



Science Year 1 Curriculum Overview

The Big Picture

In this unit, we want to encourage children to develop their awareness of the world around them, their body and their senses. Children constantly explore the world around them using their senses, even from a very young age.

What do we already know?

Knowledge Retrieval:

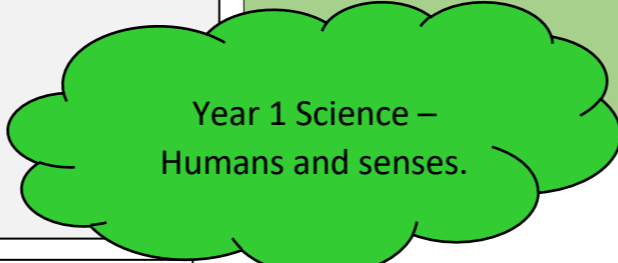
Children will build upon their knowledge from EYFS. They will have some understanding of what they can see, smell and hear. They will be able to describe these using basic adjectives. Children will be aware of how to use their senses to explore their environment. Children will be able to name and show you the basic parts of the body. Children will know that we start as a baby then we grow to an adult.

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

Working Scientifically:

- Can they talk about what they see, touch, smell, hear or taste?
- Can they use simple equipment to help them make observations?
- Can they think of some questions to ask?
- Can they answer some scientific questions?
- Can they give a simple reason for their answers?
- Can they explain what they have found out?
- Can they show their work using pictures, labels and captions?
- Can they record their findings using standard units?
- Can they put some information in a chart or table?



NC objectives – Key Stage 1

Knowledge:

- To identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.
- To observe changes across the 4 seasons.
- To observe and describe weather associated with the seasons and how day length varies.

Working scientifically:

- To ask simple questions and recognising that they can be answered in different ways
- To observe closely, using simple equipment
- To perform simple tests
- To identify and classify
- To use their observations and ideas to suggest answers to questions
- To gather and record data to help answer questions

Key unit objectives

Knowledge

- To Identify, name, draw and label basic parts of the body.
- To know that humans have a head, neck, shoulders, arms, elbows, hands, fingers, legs, knees, ankles, feet, toes.
- To know what the skeleton is and why we have it.
- To know that we have 5 senses - smell, touch, taste, sight and hearing.
- To know that the nose is linked to smell, the eyes are linked to sight, the ears are linked to hearing, the mouth is linked to taste and the skin is linked to touch.

Types of scientific enquiry covered

- Comparison tests
- Pattern seeking
- Research

Key vocabulary and understanding for concept connectors

A **sense** is how we explore the environment.

Sight – what you can see.

Hearing – what you can hear using your ears.

Smell – what you can smell using your nose.

Touch – what you can feel using your skin

Taste – what you can taste using your mouth.

Skeleton – The bones inside out body.

Research/scientists/careers:

Do all animals have the same senses as humans?

Miller Hutchinson - search document for information (Engineer who invented the first electric hearing aid)



Science Year 1 Curriculum Overview

The Big Picture

This unit will provide pupils with the opportunity to explore, name, discuss and 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.

What do we already know?

Knowledge Retrieval:

Children will build upon their knowledge from EYFS. They will have explored the meaning of floating and sinking and will be able to explain that floating is when something stays at the top and sinking is when something goes to the bottom of the water. They will also be able to give a very basic example of what will float and sink.

Sticky knowledge:

- Can they describe materials using their senses?
- Can they explain what material an object is made from?
- Can they explain why a material might be useful for a specific job?
- Can they name some different materials?
- Can they sort materials into groups?
- Can they explain how solid shapes can be changed by squashing, bending, twisting and stretching?

Working Scientifically:

- Can they use simple equipment to help them make observations?
- Can they identify and classify materials based on their properties?
- Can they think of some questions to ask?
- Can they answer some scientific questions?
- Can they give a simple reason for their answers?
- Can they explain what they have found out?
- Can they record their findings using standard units?
- Can they put some information in a chart or table?

Year 1 Science – Materials

NC objectives – Key Stage 1

Knowledge:

- To distinguish between an object and the material from which it is made.
- To identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.
- To describe the simple physical properties of a variety of everyday materials.
- To compare and group together a variety of everyday materials on the basis of their simple physical properties.
- To observe changes across the 4 seasons.
- To observe and describe weather associated with the seasons and how day length varies.

Working scientifically:

- To ask simple questions and recognising that they can be answered in different ways
- To observe closely, using simple equipment
- To perform simple tests
- To identify and classify
- To use their observations and ideas to suggest answers to questions
- To gather and record data to help answer questions

Key unit objectives

- To identify a variety of materials, including wood, plastic, glass, metal, water, and rock.
- To name a variety of materials, including wood, plastic, glass, metal, water, and rock.
- To understand the difference between an object and the material it is made from.
- To be able to name the material that an object is made from.
- To describe the properties of a variety of everyday materials.
- To compare and group together materials based on their simple physical properties.

Types of scientific enquiry covered

- Identifying and classifying
- Research
- Comparison tests
- Fair tests
- Identifying and classifying

Key vocabulary and understanding for concept connectors

Materials such as: **wood, metal, plastic, rock, glass**

A **material** is what something is made from.

Properties such as: **solid, soft, bendy, hard, shiny, see through, waterproof.**

Winter, cold, dark

Research/scientists/careers:

Chester Greenwood (Inventor of earmuffs)
William Addis (inventor of the toothbrush)



Science Year 1 Curriculum Overview

The Big Picture

In this unit, pupils will explore the...

Pupils will use the local environment to explore and answer questions about animals in their habitat. They will understand how to take care of animals taken from their local environment and the need to return them safely after study. Pupils will become familiar with the common names of some fish, amphibians, reptiles, birds and mammals, including those that are kept as pets.

What do we already know?

Knowledge Retrieval:

The children will be able to name and identify some common animals. They will know which animals some people in their families have as pets and they will have a very basic knowledge of how to look after these.

Sticky knowledge:

- Can they point out some of the differences between different animals?
- Can they name the parts of an animal's body?
- Can they sort photographs of living and non-living things?
- 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?
- Can they compare the bodies of different animals?
- **Challenging:** Can they say why certain animals have certain characteristics?

Working Scientifically:

- Can they identify and classify animals by different criteria?
- Can they think of some questions to ask?
- Can they answer some scientific questions?
- Can they give a simple reason for their answers?
- Can they put some information in a chart or table?

Year 1 Science – Animals

NC objectives – Key Stage 1

Knowledge:

- To identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals
- To identify and name a variety of common animals that are carnivores, herbivores and omnivores
- To describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets)

Working scientifically:

- To ask simple questions and recognising that they can be answered in different ways
- To observe closely, using simple equipment
- To perform simple tests
- To identify and classify
- To use their observations and ideas to suggest answers to questions
- To gather and record data to help answer questions

Key unit objectives

- To identify and name common animals.
- To know the 5 animal groups including fish, amphibians, mammals, reptiles, birds.
- To name animals from each of the 5 groups.
- To know the structure of some common animals.
- To know that a carnivore eats meat.
- To know that a herbivore eats plants.
- To know that an omnivore eats plants and meat.
- To identify and name carnivores, herbivores and omnivores.

Working scientifically

- To identify and classify.
- To ask simple questions.
- To use observations and ideas to answer questions.

Types of scientific enquiry covered

- Identifying and classifying
- Pattern seeking
- research

Key vocabulary and understanding for concept connectors

Humans are **mammals**.

Mammals, birds and fish.

Eggs, feathers, swim, land.

Carnivore, herbivore, omnivore.

Research/scientists/careers:

Tanesha Allen (Zoologist who studies badgers)

Chris Packham (Wildlife photographer, animal conservationist, ASC)



Science Year 1 Curriculum Overview

The Big Picture

In this topic, 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.

What do we already know?

Knowledge Retrieval:

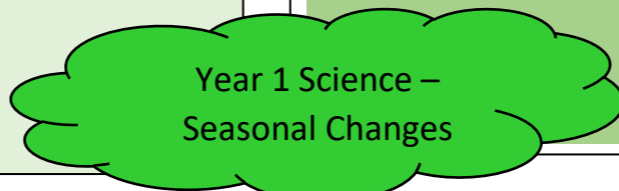
The children will expand their knowledge of seasons from EYFS. The children know there are 4 seasons and they know basic facts about each. The children are aware that it is hot in Summer and cold in Winter.

Sticky knowledge:

- Can they name different types of weather?
- Can they discuss the weather for different seasons?
- Can they discuss how day length varies in Winter and Summer?

Working Scientifically:

- Can they identify and classify animals by different criteria?
- Can they think of some questions to ask?
- Can they answer some scientific questions?
- Can they give a simple reason for their answers?
- Can they put some information in a chart or table?



Year 1 Science – Seasonal Changes

NC objectives – Key Stage 1

Knowledge:

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

Working scientifically:

- To ask simple questions and recognising that they can be answered in different ways
- To observe closely, using simple equipment
- To perform simple tests
- To identify and classify
- To use their observations and ideas to suggest answers to questions
- To gather and record data to help answer questions

Key unit objectives

- To know the different types of weather.
- To observe changes across the 4 seasons.
- To understand the weather associated with the seasons.
- To understand that days are longer in the summer and shorter in the winter.

Working scientifically

- Ask simple questions.
- Use observations and ideas to answer questions.
- To identify and classify.
- Gather and record data to help answer questions.

Types of scientific enquiry covered

- Identifying and classifying
- Changes overtime
- research

Key vocabulary and understanding for concept connectors

The 4 seasons: **Autumn, spring, summer, winter.**

weather

The **temperature** is how hot or cold it is.

rain, sun, snow, wind, storm

Research/scientists/careers:

Jim Cantore (Meteorologist and storm tracker)

Liam Dutton (Weatherperson and meteorologist)



Science Year 1 Curriculum Overview

The Big Picture

In this unit, 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.

What do we already know?

Knowledge Retrieval:

The children will have a basic awareness of how to look after a plant. They will have observed a plant grow in reception and will have watered it as a class.

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 name the main parts of a flowering plant?

Working Scientifically:

- Can they use simple equipment to help them make observations?
- Can they identify and classify things they observe?
- Can they think of some questions to ask?
- Can they answer some scientific questions?
- Can they give a simple reason for their answers?
- Can they explain what they have found out?
- Can they show their work using pictures, labels and captions?

Year 1 Science – Plants

NC objectives – Key Stage 1

Knowledge:

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

Working scientifically:

- To ask simple questions and recognising that they can be answered in different ways
- To observe closely, using simple equipment
- To perform simple tests
- To identify and classify
- To use their observations and ideas to suggest answers to questions
- To gather and record data to help answer questions

Key unit objectives

- To identify and name a variety of common wild and garden plants.
- To know the meaning of deciduous and evergreen trees.
- To identify and name some deciduous and evergreen trees.
- To identify and describe the basic structure of a variety of plants.
- To know the basic structure of trees.

Working scientifically

- Ask simple questions.
- Use observations and ideas to answer questions.
- To perform simple tests.
- To identify and classify.
- Gather and record data to help answer questions.

Types of scientific enquiry covered

- Identifying and classifying
- Comparative/fair testing Changes overtime
- research

Key vocabulary and understanding for concept connectors

The parts of a plant - **flower, leaf, stem, roots.**

Evergreen trees stay green all year. **Deciduous** trees lose their leaves in Autumn.

The parts of a tree – **roots, trunk, branches, leaves.**

Research/scientists/careers:

Beatrix Potter (Author and Botanist)

Maria Sibylla Merian (German artist, scientific illustrator, and naturalist)



Science Year 1 Curriculum Overview

The Big Picture

Children will have built up an understanding of science over the year. This time allows the teacher to identify and fill any gaps that may still be present. The 'super scientists' topic allows the children time to use their creative side and come up with their own scientific enquiry-based questions and allows them the time to plan and investigate these ideas. The whole topic is child centred and allows the children to have fun whilst learning the fundamental skills working scientifically.

Sticky knowledge:

Working Scientifically:

- Can they use simple equipment to help them make observations?
- Can they identify and classify things they observe?
- Can they think of some questions to ask?
- Can they answer some scientific questions?
- Can they give a simple reason for their answers?
- Can they explain what they have found out?
- Can they show their work using pictures, labels and captions?
- Can they record their findings using standard units?
- Can they put some information in a chart or table?

Year 1 Science –
Super scientists

NC objectives – Key Stage 1

Working scientifically:

- To ask simple questions and recognising that they can be answered in different ways
- To observe closely, using simple equipment
- To perform simple tests
- To identify and classify
- To use their observations and ideas to suggest answers to questions
- To gather and record data to help answer questions

Types of scientific enquiry covered

- Identifying and classifying
- Pattern seeking
- Comparative tests
- Observations over time
- research

Key vocabulary and understanding for concept connectors

Prediction

Results

Fair

Investigate

Research/scientists/careers:

Linked to children's interests and ideas.