



# YEAR B

# SCIENCE KS1

**"It is the glory of God to conceal things, but the glory of kings is to search things out."**

**Proverbs 25:2**



## Seasonal Changes Class 2

### Pupils will be taught to:

Observe changes across the 4 seasons

Observe and describe weather associated with the seasons and how day length varies

### Pupils will also:

Observe and talk about changes in the weather and the seasons.

That it is not safe to look directly at the sun, even when wearing dark glasses.

Work scientifically by making tables and charts about the weather and make displays of what happens in the world around them, including day length, as the seasons change.

### By the end of the topic pupils will know:

The four seasons are Spring, Summer, Autumn and Winter.

Summer is usually warm and mild.

Trees prepare for winter during Autumn.

The days get shorter during Autumn.

Winter can be associated with snow and freezing temperatures.

Some animals, like bears hibernate in the Winter.

The seasons don't come at the same time of the year for everyone. For example ... When it is Winter in the United Kingdom, Australia is having Summer. That means Christmas in Australia is warm and sunny.

Many animals have their babies in Spring.

During Autumn, leaves change colour and fall from the trees.

During Autumn some animals adapt to survive winter by beginning to grow thicker coats and by collecting food.

In Winter Plants and Trees stop growing.

The closer a place on Earth is to the Sun, the warmer it will be.

Not every country round the world have four seasons.

Some birds migrate when it gets cold to warmer countries.

Some land and sea animals also migrate.

Seasons change throughout the year because of the way the Earth travels around the Sun.

## Everyday Materials

### Class 2 – Year 1 Content

#### Pupils will 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.

Pupils should also explore, name and raise and answer questions about everyday materials so that they become familiar with the names of materials and properties such as: hard/soft; stretchy/stiff; shiny/dull; rough/smooth; bendy/not bendy; waterproof/not waterproof; absorbent/not absorbent; opaque/transparent.

Pupils will explore and experiment with a wide range of materials.

#### Pupils will know by the end of the topic:

Glass is used for windows in houses and cars to see through.

Mirrors are used to see yourself – for reflection.

Metal is used for strength in construction of planes, cars and trains and especially tall buildings.

Plastic is moulded or shaped to form any shape.

A material is what something is made from.

Materials can be natural or man-made.

Glass is made from very fine sand. It is heated until it melts.

Plastics are a man-made material, mostly made from oil.

A glass bottle could take 1 million years to decompose (break down).

A plastic bottle will take 450 years to decompose (break down).

Natural rubber is made from a runny, milky liquid called latex, which comes from some plants. Most of the world's natural rubber comes from the rubber tree.

Some solids can be hammered or squashed into many different shapes without breaking. They are known as malleable materials.

Other solids; such as biscuits or glass, will not bend when hammered or squashed, but will break and split. These materials are brittle.

Wood, paper and cardboard are all made from trees.

Leather comes from cow skin.

Wool comes from sheep.

Cotton comes from plants.

Durable means long lasting.

All materials have physical properties. A physical property is one that a person can measure without changing the material. Colour, amount, hardness and temperature are examples of physical properties.

## Uses of Everyday Materials – Class 2

### Year 2 Content

#### Pupils will 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.

Pupils will also identify and discuss the uses of different everyday materials so that they become familiar with how some materials are used for more than one thing (metal can be used for coins, cans, cars and table legs; wood can be used for matches, floors and telegraph poles) or different materials are used for the same thing (spoons can be made from plastic, wood, metal, but not normally from glass).

They will think about the properties of materials that make them suitable or unsuitable for particular purposes and they will be encouraged to think about unusual and creative uses for everyday materials.

Pupils will work scientifically by: comparing the uses of everyday materials in and around the school with materials found in other places, observing closely, identifying and classifying the uses of different materials, and recording their observations.

#### Pupils will know by the end of the topic:

Wood is used to make buildings and furniture and for making fires and heating.

Most of the paper or cardboard we use come from trees.

Glass is a hard material that can be made in many shapes.

Glass is usually transparent, which means you can see through it, but can also come in different colours.

Glass is often used to make windows and bottles.

When heated, metals can be shaped into anything from a tiny paperclip to a huge aircraft.

Squashing and pushing things closely together.

Bending is changing the shape and direction of something.

To twist something, you move part clockwise and the other part anti-clockwise.

Stretching is making something bigger by pulling it to make it longer.

Metals are strong, hard and they can conduct heat and electricity very well.

To recycle is to use again or to reuse waste material by converting it into something new.

Frosted glass is translucent.

A translucent material lets light pass through, but objects on the other side can't be seen clearly.

## Plants

### Class 2 - Year 1 Content

Pupils will 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.

Pupils will also observe the flowers and vegetables growing in the school garden.

Pupils will work scientifically by; observing closely and using magnifying glasses, and comparing and contrasting familiar plants; describing how they were able to identify and group them, and drawing diagrams showing the parts of different plants including trees.

## Children will know by the end of the topic:

Some trees can live for thousands of years.

Some plants are carnivores, a well-known example of a carnivorous plant is the Venus Flytrap.

Bamboo can be a fast growing plant. Some types can grow almost a metre in just one day.

Trees help purify the air and provide food and shelter for all sorts of creatures.

Water and nutrients travel up the tree trunk, through the branches and all of the way to the leaves.

An evergreen tree is the name for trees that have leaves all year round.

Deciduous is the name given to trees that lose their leaves in Autumn and are bare in the Winter.

A vegetable is a plant or part of a plant which is used as food, for example cabbage or potato.

The trunk of a tree is the main part that grows from the ground to hold the tree sturdy.

Bulbs help store food for a plant and help it grow.

A bud is the part that grows up and holds the plant together.

A petal is a part of the flower and is usually coloured. The colour and its scent attract insects.

Blossom is the flower that comes before the fruit. For example, apple blossom comes before the apple starts to grow.

Wild plants grow naturally for many years. They do not need any person to take care of them.

## Trees and Plants

### Class 2 – Year 2 Content

#### Pupils will 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.

#### Pupils will also

Be introduced to the requirements of plants for germination, growth and survival, as well as the processes of reproduction and growth in plants.

Note that seeds and bulbs need water to grow but most do not need light; seeds and bulbs have a store of food inside them.

Pupils will work scientifically by; observing and recording, with some accuracy, the growth of a variety of plants as they change over time from a seed or bulb. They will set up a comparative test to show that plants need light and water to stay healthy.

## Children will know by the end of the topic

Trees and shrubs take in water and carbon dioxide and give out oxygen.

Trees can live for a very long time. The oldest known tree is over 5,000 years old.

A single tree has many roots.

Roots carry food and water from the ground through the trunk and branches to the leaves of the tree.

The trunk is the main part of the tree.

The trunk is covered with bark which protects it from damage.

Leaves can be of many different shapes.

Leaves take in sunlight and use water and food from the roots to make the tree grow and to reproduce.

As a tree grows, it usually produces growth rings as new wood is laid down around the old wood.

Oxygen is used by animals and plants in the respiration (breathing) process.

A woodland is a habitat where trees are the dominant plant form.

Common trees found in the UK are Oak, Horse Chestnut, Conifer and Willow trees.

Branches spread the leaves out as far as they can so the leaves can get the most sunlight possible.

The California Redwood is the tallest tree on Earth. They usually grow to over 90 metres.