



Knowledge Organiser

Subject - Science

Topic name - Animals

Year group 1

Term - Autumn

Prior Knowledge Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur and talk about changes. (Early Learning Goal)

Key vocabulary

Key Vocabulary	
amphibians	Amphibians live in the water as babies and on land as they grow older. They have smooth, slimy skin.
birds	All birds have a beak, two legs, feathers and wings.
fish	Fish live and breathe under water. They have scaly skin, fins to help them swim and they breathe through gills.
mammals	Mammals are animals that breathe air, grow hair or fur and feed on their mother's milk as a baby.
reptiles	All reptiles breathe air. They have scales on their skin.
carnivore	Animals that mostly eat other animals (meat) are carnivores.
herbivore	Animals that only eat plants are herbivores.
omnivore	Animals that eat both plants and other animals are omnivores.

Possible experiences

Make first-hand, close observations of animals from each of the groups.
Compare two animals from the same or different groups.
Classify animals using a range of features.
Identify animals by matching them to named images.
Classify animals according to what they eat.

Skills to be taught Ask simple questions and recognise they can be answered in different ways Observe closely, using simple equipment
Perform simple tests Identify and classify

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.

N.B.

The children need to be able to name and identify a range of animals in each group e.g. name specific birds and fish. They do not need to use the terms mammal, reptiles etc. or know the key characteristics of each, although they will probably be able to identify birds and fish, based on their characteristics.

The children also do not need to use the words carnivore, herbivore and omnivore. If they do, ensure that they understand that carnivores eat other animals, not just meat.

Mammals



human



mouse



dog



cow

Birds



penguin



chicken



flamingo



robin

Fish



goldfish



tuna



shark



eel

Reptiles



snake



tortoise



lizard



alligator

Amphibians



frog



toad



newt



salamander



Knowledge Organiser

Subject - Science	Humans and senses	Year group 1	Term - Autumn
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Prior Knowledge Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur and talk about changes. (Early Learning Goal)

Skills to be taught
Ask simple questions and recognise they can be answered in different ways
Observe closely, using simple equipment
Perform simple tests
Identify and classify

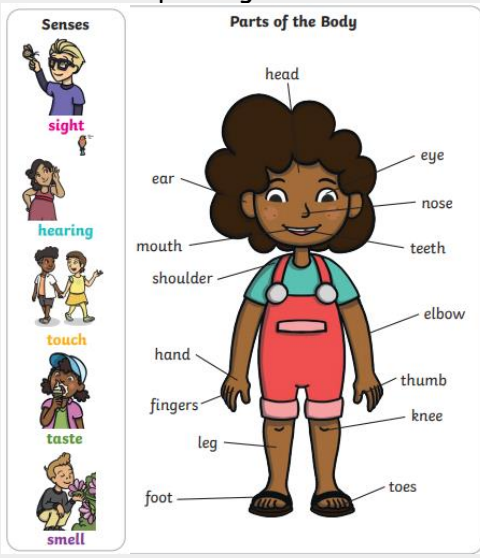
Key Knowledge
Humans have key parts in common, but these vary from person to person. Humans (and other animals) find out about the world using their senses. Humans have five senses – sight, touch, taste, hearing and smelling. These senses are linked to particular parts of the body.

Key vocabulary

Key Vocabulary	
sight	Your eyes let you see all the things around you.
hearing	Your ears let you listen to all the things around you. Your brain is able to tell what different sounds are.
touch	Your skin gives you the sense of touch. You can tell if something is warm, cold, smooth or rough without even looking at it!
taste	Your sense of taste comes from your tongue. You can tell if something tastes bitter or sweet. You might have some tastes you like and some you don't.
smell	You smell using your nose. Your nose can tell if things smell nice or not nice.

Possible experiences Make first-hand close observations of parts of the body e.g. hands, eyes. Compare two people. Take measurements of parts of their body. Compare parts of their own body. Look for patterns between people e.g. Do people with big hands have big feet? Classify people according to their features. Investigate human senses e.g. Which part of my body is good for feeling, which is not? Which food/flavours can I identify by taste? Which smells can I match?

Pictures/maps/images



N.B.

Although we often use our fingers and hands to feel objects, the children should understand that we can feel with many parts of our body.





Knowledge Organiser

Subject - Science

Topic name
Everyday materials

Year group 1

Term -Autumn/Spring

Prior Knowledge Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur and talk about changes. (Early Learning Goal)

Skills to be taught
Ask simple questions and recognise they can be answered in different ways
Observe closely, using simple equipment
Perform simple tests
Identify and classify

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

Key vocabulary

Key Vocabulary	
object	A thing that can be used. For example a door, chair, car, table are all objects .
material	Materials are what an object is made from.
hard	Not easily broken or bent.
soft	If something is soft , it is easy to cut, fold or change the shape of.
stretchy	Can be pulled to make it longer or wider without breaking.
shiny	Reflects light easily.
dull	Doesn't reflect light. Doesn't look bright or shiny .
rough	If something is rough , it feels and looks uneven or bumpy.

Possible experiences

Classify objects made of one material in different ways e.g. a group of object made of metal.

Classify in different ways one type of object made from a range of materials e.g. a collection of spoons made of different materials.

Classify materials based on their properties.

Test the properties of objects e.g. absorbency of cloths, strength of party hats made of different papers, stiffness of paper plates, waterproofness of shelters

Pictures/maps/images



Materials:





Knowledge Organiser

Subject - Science

Topic name - Plants

Year group 1

Term -Summer

Prior Knowledge Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur and talk about changes. **(Early Learning Goal)**

Skills to be taught
Ask simple questions and recognise they can be answered in different ways
Observe closely, using simple equipment
Perform simple tests
Identify and classify

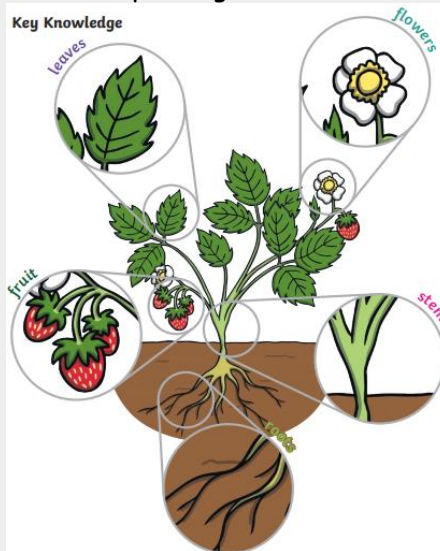
Key vocabulary

Key Vocabulary	
roots	Roots take in water and nutrients from the soil and keep the plant in the ground.
stem	The stem holds the plant up and carries the water and nutrients from the roots to the leaves and flowers.
leaves	Leaves catch sunlight to help the plant to make its own food.
flowers	Flowers attract insects and birds.
petals	Petals are the colourful part of the flower.
fruit	Fruit contains the plant's seeds. Sometimes humans try to grow fruit without seeds because it's easier to eat.
seed	Seeds grow into new plants.
bulb	Bulbs grow into new plants.

Possible experiences

Make close observations of leaves, seeds, flowers etc.
Compare two leaves, seeds, flowers etc.
Classify leaves, seeds, flowers etc. using a range of characteristics.
Identify plants by matching them to named images.
Make observations of how plants change over a period of time.
When further afield, spot plants that are the same as those in the local area studied regularly, describing the key features that helped them.

Pictures/maps/images



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.

Wild Plants



Garden Plants



Trees





Knowledge Organiser

Subject - Science

Topic name - Seasonal changes

Year group 1

Term - Autumn/
Spring/Summer

Prior Knowledge Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur and talk about changes. (Early Learning Goal)

Skills to be taught
Ask simple questions and recognise they can be answered in different ways
Observe closely, using simple equipment
Perform simple tests
Identify and classify

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.

Key vocabulary

Key Vocabulary	
seasons	There are four seasons each year: autumn, winter, spring and summer.
autumn	In autumn, the weather begins to get colder. The leaves start to fall from the trees. The amount of daylight becomes less. This means the daylight hours are shorter and the night times are longer.
winter	In winter, the weather is much colder. Sometimes it is cold enough to freeze, leaving frost and ice on the ground. It sometimes snows. Many trees have bare branches as all their leaves have fallen off. The daylight hours are the shortest in the year and the night times are the longest.
weather	The weather includes the temperature outside, the wind direction and strength, as well as rain, cloud, snow and sun.
daylight	Daylight is when it is light outside. The amount of daylight changes with each season.
spring	In spring, the weather starts to get warmer. The leaves begin to grow on the trees and some trees may blossom (have flowers). Plants begin to grow and you may see baby animals like lambs around. The daylight hours start to get longer.
summer	In summer, the weather gets hotter. The daylight is long and the nights are short. Summer has the longest days. The trees are full of leaves and there are lots of flowers, bees, butterflies and other insects.

Possible experiences Collect information about the weather regularly throughout the year. Present this information in tables and charts to compare the weather across the seasons. Collect information, regularly throughout the year, of features that change with the seasons e.g. plants, animals, humans. Present this information in different ways to compare the seasons. Gather data about day length regularly throughout the year and present this to compare the seasons



Daylight hours each month:

Month	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug
Hours of Daylight	13	11	9	8	8	10	12	14	15	16	16	14

The Four Seasons

autumn
September
October
November

winter
December
January
February

spring
March
April
May

summer
June
July
August