Research

Key vocabulary:

weather, sunny, rainy, raining, shower, windy, snowy, cloudy, hot, warm, cold, storm, thunder, lightning, hail, sleet, snow, icy, frost, puddles, rainbow, seasons, winter, summer, spring, autumn, Sun, sunrise, sunset, day length

Key Knowledge:

In the UK, the day length is longest at mid-summer (about 16 hours) and gets shorter each day until mid-winter (about 8 hours) before getting longer again.

The weather also changes with the seasons. In the UK, it is usually colder and rainier in winter, and hotter and dryer in the summer. The change in weather causes many other changes. Some examples are: numbers of minibeasts found outside; seed and plant growth; leaves on trees; and type of clothes worn by people.

Scientists across the Curriculum:

Choose from the following options:

Jim Cantore – Meteorologist and storm tracker

Liam Dutton – Weatherperson and Meteorologist