

# Ebchester CE Primary School

## Progression of Learning – Science KS1



By the end of KS1			
		Breadth of Study	Knowledge and Skills By the end of Year 2, pupils will be able to:
Working Scientifically	<ul style="list-style-type: none"> <li>Asking questions</li> </ul>	<ul style="list-style-type: none"> <li>ask simple questions and recognise that they can be answered in different ways</li> </ul>	<ul style="list-style-type: none"> <li>Ask questions about the world around us</li> <li>Recognise that questions can be answered in different ways (different types of enquiry including - observing changes over time, noticing patterns, grouping and classifying, carrying out simple comparative tests, finding things out from secondary sources)</li> </ul>
	<ul style="list-style-type: none"> <li>Measuring and recording</li> </ul>	<ul style="list-style-type: none"> <li>observe closely, using simple equipment</li> <li>perform simple tests</li> <li>gather and record data to help in answering questions</li> </ul>	<ul style="list-style-type: none"> <li>Observe closely, using simple equipment</li> <li>Use observations and ideas to suggest answers to questions</li> <li>Observe changes over time and, with guidance, begin to notice patterns and relationships</li> <li>Say what they are looking for and what they are measuring</li> <li>Know how to use simple equipment safely</li> <li>Use simple measurements and equipment with increasing independence (e.g. hand lenses and egg timers)</li> <li>Begin to progress from non-standard units, reading mm, cm, m, ml, l, °C</li> </ul>
	<ul style="list-style-type: none"> <li>Concluding</li> </ul>	<ul style="list-style-type: none"> <li>identify and classify</li> <li>use their observations and ideas to suggest answers to questions</li> </ul>	<ul style="list-style-type: none"> <li>Say what has happened</li> <li>Say what their observations show and whether it was what they expected</li> <li>Begin to draw simple conclusions and explain what they did</li> <li>Begin to suggest improvements in their work</li> </ul>

### Working Scientifically Vocabulary

#### By the end of Year 2, pupils will recognise and understand the terms:

Question, answer, observe, equipment, identify, classify, sort, diagram, chart, data, compare, contrast, describe, record, group, biology, chemistry, physics.

<b>Biology</b>	<ul style="list-style-type: none"> <li>Plants</li> </ul>	<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> <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>	<ul style="list-style-type: none"> <li>Make observations of plants, including flowers and vegetables they have planted</li> <li>Identify the leaf, root, stem and flower of a plant</li> <li>Identify the trunk, branch, roots and leaves of a tree</li> <li>Know that plants produce seeds</li> <li>Identify differences between plants</li> <li>Name some common plants that live in the garden/in the wild</li> <li>Name some trees and plants in the local environment</li> <li>Use simple identification guides to name plants in the local environment</li> <li>Compare and contrast different plants</li> <li>Sequence pictures of how plants change over time</li> <li>Describe how deciduous trees change throughout the year</li> <li>Explain why some plants are only seen at certain times of the year</li> <li>Know that flowering plants produce seeds which grow into new plants</li> <li>Know that some plants have bulbs from which they grow</li> <li>Make observations of plants over time</li> <li>Observe and describe how seeds and bulbs grow into mature plants</li> <li>Recognise that plants are living and need water, light and warmth to grow</li> <li>Describe differences between plants grown in the light and in the dark</li> <li>Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy</li> <li>Explain how to look after a variety of plants</li> <li>Explain how plants in the desert survive with little water and plants in the rainforest survive with little light</li> </ul>
	<ul style="list-style-type: none"> <li>Animals (including humans)</li> </ul>	<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> </ul>	<ul style="list-style-type: none"> <li>Identify and name a selection of animals</li> <li>Identify and sort animals into different groups</li> <li>Name the different groups of animals</li> <li>Make observations of animals</li> <li>Know that animals eat different types of food</li> <li>Identify the food of some common animals</li> <li>Recall and use the words: carnivore, herbivore and omnivore</li> <li>Group animals that belong to: carnivores, herbivores and omnivores</li> <li>Use their observations to point out differences between humans and other animals and between animals and non-living things</li> <li>Identify and locate the sense organs</li> </ul>

		<ul style="list-style-type: none"> <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> <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>	<ul style="list-style-type: none"> <li>• Name and locate the basic parts of the human body</li> <li>• Draw and label a simple body outline</li> <li>• Describe differences between the different animal groups (e.g. birds have feathers but mammals have fur)</li> <li>• Identify animals which are more likely to be seen in different seasons</li> <li>• Recognise that animals produce young</li> <li>• Recognise changes that take place as animals get older</li> <li>• Explain that adult animals no longer grow</li> <li>• Describe some differences they observe between babies and toddlers</li> <li>• Make comparisons of the differences they observe between babies and toddlers</li> <li>• Identify the offspring of a selection of different animals</li> <li>• Use evidence to show that children of the same age are not all the same size</li> <li>• Use evidence to show that older children are generally taller than younger children</li> <li>• Explain how to look after a pet describing what it needs to survive</li> <li>• Recognise that exercise is important</li> <li>• Identify some types of food that make up their diet and name some examples of each</li> <li>• Know the types of food that make up a healthy diet</li> <li>• Recognise that an adequate diet and exercise are necessary for them to grow and stay healthy</li> </ul>
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	<ul style="list-style-type: none"> <li>• Living things and their habitats</li> </ul>	<ul style="list-style-type: none"> <li>• explore and compare the difference 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 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>	<ul style="list-style-type: none"> <li>• With help, use keys to identify some animals and plants</li> <li>• Recognise that different plants live in the local environment</li> <li>• Identify and describe the features of some local habitats</li> <li>• Recognise a microhabitat as a small habitat (e.g. leaf litter, woodlice under stones)</li> <li>• Describe some microhabitats</li> <li>• Identify and name a variety of plants and animals in their habitats, including micro- habitats</li> <li>• Recognise similarities and differences between plants and animals</li> <li>• Explain differences between living and non-living things in terms of characteristics such as movement and growth</li> <li>• Use their observations to point out differences between animals, plants and non-living things</li> <li>• Recognise that plants provide food for humans and other animals within an environment</li> <li>• Construct a simple food chain (e.g. grass, cow, human)</li> <li>• Name a few of the organisms that live in a particular habitat</li> <li>• Suggest reasons why different plants and animals are found in the different environments</li> <li>• Compare animals found in familiar habitats with unfamiliar habitats</li> <li>• Compare plants found in familiar habitats with unfamiliar habitats</li> <li>• Use different factors to compare a range of habitats (e.g. water, light, temperature)</li> </ul>
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## Biology Vocabulary

### By the end of Year 2, pupils will recognise and understand the terms:

living, non-living, habitats, keys, sense, microhabitat, food chain

Seasons: Autumn, Spring, Summer, Winter, deciduous, evergreen, shoot, reproduce, life cycles, sunrise, sunset, fibre, exercise, diet, offspring

paw, hoof, fin, shell, beak, fur, scales, feathers

Fish: goldfish, tuna, salmon

Birds: blackbird, magpie, robin, sparrow, crow, swan.

Reptiles: snake, lizard, tortoise

Mammals

Amphibians: newt

Senses: feel, hear, smell, see, taste, touch

Carnivore, omnivore, herbivore

seedling, bulb, buds, shoot, germinate

petal, trunk, similar, different, within, under, next to, soil, blossom,, branch, bulbs, shrub, alive, , habitat, deciduous, evergreen, compost, artificial

Names e.g. daffodil, daisy, sunflower, rose, lavender, tulip, snowdrop, holly, dandelion, oak, beech, chestnut, pine

<b>Chemistry</b>	<ul style="list-style-type: none"><li>• Everyday materials</li></ul>	<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><li>• identify and compare the suitability of a variety of everyday materials,</li></ul>	<ul style="list-style-type: none"><li>• Name some common materials</li><li>• Name some common objects around the school and home</li><li>• Distinguish between an object and the material from which it is made</li><li>• Name materials which have lots of different uses (e.g. paper- wrapping paper, tissue paper, writing paper, birthday card)</li><li>• Identify some naturally occurring materials: wood, rock, water</li><li>• Identify some man-made materials: glass, metal, plastic</li><li>• Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock</li><li>• Describe objects that are made from lots of different materials</li><li>• Name objects that are sometimes made from different materials (e.g. spoons- plastic, wooden, metal)</li><li>• Make observations of common objects and the different materials they are made of</li><li>• Communicate these observations using descriptive words (e.g. bendy, rough, hard)</li><li>• Identify some properties of materials (e.g. see through, waterproof, absorbent)</li><li>• Describe the simple physical properties of a variety of everyday materials</li><li>• Make predictions about which materials will float and sink</li></ul>
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		<p>including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses</p> <ul style="list-style-type: none"> <li>• find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching</li> </ul>	<ul style="list-style-type: none"> <li>• Compare and group together a variety of everyday materials on the basis of their simple physical properties (both visible and non-visible)</li> <li>• Explain why people started using plastic bags rather than paper bags</li> <li>• Identify uses of some common materials</li> <li>• Give a reason why a material is suitable for its job</li> <li>• Recognise that some materials will have more than one property which increases its suitability for its purpose (e.g. glass is transparent, rigid and weatherproof)</li> <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>• Suggest several reasons why a material may or may not be suitable for a particular purpose</li> <li>• Explain why one material may be more suitable for a purpose than another by discussing properties</li> <li>• Explain why plastics cause problems in the oceans</li> <li>• Explain the importance of reusing and recycling plastic</li> <li>• Describe how swimsuits have changed over time and how the fabric is now more suitable</li> <li>• Describe how scientists have invented new materials (e.g. Macintosh, Dunlop)</li> <li>• Identify materials that can and cannot be easily changed with force</li> <li>• Describe pushes and pulls needed to change a material as big or small</li> <li>• Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching</li> <li>• Describe changes in shapes as a result of the action of pushes, pulls and twists</li> <li>• Explain why some materials change shape when a force acts (i.e. push, pull, twist, stretch) as a result of their properties</li> </ul>
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## Chemistry Vocabulary

**By the end of Year 2, pupils will recognise and understand the terms:**

stiff, rough, opaque, strong, soft, shiny, smooth, waterproof, stretchy, material, transparent, dull, bendy, absorbent, magnetic, elastic, fabric, metal, transparent, waterproof, insulate, rigid, strong, flexible, squash, stretch, twist, bend

<b>Physics</b>	<ul style="list-style-type: none"><li>Seasonal Changes</li></ul>	<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>	<ul style="list-style-type: none"><li>Identify what to observe</li><li>Use descriptive words, photos and pictures to record changes</li><li>Collect evidence of changes (e.g. leaves, seeds, flowers)</li><li>Name the four seasons</li><li>Recall simple changes associated with each season</li><li>Observe and name types of weather (e.g. rain, sun, wind, clouds)</li><li>Identify what to measure about the weather</li><li>Use prepared tables and charts to record data</li><li>Use secondary data to describe weather in another setting</li><li>Explain why animals are easier to spot at different times of year (e.g. migrating birds, hibernating animals)</li></ul>
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## Physics Vocabulary

**By the end of Year 2, pupils will recognise and understand the terms:**

Summer, Spring, Autumn, Winter