

## Autumn Term 1 Year 1 Science Overview

### Key facts

Some types of materials are wood, glass, plastic, rock, fabric, paper, wool, metal. An object has a physical existence, the material is what the object is made from. For example, a chair is made from wood and a fork is made from metal.

Some materials can LOOK dull or shiny, rough or smooth, opaque, transparent or translucent.

Some materials can FEEL rough or smooth, hard or soft, bendy, stretchy or rigid

### Physics – Materials and their properties

### Brief summary/ overview

Physics is the branch of science concerned with the nature and properties of matter.

Materials look and feel different and have different properties, which make them suitable for some purposes and not suitable for others. For example, a window made of wood would be opaque and therefore not fit for purpose.

### Prior Knowledge

In reception children will have been encouraged to notice changes in properties of media as they are transformed through becoming wet, dry, flaky or fixed. They will have talked about what was happening. They will also have happened when they put different things together such as sand, paint and sawdust.

### Key Vocabulary

Materials, properties, object, soft, hard, stretchy, bendy, stiff, rigid waterproof, not waterproof, shiny, dull, rough, smooth, opaque, transparent, translucent, absorbent, not absorbent, glass, plastic, wood, metal, paper, wool.

### Resources

Non-fiction texts

Online access

A selection of materials

Water

### Cross curricular links/visits

Children will look explore materials and their properties in forest school. They will use a range of materials in art too, developing skills in paint mixing, mark making and cutting. In DT they will use a range of materials to create a product and evaluate the materials used and their effectiveness.

## Autumn Term 2 Year 1 Science Overview

### Key facts

Some animals are omnivores, some are herbivores and others are carnivores. A herbivore is an animal that only feeds on plants, a carnivore only feeds on meat and a herbivore feeds on both meat and plants. Humans are omnivores.

Herbivores evolved on Earth, due to the presence of plants; and became dependent on them for Food (Energy). Carnivores evolved on Earth, due to the presence of Herbivores; and became dependent on the Herbivores for Food (energy).

### Resources

- Non-fiction texts
- Online access
- Venn diagram
- Images of animals
- A selection of food

Biology –  
Animals  
including  
humans

### Brief summary/ overview

Biology is the study of living organisms.

Animals belong to one of three categories relating to their diets. They are herbivores, omnivores or carnivores.

Animals have evolved over millions of years. Herbivores are dependent on plants and carnivores are dependent on herbivores. Being an omnivore gives animals more food security in stressful times or makes possible living in less consistent environments.

### Prior Knowledge

Children will already have developed personal likes and dislikes of certain types of food and drink and will have some knowledge of different types of food.

### Key Vocabulary

Animals, humans, omnivore, herbivore, carnivore, meat-eater, Venn diagram

### Cross curricular links/visits

Our English topic allows us to research a wide variety of animals, including their dietary needs and habits.

## Spring Term 1 Year 1 Science Overview

### Key facts

There are four seasons; spring, summer, autumn and winter. These are affected by the position of the earth in relation to the sun. This also affects the weather and day length. The summer solstice is usually on June 21<sup>st</sup> and the winter solstice is usually on December 21<sup>st</sup>. However, this can be affected by the "wobble" in the earth's axis.

The months in which each season falls are as follows:

- Spring - March to May.
- Summer - June to August.
- Autumn - September to November.
- Winter - December to February

### Physics - Seasonal changes

### Brief summary/ overview

There are four seasons in the year. The seasons are affected by the earth's tilt of its axis and its rotation around the sun.

The day length alters throughout the year and is shorter in winter than in summer. The days of solstice can change dependent upon the earth's position in relation to other planets.

Humans have to be adaptable to the changing seasons and must adjust their clothing and diet accordingly.

### Prior Knowledge

Children will be able to identify the current season and know that it is colder than the rest of the year. They are aware that it gets darker earlier in winter and that it is still dark in the morning.

### Key Vocabulary

Seasonal changes, day length, identify, record, observe, describe, deciduous, evergreen, earth, sun, rotation.

### Resources

Images of seasons  
Non-fiction texts  
Online access  
Variety of clothes  
Weather logs

### Cross curricular links/visits

Further science links to plants and whether they are deciduous or evergreen. Also to animal science, when considering habitats.

## Spring Term 2 Year 1 Science Overview

### Key facts

Humans are animals. Their main body parts are head, neck, arms, elbows, legs, knees, face, ears, eyes, hair, mouth and teeth.

Humans rely on five senses; smell, sight, taste, touch and hearing.

Smell is associated with the nose, sight with the eyes, taste with the mouth, touch with the skin and hearing with the ears.

### Biology – Animals Including Humans

### Brief summary/ overview

Biology is the study of living organisms.

Humans are one of 1,250,000 species of animals on planet earth. They are mammals.

Humans rely on their 5 senses of smell, taste, touch, sight and hearing, to let them know what is going on around them.

The main body parts are head, neck, arms, elbows, legs, knees, face, ears, eyes, hair, mouth and teeth.

### Prior Knowledge

Children have previously looked at a variety of common animals. They have explored whether animals are herbivores, omnivores or carnivores and identified their habitats.

### Key Vocabulary

Animals, biology, humans, life processes, senses, body parts, smell, taste, touch, hearing, sight, human body, mobility, functions, systems, head, neck, arms, elbows, legs, knees, face, ears, eyes, hair, mouth and teeth, mammals, organs.

### Resources

Non-fiction texts

Online access

Human body model

Resources to investigate senses (smell, sight, taste, touch, hearing).

### Cross curricular links/visits

Further science covers describing and comparing the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets).

## Summer Term 1 Year 1 Science Overview

### Key facts

There are 3 basic parts to the structure of most plants – the leaf, the stem and the roots.

The leaf is the part of the plant that captures energy from sunlight and turns it into food (photosynthesis) as well as removing carbon dioxide from the air and producing oxygen.

The stem is the main structure that supports leaves and flowers. Stems move food and water around the plant to help it grow. Plants often store food in their stems.

The roots of a plant grow underground. Roots help to keep the plant from falling over and gather water and minerals from the soil. Some plants store food in their roots.

### Biology – Plants

### Brief summary/ overview

Biology is the study of living organisms.

Plants are living things that are not only rich in colour and variety they are central to life on Earth. They create food for animals to eat. By forming habitats such as rainforests and woodlands they provide a place for animals to live.

Plants produce the oxygen that is the air we breathe, and so are essential to keeping us alive.

There are roughly 391,000 varieties of plants on earth, approximately 60,000 of which are types of tree.

### Prior Knowledge

Children have previously explored deciduous and evergreen plants during their work on seasons.

### Key Vocabulary

biology, plant life, trees, habitats, flora, life processes, leaf, roots, stem, flowers, sunlight, carbon dioxide, oxygen, soil, minerals, growth, deciduous, evergreen

### Resources

Non-fiction texts

Online access

Resources to investigate including exploration of school grounds to identify different plants.

### Cross curricular links/visits

Children will look at the national flower of the countries of the UK in geography.

## Summer Term 2 Year 1 Science Overview

### Key facts

Animals can be grouped into different categories:  
Amphibians live in the water as babies and on land as they grow older. They have smooth, slimy skin.  
All birds have a beak, two legs, feathers and wings.  
Fish live and breathe under water. They have scaly skin, fins to help them swim and they breathe through gills.  
Mammals are animals that breathe air, grow hair or fur and feed on their mother's milk as a baby. Humans are mammals.  
Reptiles All reptiles breathe air. They have scales on their skin.

### Resources

Non-fiction texts  
Online access

Biology –  
Animals  
including  
humans

### Brief summary/ overview

Biology is the study of living organisms.

Animals can be grouped into different categories; amphibians, birds, fish, mammals and reptiles.

Humans are mammals and can have many of the above types of animals as pets. E.g. Cats and dogs are mammals, newts are amphibians, parrots are birds, goldfish are fish and tortoises are reptiles.

### Prior Knowledge

Children have previously identified and named parts of the human body and learnt which part of the body is associated with each sense. They have also explored whether animals are herbivores, carnivores or omnivores.

### Key Vocabulary

biology, living, common animals, amphibians, fish, reptiles, birds, mammals, structure, gills, features

### Cross curricular links/visits

Children will look explore common animals in forest school and recognise their similarities and differences.