




**Broadhempston & Landscove Primary Schools**



# Years 1&2(KS1) Science Knowledge Map

	<p>Year</p>	<p>1</p>	<p>Topic</p>	<p>Plants</p>
<ul style="list-style-type: none"> <li>Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.</li> <li>Identify and describe the basic structure of a variety of common flowering plants, including trees.</li> </ul>				

Prior learning	Future learning
<ul style="list-style-type: none"> <li>Plant seeds and care for growing plants. (Nursery – Plants)</li> <li>Understand the key features of the life cycle of a plant and an animal. (Nursery – Plants)</li> <li>Begin to understand the need to respect and care for the natural environment and all living things. (Nursery – Plants)</li> <li>Explore the natural world around them. (Reception – Living things and their habitats)</li> <li>Recognise some environments that are different to the one in which they live. (Reception – Living things and their habitats)</li> </ul>	<ul style="list-style-type: none"> <li>Observe and describe how seeds and bulbs grow into mature plants. (Y2 - Plants)</li> <li>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy. (Y2 - Plants)</li> <li>Identify and name a variety of plants and animals in their habitats, including microhabitats. (Y2 - Living things and their habitats)</li> <li>Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers. (Y3 - Plants)</li> <li>Investigate the way in which water is transported within plants. (Y3 - Plants)</li> </ul>

WHAT PUPILS NEED TO KNOW OR DO TO BE SECURE	
Show understanding of a concept using scientific vocabulary correctly	
Key learning	Possible evidence
<p>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.</p>	<ul style="list-style-type: none"> <li>Can name trees and other plants that they see regularly</li> <li>Can describe some of the key features of these trees and plants e.g. the shape of the leaves, the colour of the flower/blossom</li> <li>Can point out trees which lost their leaves and those that kept them the whole year</li> <li>Can point to and name the parts of a plant, recognising that they are not always the same e.g. leaves and stems may not be green</li> </ul>
<p><b>Key vocabulary</b></p>	
<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

Some children may think:

- plants are flowering plants grown in pots with colored 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.

Apply knowledge in familiar related contexts, including a range of enquiries

Activities	Possible evidence
<ul style="list-style-type: none"> <li>• Make close observations of leaves, seeds, flowers etc.</li> <li>• Compare two leaves, seeds, flowers etc.</li> <li>• Classify leaves, seeds, flowers etc. using a range of characteristics.</li> <li>• Identify plants by matching them to named images.</li> <li>• Make observations of how plants change over a period of time.</li> <li>• When further afield, spot plants that are the same as those in the local area studied regularly, describing the key features that helped them.</li> </ul>	<ul style="list-style-type: none"> <li>• Can sort and group parts of plants using similarities and differences</li> <li>• Can use simple charts etc. to identify plants</li> <li>• Can collect information on features that change during the year</li> <li>• Can use photographs to talk about how plants change over time</li> </ul>



Year	1	Topic	Animals, including humans
			<ul style="list-style-type: none"> <li>Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.</li> <li>Identify and name a variety of common animals that are carnivores, herbivores and omnivores.</li> <li>Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets).</li> <li>Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.</li> </ul>

Prior learning	Future learning
<ul style="list-style-type: none"> <li>Use all their senses in hands-on exploration of natural materials. (Nursery - Humans)</li> <li>Name and describe people who are familiar to them. (Reception - Humans)</li> </ul>	<ul style="list-style-type: none"> <li>Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food. (Y2 - Living things and their habitats)</li> <li>Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals. (Y6 - Living things and their habitats)</li> <li>Give reasons for classifying plants and animals based on specific characteristics. (Y6 - Living things and their habitats)</li> </ul>

**WHAT PUPILS NEED TO KNOW OR DO TO BE SECURE**

Show understanding of a concept using scientific vocabulary correctly	
Key learning	Possible evidence
<p>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.</p> <p>Animals eat certain things - some eat other animals, some eat plants, some eat both plants and animals.</p> <p>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.</p>	<ul style="list-style-type: none"> <li>Can name a range of animals which includes animals from each of the vertebrate groups</li> <li>Can describe the key features of these named animals</li> <li>Can label key features on a picture/diagram</li> <li>Can write descriptively about an animal</li> <li>Can write a 'What am I?' riddle about an animal</li> <li>Can describe what a range of animals eat</li> <li>Can play and lead 'Simon says'</li> <li>During PE lessons, can follow instructions involving parts of the body</li> </ul>

Key vocabulary	
<ul style="list-style-type: none"> <li>• Head, body, eyes, ears, mouth, teeth, leg, tail, wing, claw, fin, scales, feathers, fur, beak, paws, hooves</li> <li>• Names of animals experienced first-hand from each vertebrate group</li> <li>• Parts of the body including those linked to PSHE teaching (see <a href="#">joint document produced by the ASE and PSHE Association</a>)</li> <li>• Senses – touch, see, smell, taste, hear, fingers (skin), eyes, nose, ear and tongue</li> </ul> <p><b>N.B.</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.</p> <p>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.</p> <p>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.</p>	<ul style="list-style-type: none"> <li>• Can label parts of the body on pictures and diagrams</li> <li>• Can explore objects using different senses</li> </ul>
<b>Common misconceptions</b>	
<p>Some children may think:</p> <ul style="list-style-type: none"> <li>• only four-legged mammals, such as pets, are animals</li> <li>• humans are not animals</li> <li>• insects are not animals</li> <li>• all 'bugs' or 'creepy crawlies', such as spiders, are part of the insect group</li> <li>• amphibians and reptiles are the same.</li> </ul>	

Apply knowledge in familiar related contexts, including a range of enquiries

<b>Activities</b>	<b>Possible evidence</b>
<ul style="list-style-type: none"> <li>• Make first-hand, close observations of animals from each of the groups.</li> <li>• Compare two animals from the same or different groups.</li> <li>• Classify animals using a range of features.</li> <li>• Identify animals by matching them to named images.</li> <li>• Classify animals according to what they eat.</li> <li>• Make first-hand close observations of parts of the body e.g. hands, eyes.</li> <li>• Compare two people.</li> <li>• Take measurements of parts of their body.</li> <li>• Compare parts of their own body.</li> <li>• Look for patterns between people e.g. Do people with big hands have big feet?</li> <li>• Classify people according to their features.</li> <li>• 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?</li> </ul>	<ul style="list-style-type: none"> <li>• Can sort and group animals using similarities and differences</li> <li>• Can use simple charts etc. to identify unknown animals</li> <li>• Can create a drawing of an imaginary animal labelling its key features</li> <li>• Can use secondary resources to find out what animals eat, including talking to experts e.g. pet owners, zookeepers etc.</li> <li>• Can use first-hand close observations to make detailed drawings</li> <li>• Can name body parts correctly when talking about measurements and comparisons e.g. "My arm is x straws long." "My arm is x straws long and my leg is y straws long. My leg is longer than my arm." "We both have hands, but his are bigger than mine." "These people have brown eyes and these have blue."</li> <li>• Can talk about their findings from investigations using appropriate vocabulary e.g. "My fingers are much better at feeling than my toes" "We found that the crisps all taste the same."</li> </ul>



Year	1	Topic	Everyday materials
			<ul style="list-style-type: none"> <li>Distinguish between an object and the material from which it is made.</li> <li>Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.</li> <li>Describe the simple physical properties of a variety of everyday materials.</li> <li>Compare and group together a variety of everyday materials on the basis of their simple physical properties.</li> </ul>

Prior learning	Future learning
<ul style="list-style-type: none"> <li>Use all their senses in hands-on exploration of natural materials. (Nursery - Materials, including changing materials)</li> <li>Explore collections of materials with similar and/or different properties. (Nursery - Materials, including changing materials)</li> <li>Talk about the differences between materials and changes they notice. (Nursery - Materials, including changing materials)</li> </ul>	<ul style="list-style-type: none"> <li>Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. (Y2 - Uses of everyday materials)</li> <li>Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching. (Y2 - Uses of everyday materials)</li> </ul>

**WHAT PUPILS NEED TO KNOW OR DO TO BE SECURE**

Show understanding of a concept using scientific vocabulary correctly	
<p><b>Key learning</b></p> <p>All objects are made of one or more materials. Some objects can be made from different materials e.g. plastic, metal or wooden spoons.</p> <p>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.</p>	<p><b>Possible evidence</b></p> <ul style="list-style-type: none"> <li>Can label a picture or diagram of an object made from different materials</li> <li>Can describe the properties of different materials</li> </ul>
<p><b>Key vocabulary</b></p> <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 misconceptions

Some children may think:

- only fabrics are materials
- only building materials are materials
- only writing materials are materials
- the word 'rock' describes an object rather than a material
- 'solid' is another word for hard.

Apply knowledge in familiar related contexts, including a range of enquiries

Activities	Possible evidence
<ul style="list-style-type: none"> <li>• Classify objects made of one material in different ways e.g. a group of object made of metal.</li> <li>• Classify in different ways one type of object made from a range of materials e.g. a collection of spoons made of different materials.</li> <li>• Classify materials based on their properties.</li> <li>• 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.</li> </ul>	<ul style="list-style-type: none"> <li>• Can sort objects and materials using a range of properties</li> <li>• Can choose an appropriate method for testing an object for a particular property</li> <li>• Can use their test evidence to answer the questions about properties e.g. "Which cloth is the most absorbent?"</li> </ul>






Year	1	Topic	Seasonal changes
			<ul style="list-style-type: none"> <li>• Observe changes across the four seasons.</li> <li>• Observe and describe weather associated with the seasons and how day length varies.</li> </ul>

Prior learning	Future learning
<ul style="list-style-type: none"> <li>• Understand the key features of the life cycle of a plant and an animal. (Nursery – Plants &amp; Animals, excluding humans)</li> <li>• Explore the natural world around them. (Reception – Seasonal changes)</li> <li>• Describe what they see, hear and feel whilst outside. (Reception – Seasonal changes)</li> <li>• Understand the effect of changing seasons on the natural world around them. (Reception – Seasonal changes)</li> </ul>	<ul style="list-style-type: none"> <li>• Recognise that light from the sun can be dangerous and that there are ways to protect their eyes. (Y3 - Light)</li> <li>• Use the idea of the Earth's rotation to explain day and night and the apparent movement of the Sun across the sky. (Y5 - Earth and space)</li> <li>• The seasons and the Earth's tilt, day length at different times of year, in different hemispheres. (KS3)</li> </ul>

**WHAT PUPILS NEED TO KNOW OR DO TO BE SECURE**

Show understanding of a concept using scientific vocabulary correctly	
Key learning	Possible evidence
<p>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.</p> <p>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.</p>	<ul style="list-style-type: none"> <li>• Can name the four seasons and identify when in the year they occur</li> <li>• Can describe weather in different seasons over a year</li> <li>• Can describe days as being longer (in time) in the summer and shorter in the winter</li> <li>• Can describe other features that change through the year</li> </ul>

<p><b>Key vocabulary</b></p> <ul style="list-style-type: none"> <li>• Weather (sunny, rainy, windy, snowy etc.)</li> <li>• Seasons (winter, summer, spring, autumn)</li> <li>• Sun, sunrise, sunset, day length</li> </ul>	
<p><b>Common misconceptions</b></p>	
<p>Some children may think:</p> <ul style="list-style-type: none"> <li>• it always snows in winter</li> <li>• it is always sunny in the summer</li> <li>• there are only flowers in spring and summer</li> <li>• it rains most in the winter.</li> </ul>	
<p><b>Apply knowledge in familiar related contexts, including a range of enquiries</b></p>	
<p><b>Activities</b></p> <ul style="list-style-type: none"> <li>• Collect information about the weather regularly throughout the year.</li> <li>• Present this information in tables and charts to compare the weather across the seasons.</li> <li>• Collect information, regularly throughout the year, of features that change with the seasons e.g. plants, animals, humans.</li> <li>• Present this information in different ways to compare the seasons.</li> <li>• Gather data about day length regularly throughout the year and present this to compare the seasons.</li> </ul>	<p><b>Possible evidence</b></p> <ul style="list-style-type: none"> <li>• Use the evidence gathered to describe the general types of weather and changes in day length over the seasons.</li> <li>• Use their evidence to describe some other features of their surroundings, e.g. themselves, animals, plants that change over the seasons</li> <li>• Demonstrate their knowledge in different ways e.g. making a weather forecast video, writing seasonal poetry, creating seasonal artwork</li> </ul>

Year	2	Topic	Living things and their habitat
			
<ul style="list-style-type: none"> <li>• Explore and compare the differences between things that are living, dead, and things that have never been alive</li> <li>• Identify that most living things live in habitats to which they are suited and describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other</li> <li>• Identify and name a variety of plants and animals in their habitats, including micro-habitats</li> <li>• Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food</li> </ul>			

Prior learning	Future learning
<ul style="list-style-type: none"> <li>• Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. (Y1 - Plants)</li> <li>• Identify and describe the basic structure of a variety of common flowering plants, including trees. (Y1 - Plants)</li> <li>• Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. (Y1 - Animals including humans)</li> <li>• Identify and name a variety of common animals that are carnivores, herbivores and omnivores. (Y1 - Animals including humans)</li> <li>• Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets). (Y1 – Animals, including humans)</li> <li>• Observe changes across the four seasons. (Y1 - Seasonal changes)</li> </ul>	<ul style="list-style-type: none"> <li>• Recognise that living things can be grouped in a variety of ways. (Y4 - Living things and their habitats)</li> <li>• Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. (Y4 - Living things and their habitats)</li> <li>• Recognise that environments can change and that this can sometimes pose dangers to living things. (Y4 - Living things and their habitats)</li> <li>• Construct and interpret a variety of food chains, identifying producers, predators and prey. (Y4 - Animals, including humans)</li> </ul>

Show understanding of a concept using scientific vocabulary correctly

Key learning	Possible evidence
<p>All objects are either living, dead or have never been alive. Living things are plants (including seeds) and animals. Dead things include dead animals and plants and parts of plants and animals that are no longer attached e.g. leaves and twigs, shells, fur, hair and feathers (This is a simplification, but appropriate for Year 2 children.)</p> <p>An object made of wood is classed as dead. Objects made of rock, metal and plastic have never been alive (again ignoring that plastics are made of fossil fuels).</p> <p>Animals and plants live in a habitat to which they are suited, which means that animals have suitable features that help them move and find food and plants have suitable features that help them to grow well. The habitat provides the basic needs of the animals and plants – shelter, food and water.</p> <p>Within a habitat there are different micro-habitats e.g. in a woodland – in the leaf litter, on the bark of trees, on the leaves. These micro-habitats have different conditions e.g. light or dark, damp or dry. These conditions affect which plants and animals live there. The plants and animals in a habitat depend on each other for food and shelter etc. The way that animals obtain their food from plants and other animals can be shown in a food chain.</p>	<ul style="list-style-type: none"> <li>• Can find a range of items outside that are living, dead and never lived</li> <li>• Can name a range of animals and plants that live in a habitat and micro-habitats that they have studied</li> <li>• Can talk about how the features of these animals and plants make them suitable to the habitat</li> <li>• Can talk about what the animals eat in a habitat and how the plants provide shelter for them</li> <li>• Can construct a food chain that starts with a plant and has the arrows pointing in the correct direction</li> </ul>
<p><b>Key vocabulary</b></p> <ul style="list-style-type: none"> <li>• Living, dead, never been alive, suited, suitable, basic needs, food, food chain, shelter, move, feed</li> <li>• Names of local habitats e.g. pond, woodland etc.</li> <li>• Names of micro-habitats e.g. under logs, in bushes etc.</li> </ul>	


### Common misconceptions

Some children may think:

- an animal's habitat is like its 'home'
- plants and seeds are not alive as they cannot be seen to move
- fire is living
- arrows in a food chain mean 'eats'.

Apply knowledge in familiar related contexts, including a range of enquiries

Activities	Possible evidence
<ul style="list-style-type: none"> <li>• Explore the outside environment regularly to find objects that are living, dead and have never lived.</li> <li>• Classify objects found in the local environment.</li> <li>• Observe animals and plants carefully, drawing and labelling diagrams.</li> <li>• Create simple food chains for a familiar local habitat from first-hand observation and research.</li> <li>• Create simple food chains from information given e.g. in picture books (Gruffalo etc.).</li> </ul>	<ul style="list-style-type: none"> <li>• Can sort into living, dead and never lived</li> <li>• Can give key features that mean the animal or plant is suited to its micro-habitat</li> <li>• Using a food chain can explain what animals eat</li> <li>• Can explain in simple terms why an animal or plant is suited to a habitat e.g. the caterpillar cannot live under the soil like a worm as it needs fresh leaves to eat; the seaweed we found on the beach cannot live in our pond because it is not salty</li> </ul>

Year	2	Topic	Plants
			
<ul style="list-style-type: none"> <li>• Observe and describe how seeds and bulbs grow into mature plants.</li> <li>• Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</li> </ul>			

Prior learning	Future learning
<ul style="list-style-type: none"> <li>• Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees. (Y1 - Plants)</li> <li>• Identify and describe the basic structure of a variety of common flowering plants, including trees. (Y1 - Plants)</li> </ul>	<ul style="list-style-type: none"> <li>• Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers. (Y3 - Plants)</li> <li>• Explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant. (Y3 - Plants)</li> <li>• Investigate the way in which water is transported within plants. (Y3 - Plants)</li> <li>• Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal. (Y3 - Plants)</li> </ul>

WHAT PUPILS NEED TO KNOW OR DO TO BE SECURE	
Show understanding of a concept using scientific vocabulary correctly	
Key learning	Possible evidence
<p>Plants may grow from either seeds or bulbs. These then germinate and grow into seedlings which then continue to grow into mature plants. These mature plants may have flowers which then develop into seeds, berries, fruits etc. Seeds and bulbs need to be planted outside at particular times of year and they will germinate and grow at different rates. Some plants are better suited to growing in full sun and some grow better in partial or full shade. Plants also need different amounts of water and space to grow well and stay healthy.</p>	<ul style="list-style-type: none"> <li>• Can describe how plants that they have grown from seeds and bulbs have developed over time</li> <li>• Can identify plants that grew well in different conditions</li> </ul>
<p><b>Key vocabulary</b></p> <p>As for Year 1 plus light, shade, sun, warm, cool, water, grow, healthy</p>	

### Common misconceptions

Some children may think:

- plants are not alive as they cannot be seen to move
- seeds are not alive
- all plants start out as seeds
- seeds and bulbs need sunlight to germinate.

Apply knowledge in familiar related contexts, including a range of enquiries

Activities	Possible evidence
<ul style="list-style-type: none"> <li>• Make close observations of seeds and bulbs.</li> <li>• Classify seeds and bulbs.</li> <li>• Research and plan when and how to plant a range of seeds and bulbs.</li> <li>• Look after the plants as they grow – weeding, thinning, watering etc.</li> <li>• Make close observations and measurements of their plants growing from seeds and bulbs.</li> <li>• Make comparisons between plants as they grow.</li> </ul>	<ul style="list-style-type: none"> <li>• Can spot similarities and difference between bulbs and seeds</li> <li>• Can nurture seeds and bulbs into mature plants identifying the different requirements of different plants</li> </ul>



Year	2	Topic	Animals, including humans
			<ul style="list-style-type: none"> <li>• Notice that animals, including humans, have offspring which grow into adults.</li> <li>• Find out about and describe the basic needs of animals, including humans, for survival (water, food and air).</li> <li>• Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</li> </ul>


Prior learning	Future learning
<ul style="list-style-type: none"> <li>• Identify and name a variety of common animals that are carnivores, herbivores and omnivores. (Y1 - Animals, including humans)</li> <li>• Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. (Y1 - Animals, including humans)</li> </ul>	<ul style="list-style-type: none"> <li>• Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat. (Y3 - Animals, including humans)</li> <li>• Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. (Y5 - Living things and their habitats)</li> <li>• Describe the life process of reproduction in some plants and animals. (Y5 - Living things and their habitats)</li> <li>• Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function. (Y6 - Animals, including humans)</li> </ul>

**WHAT PUPILS NEED TO KNOW OR DO TO BE SECURE**

Show understanding of a concept using scientific vocabulary correctly	
Key learning	Possible evidence
<p>Animals, including humans, have offspring which grow into adults. In humans and some animals, these offspring will be young, such as babies or kittens, that grow into adults. In other animals, such as chickens or insects, there may be eggs laid that hatch to young or other stages which then grow to adults. The young of some animals do not look like their parents e.g. tadpoles.</p> <p>All animals, including humans, have the basic needs of feeding, drinking and breathing that must be satisfied in order to survive. To grow into healthy adults, they also need the right amounts and types of food and exercise.</p> <p>Good hygiene is also important in preventing infections and illnesses.</p>	<ul style="list-style-type: none"> <li>• Can describe how animals, including humans, have offspring which grow into adults, using the appropriate names for the stages</li> <li>• Can state the basic needs of animals, including humans, for survival</li> <li>• Can state the importance for humans of exercise, eating the right amounts of different types of food, and hygiene</li> <li>• Can name foods in each section of the <u>Eatwell Guide</u></li> </ul>



<b>Key vocabulary</b>	
<p>Offspring, reproduction, growth, child, young/old stages (examples - chick/hen, baby/child/adult, caterpillar/butterfly), exercise, heartbeat, breathing, hygiene, germs, disease, food types (examples – meat, fish, vegetables, bread, rice, pasta)</p>	
<b>Common misconceptions</b>	
<p>Some children may think:</p> <ul style="list-style-type: none"> <li>• an animal's habitat is like its 'home'</li> <li>• all animals that live in the sea are fish</li> <li>• respiration is breathing</li> <li>• breathing is respiration.</li> </ul>	
<b>Apply knowledge in familiar related contexts, including a range of enquiries</b>	
<b>Activities</b>	<b>Possible evidence</b>
<ul style="list-style-type: none"> <li>• Ask people questions and use secondary sources to find out about the life cycles of some animals.</li> <li>• Observe animals growing over a period of time e.g. chicks, caterpillars, a baby.</li> <li>• Ask questions of a parent about how they look after their baby.</li> <li>• Ask pet owners questions about how they look after their pet.</li> <li>• Explore the effect of exercise on their bodies.</li> <li>• Classify food in a range of ways, including using the <a href="#">Eatwell Guide</a>.</li> <li>• Investigate washing hands, using glitter gel.</li> </ul>	<ul style="list-style-type: none"> <li>• Can describe, including using diagrams, the life cycle of some animals, including humans, and their growth to adults e.g. by creating a life cycle book for a younger child</li> <li>• Can measure/observe how animals, including humans, grow.</li> <li>• Show what they know about looking after a baby/animal by creating a parenting/pet owners' guide</li> <li>• Explain how development and health might be affected by differing conditions and needs being met/not met</li> </ul>

	<p><b>Year</b></p>	<p><b>2</b></p>	<p><b>Topic</b></p>	<p><b>Uses of everyday materials</b></p>
<ul style="list-style-type: none"> <li>Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.</li> <li>Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</li> </ul>				

Prior learning	Future learning
<ul style="list-style-type: none"> <li>Distinguish between an object and the material from which it is made. (Y1 - Everyday materials)</li> <li>Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock. (Y1 - Everyday materials)</li> <li>Describe the simple physical properties of a variety of everyday materials. (Y1 - Everyday materials)</li> <li>Compare and group together a variety of everyday materials on the basis of their simple physical properties. (Y1 - Everyday materials)</li> </ul>	<ul style="list-style-type: none"> <li>Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. (Y3 - Rocks)</li> <li>Notice that some forces need contact between two objects, but magnetic forces can act at a distance. (Y3 - Forces and magnets)</li> <li>Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets. (Y5 - Properties and changes of materials)</li> <li>Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic. (Y5 - Properties and changes of materials)</li> </ul>

WHAT PUPILS NEED TO KNOW OR DO TO BE SECURE	
Show understanding of a concept using scientific vocabulary correctly	
<p><b>Key learning</b></p> <p>All objects are made of one or more materials that are chosen specifically because they have suitable properties for the task. For example, a water bottle is made of plastic because it is transparent allowing you to see the drink inside and waterproof so that it holds the water. When choosing what to make an object from, the properties needed are compared with the properties of the possible materials, identified through simple tests and classifying activities. A material can be suitable for different purposes and an object can be made of different materials.</p> <p>Objects made of some materials can be changed in shape by bending, stretching, squashing and twisting. For example, clay can be shaped by squashing, stretching, rolling, pressing etc. This can be a property of the material or depend on how the material has been processed e.g. thickness.</p>	<p><b>Possible evidence</b></p> <ul style="list-style-type: none"> <li>Can name an object, say what material it is made from, identify its properties and make a link between the properties and a particular use</li> <li>Can label a picture or diagram of an object made from different materials</li> <li>For a given object can identify what properties a suitable material needs to have</li> </ul>

<b>Key vocabulary</b>	
Names of materials – wood, metal, plastic, glass, brick, rock, paper, cardboard	
Properties of materials – as for Year 1 plus opaque, transparent and translucent, reflective, non-reflective, flexible, rigid	
Shape, push/pushing, pull/pulling, twist/twisting, squash/squashing, bend/bending, stretch/stretching	<ul style="list-style-type: none"> <li>Whilst changing the shape of an object can describe the action used</li> <li>Can use the words flexible and/or stretchy to describe materials that can be changed in shape and stiff and/or rigid for those that cannot</li> <li>Can recognise that a material may come in different forms which have different properties</li> </ul>
<b>Common misconceptions</b>	
Some children may think: <ul style="list-style-type: none"> <li>only fabrics are materials</li> <li>only building materials are materials</li> <li>only writing materials are materials</li> <li>the word rock describes an object rather than a material</li> <li>solid is another word for hard.</li> </ul>	
<b>Apply knowledge in familiar related contexts, including a range of enquiries</b>	
<b>Activities</b>	<b>Possible evidence</b>
<ul style="list-style-type: none"> <li>Classify materials.</li> <li>Make suggestions about alternative materials for a purpose that are both suitable and unsuitable</li> <li>Test the properties of materials for particular uses e.g. compare the stretchiness of fabrics to select the most appropriate for Elastigirl's costume, test materials for waterproofness to select the most appropriate for a rain hat</li> </ul>	<ul style="list-style-type: none"> <li>Can sort materials using a range of properties</li> <li>Can explain using the key properties why a material is suitable or not suitable for a purpose</li> <li>Can begin to choose an appropriate method for testing a material for a particular property</li> <li>Can use their test evidence to select appropriate material for a purpose e.g. Which material is the best for a rain hat?</li> </ul>