

Year 1 Science Medium Term Plan

| | | |
|--|--|--|
| <p>Year 1</p> | <p><u>Animals Including Humans</u></p> <p><u>Animals Part 1</u></p> <p>This unit is the first of six science units where pupils study animals, including humans, as part of the discipline of biology - the study of living organisms. From Reception, pupils can name common animals and their babies after looking briefly at life cycles.</p> <p>In Year 1, pupils further develop their knowledge of animals as they are introduced to the concept of 'families' and how animals are grouped according to their shared properties including fish, amphibians, reptiles, birds and mammals. Pupils learn the key features of each animal family and group them into their correct families. New learning includes identifying and naming a variety of common animals that are carnivores, herbivores and omnivores.</p> <p>This unit is the precursor to work studied in Year 2 where pupils learn about how animals, and humans, grow and change. Pupils study life cycles of humans and animals such as butterflies, chickens and frogs.</p> <p><u>Humans Part 2</u></p> <p>In this area of animals including humans, pupils identify, name, draw and label the basic parts of the human body. Pupils also learn about the senses.</p> | |
| <p>National Curriculum (End of Unit Outcomes)</p> | <p>Sequence of Learning (small steps)</p> | <p>Key skills – Working Scientifically</p> |
| <p>Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals</p> | <p>- To name a range of common animals from the local environment which includes animals from each of the animal families. WS 4</p> <p>-To name a range of common animals that may be kept as pets, which includes animals from each of the animal families. WS 4</p> | <p><u>Identifying, classifying and Grouping</u> Classify animals they have seen/have first-hand experience of, choosing their own criteria to do so.</p> <p>Answer questions about the category of the animal based on what they have found out WS 5</p> <p><u>Observing over time</u> Observe animals in the local environment throughout the year. WS 2</p> <p><u>Researching</u> Use secondary sources to name animals seen in the local environment that they may not currently be able to name (e.g. birds: magpie, blackbird). WS 6</p> <p>Observe animals closely WS 2</p> |

| | | |
|---|---|---|
| <p>Identify and name a variety of common animals that are carnivores, herbivores and omnivores</p> | <ul style="list-style-type: none"> -To know that herbivores eat plants. -To know that carnivores eat meat/other animals -To know that omnivores eat both plants and other animals. WS 1 - To begin to use the key language carnivore, herbivore and omnivore to describe and identify what animals/human eats. | <p>Identifying, classifying and Grouping Classify animals they have first-hand experience of based on what they eat (plants, other animals, both). (Complete this after the research.) WS 4</p> <p>Raise questions about what different animals might eat WS 1</p> |
| <p>Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets)</p> | <ul style="list-style-type: none"> -To identify key physical features of each of the animal families to help when grouping e.g.skin coverings (fur or scales) and structures (fins) -To know that fish, amphibians, reptiles, birds and mammals are similar in that they have internal skeletons. -To identify and describe key features of different animals including skin coverings (scales, feathers, fur etc) and structures (wings, tails, gills etc). WS 4 -To know that mammals have fur -To know that birds have wings and feathers -To know that fish have scales and fins. -To know that reptiles have dry scales. -To know that most amphibians have webbed feet and moist skin. - To label key features of an animal on a picture/diagram. -To compare the structure and features of a variety of common animals | <p>Identifying, classifying and Grouping Classify animals based on physical structure.</p> <p>Record data using labels WS 6</p> |
| <p>Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense</p> | <ul style="list-style-type: none"> -To understand that humans have key parts in common but that these may vary from person to person. -To know that feet, legs, arms, hands, torso, head, skin, ears, eyes, nose, mouth and tongue are parts of a body and identify them. WS 4 -To label parts of the body on a picture or diagram. WS 2 -To carry out songs and games that include parts of the body e.g. Simon says or heads, shoulders, knees and toes. | <p>Researching Perform simple tests about senses – smell, taste, touch etc WS 3</p> <p>Record data using labels WS 6</p> <p>Pattern Seeking Do older children have larger feet? Complete an investigation to find an answer to this question.</p> |

| | | |
|------------------------------------|--|--|
| | <p>-To understand that humans (and other animals) find out about the world using their senses and I know that these include touch, see, smell, taste and hear.</p> <p>-To associate a body part with each of the 5 senses. E.g. eyes – sight, nose – smell etc.</p> | |
| <p>Vocabulary</p> | <p>Names of animals experienced first-hand from each vertebrate group e.g. deer, cow, sheep, dog, cat, golf fish</p> <p>Carnivores- meat eaters- tiger, wolf, orca, eagle, hawk. Herbivores-plant eaters- rabbit, zebra, sheep, cow. Omnivores-plant and meat eaters Human, bear, badger, ape.</p> <p>Head, body, eyes, ears, mouth, teeth leg, tail, wing, claw, fin, scales, feathers, fur, beak, paws, hooves, spine, gills.</p> <p>Parts of the body including those linked to PSHE teaching e.g. head, body, eyes, ears, mouth, teeth.</p> <p>Senses – touch, see, smell, taste, hear, fingers (skin), eyes, nose, ear and tongue</p> | |
| <p>Common Misconception</p> | <p>Some children may think:</p> <ul style="list-style-type: none"> - only four-legged mammals, such as pets, are animals - humans are not animals - insects are not animals - amphibians and reptiles are the same. - It is just our hands that feel things (we can actually feel with many parts of our body) | |
| <p>Key Questions</p> | <ul style="list-style-type: none"> - Can you name different animals? - What is a carnivore/herbivore/omnivore? - Are all animals the same? Explain what you know about their features. - What is a key feature of a mammal/fish/bird/reptile? - Which body part is linked to which sense? E.g. which body part is us | |

| | | |
|---|---|--|
| <p>Year 1</p> | <p><u>Everyday Materials</u></p> <p>This unit is the first of five science units where pupils study materials as part of the discipline of chemistry - the identification of the properties a substance is made from. In this Year 1 unit, pupils identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. Pupils distinguish between an object and the material from which it is made including if it is 'man-made' or 'natural'. New learning includes describing the simple physical properties of a variety of everyday materials. The knowledge acquired will help pupils at the end of the unit as they compare and group together a variety of everyday materials on the basis of their simple physical properties.</p> | |
| <p>National Curriculum (End of Unit Outcomes)</p> | <p>Sequence of Learning (small steps)</p> | <p>Key skills – Working Scientifically</p> |
| <p>Distinguish between an object and the material from which it is made.</p> | <ul style="list-style-type: none"> -To explore a range of objects made with different materials. -To know that an object is made from/of a material. -To know that some objects can be made of more than one material. -To know that some objects can be made of different materials e.g. a spoon could be made out of metal, plastic or wood. -To ask questions about different objects and the materials they are made from. -To identify and label the materials an object is made from. (verbally or in writing depending on ability.) | <p><u>Classifying</u></p> <p>Classify objects made from the same material (e.g. lots of things made from plastic). Classify one object made from different materials (e.g. cups made of different materials). Classify paper/plastics/fabrics. WS4</p> |
| <p>Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.</p> | <ul style="list-style-type: none"> -To name examples of materials in the real world including plastic, glass, metal, water and rock. -To name some other materials such as brick, paper, fabric, elastic etc. -To understand the difference between fabric/cloth and a material. -To identify a given material when shown or handled. | |
| <p>Describe the simple physical properties of a variety of everyday materials.</p> | <ul style="list-style-type: none"> -To show some understanding of what is meant by properties of materials. -To know that materials can be hard/soft; stretchy/stiff; shiny/dull; rough/smooth; bendy/not bendy; waterproof/not waterproof; absorbent/not absorbent; opaque/transparent; these descriptions denote the properties of a material. - To describe a material using its properties. -To understand that some materials may be in different forms with different properties e.g. plastic. | <p><u>Comparative/fair testing</u></p> <p>Test different materials for absorbency. Which material absorbs the most? Use pipettes to measure how much water is used each time and different squares of different materials. (See white rose test) WS 3</p> <p>Gather data about which is most absorbent – use pipettes to measure WS 6</p> |

| | | |
|--|--|--|
| | <p>-To begin to understand why some properties make certain materials more effective for use e.g. waterproof fabric rain coat or strong wood for a book shelf.</p> <p>-To test the properties of objects (see working scientifically) <i>At this stage children are testing objects already made from a particular material. They will discuss which materials COULD be used in year 2.</i></p> | Observe the differences in materials WS 2 |
| Compare and group together a variety of everyday materials on the basis of their simple physical properties. | <p>-To know from observation how to distinguish between and sort materials made of wood, plastic, glass, metal, water, rock etc WS 2</p> <p>-To group materials based on a property that they share or do not share. E.g. hoops for shiny and dull materials. WS 4</p> | |
| Vocabulary | <p>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.</p> | |
| Common Misconception | <p>Some children may think:</p> <ul style="list-style-type: none"> • only fabrics are materials • only building materials are materials • only writing materials are materials <ul style="list-style-type: none"> • When water is absorbed it disappears, can squeeze water out of a sponge to demonstrate this. | |
| Key Questions | <ul style="list-style-type: none"> - Can you name a material? - Can you describe this material? (glass, wood, metal, plastic) - Can you say what is similar/different about these materials? (comparing two e.g. glass and plastic objects) | |

| | | |
|---|--|--|
| <p>Year 1</p> | <p><u>Seasonal Changes</u></p> <p>This unit follows on from work in Reception where pupils study the names of the 4 seasons and look at changes to trees and plants during this time as each season occurs. In year 1 they begin to learn more about the 4 seasons, including the months that fall into each season and the weather patterns they follow. They will learn about the changes to the earth's light patterns through the seasons and how the seasons affect animals and plants. This unit comes before work studied in year 2 about what plants need to grow well and when plants grow best.</p> | |
| <p>National Curriculum (End of Unit Outcomes)</p> | <p>Sequence of Learning (small steps)</p> | <p>Key skills – Working Scientifically</p> |
| <p>Observe changes across the 4 seasons</p> | <p>-To know that there are 4 seasons - Autumn, Winter, Spring and Summer.</p> <p>-To know that the seasons occur in a cycle and that they consist of the following months – winter (December, January, February) Spring (March, April, May) Summer (June, July, August) Autumn (September, October, November)</p> <p>-To know how the environment changes in each season. WS 2</p> <p>Autumn - Leaves change colour and fall from deciduous trees, harvest time, some birds migrate (e.g. swallows)</p> <p>Winter - Some animals including hedgehogs and tortoises hibernate throughout Winter (identify these animals) water freezes to ice. Many plants stop growing.</p> <p>Spring - Flowers begin to grow, associated with rebirth and growth, some baby animals are born (e.g. lambing season),</p> <p>Summer - Flowers and trees are in bloom.</p> <p>(Time-lapse video of seasons - https://vimeo.com/2639782) – REQUIRES A FREE LOGIN.)</p> <p>-To know that looking directly at the sun is not safe even when wearing sunglasses.</p> | |
| <p>Observe and describe weather associated with the seasons and how day length varies</p> | <p>-To know that the length of daylight varies with Winter having the shortest daylight hours and Summer having the longest.</p> <p>-To know 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. These are known in the UK as the Summer Solstice (longest day) and the Winter Solstice (shortest day).</p> <p>-To know the weather patterns associated with each season</p> <p>Autumn - Temperatures start to drop from Summer, overcast</p> <p>Winter - Coldest time of year, snow, frosty in the morning, sleet, blizzard, hail</p> <p>Spring - Temperatures start to warm up</p> <p>Summer - Hottest time of the year, sunshine, generally dry weather but may be thunderstorms</p> <p>-To know the differences between types of precipitation - hail, rain, snow, sleet.</p> | <p><u>Observing</u></p> <p>Make observations over time (photos of what children are wearing through the year, photos of the same spot outside to see how it changes over the year). Record time it gets dark each day. WS 2</p> <p>(This gathers evidence, over time, that day length changes and so do activities.) WS 6</p> <p><u>Pattern seeking</u></p> <p>In different seasons, create weekly weather charts to show changes in a week and compare these at the end of the year. Does the weather chart in winter look different to the summer chart? Temperature can also be recorded by the teacher and added to this.</p> <p>WS 6</p> |

| | | |
|------------------------------|--|---|
| | <p>-To know that the temperature on earth is affected by the sun. Look at thermometers to see the temperature at different times of the year. WS 2 and 6</p> <p>-To know that temperature is measured in degrees Celsius which is abbreviated to oC and have an awareness that water turns to ice at 0 oc which is when we get frost and ice outside.</p> | <p>Answer questions about how the temperature changes over the year and throughout the seasons. WS 5</p> |
| Vocabulary | <p>Weather (sunny, rainy, windy, snowy etc.) Seasons (winter, summer, spring, autumn) Sun, sunrise, sunset, day length</p> | |
| Common Misconceptions | <p>Some children may think:</p> <ul style="list-style-type: none"> • it always snows in winter • it is always sunny in the summer • there are only flowers in spring and summer • it rains most in the winter. | |
| Key Questions | <ul style="list-style-type: none"> - What are the 4 seasons called? - What would the weather be like in winter/spring/summer/autumn? - What is temperature? - How does the temperature change through the seasons? | |

| | | |
|--|--|---|
| <p>Year 1</p> | <p><u>Plants</u></p> <p>This unit follows on from learning in Reception about the seasons and changes that happen to the plants during those seasons. In year 1, the pupils learn about the names of common plants and trees and learn to identify them by their leaves. They learn about the terms 'evergreen' and 'deciduous' and how deciduous plants fit into the change of the seasons. This unit is the precursor to work studied in year 2 where pupils will recap common plants and trees studied in year 1 before moving onto a basic understanding of how plants grow what they need to grow healthily and differences between bulbs and seeds.</p> | |
| <p>National Curriculum (End of Unit Outcomes)</p> | <p>Sequence of Learning (small steps)</p> | <p>Key skills – Working Scientifically</p> |
| <p>Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees</p> | <p>-To know the names of the following common plants - daisy, white clover, poppy, nettle, ivy, bramble and locate some in the local environment. (also dandelion and grass)</p> <p>-To know that wildflowers are plants that have not been chosen by humans to grow in their garden.</p> <p>-To know the names of the following common trees - oak, elm, maple, silver birch, sycamore, horse chestnut, willow</p> <p>-To know how to identify common plants and trees from their leaves, fruit and shape.</p> <p>-To know the term deciduous - a tree that sheds its leaves annually - this means every year the tree loses its leaves. The leaves of deciduous trees are often large and thin.</p> <p>-To know the term Evergreen - a tree that has green leaves all year. These leaves are usually, waxy, thick, narrow and small.</p> <p>-To know that oak, birch and sycamore are deciduous</p> <p>-To know that holly and pine are evergreen.</p> | <p>Identifying Identify plants by matching them to named images. WS 4</p> <p>Observing Observe plants in the local area – look at how different plants grow in different places and how they may change over the year (with focus on trees for the latter) WS 2</p> <p>Researching Use secondary sources to name plants (including trees) based on observations of leaves, seeds, flowers, buds, and bark (Leafsnap UK)</p> <p>Observe different plants in the local environment WS 2</p> |
| <p>Identify and describe the basic structure of a variety of common flowering plants, including trees</p> | <p>To know the names of the basic parts of a plant - leaves, flower, stem, roots, petals. (Focus at this stage is to label/identify these, functions of these will be looked at in year 3)</p> <p>-To draw a diagram showing the parts of a plant.</p> <p>-To know the names of parts of a tree - roots, trunk, branches, leaves.</p> <p>-To know that a tree trunk is a type of stem.</p> <p>-To know that flowers on a tree are often called blossom.</p> | <p>Classifying Allow children to classify leaves, flowers, and seeds, choosing their own criteria. WS 4</p> <p>Observing over time Look at growing plants and identify the different parts of these as they grow. WS2</p> |

| | | |
|------------------------------|---|--|
| | <p>-To know that fruit often grows on trees including - apples, oranges, cherries, lemons, bananas, mangoes, pears and plums.</p> <p>-To know that the fleshy part of the fruit generally protects the seeds within. Recognise examples of seeds and pips found in apples, oranges, peaches and cherries.</p> <p>-To know that seeds are buried in the ground (or planted) and grow into new plants.</p> <p>-To know that bulbs are short stems with leaves built up around it. They are planted in the ground and new plants can grow.</p> <p>-To know that onions are an example of a bulb that we can eat..</p> <p>-To record observations about the roots and stem growing.</p> <p>-To use a magnifying glass to study flowers and plants closely and know how to record information about these flowers.</p> | |
| Vocabulary | <p>Leaf, flower, blossom, petal, fruit, berry, root, seed, trunk, branch, stem, bark, stalk, bud Names of trees in the local area Names of garden and wild flowering plants in the local area</p> | |
| Common Misconceptions | <p>Some children may think:</p> <ul style="list-style-type: none"> • plants are flowering plants grown in pots with coloured petals and leaves and a stem • trees are not plants • all leaves are green • all stems are green • a trunk is not a stem • blossom is not a flower. | |
| Key Questions | <ul style="list-style-type: none"> - Can you name some different plants? - Can you name some different trees? - What does it mean if a tree is an evergreen? - Can you identify the different parts of a plant? (Could use a picture to support this) | |