

KS2.CA.T1	Area of study: Living things and their habitats Unit aims / outcome: <ul style="list-style-type: none"> • recognise that living things can be grouped in a variety of ways • explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment • recognise that environments can change and that this can sometimes pose dangers to living things. 						
Geographical concepts to organise knowledge: Choose the one it links too: Biology- the study of living organisms Working Scientifically- disciplinary knowledge required to think and work as a scientist.							
Key strands of learning:							
Hierarchical Strands: (see progression) Plants Animals including humans Living things and their habitats (Build year on year)	Cumulative Strands: habitats Classification (key features throughout NC)						
Learning in KS1: <ul style="list-style-type: none"> • explore and compare the differences between things that are living, dead, and things that have never been alive • 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 • identify and name a variety of plants and animals in their habitats, including microhabitats • 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 	<table border="1"> <thead> <tr> <th data-bbox="624 943 1007 976">Tier 2</th> </tr> </thead> <tbody> <tr> <td data-bbox="624 983 1007 1346"> <u>New</u> Environment Danger Variety Classification Identify Characteristic Group </td> </tr> <tr> <td data-bbox="624 1352 1007 2004"> <u>Review –</u> Reception Healthy Food Plants Animals KS1 Living Dead Never been alive Habitat Ocean Desert Woodland Rainforest Microhabitat Food chain </td> </tr> </tbody> </table>	Tier 2	<u>New</u> Environment Danger Variety Classification Identify Characteristic Group	<u>Review –</u> Reception Healthy Food Plants Animals KS1 Living Dead Never been alive Habitat Ocean Desert Woodland Rainforest Microhabitat Food chain	<table border="1"> <thead> <tr> <th data-bbox="1011 943 1396 976">Tier 3</th> </tr> </thead> <tbody> <tr> <td data-bbox="1011 983 1396 2004"> <u>New</u> Nutrition organism invertebrate vertebrate Life processes Man made Natural </td> </tr> </tbody> </table>	Tier 3	<u>New</u> Nutrition organism invertebrate vertebrate Life processes Man made Natural
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	Food sources characteristics obtain	
NC objective:	Vocabulary and crucial knowledge	
<ul style="list-style-type: none"> • recognise that living things can be grouped in a variety of ways • explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment • recognise that environments can change and that this can sometimes pose dangers to living things. 	<p><u>Context of study:</u> During this unit, the children will understand that living things can be classified in a variety of different way. They will learn that the environment can change and this can pose danger to living things choosing this location as its habitat.</p> <p>This study builds upon previously learning in (KS1.CA.T1) whereby they need to understand how something is living and that an animal is suited to its habitat but during this study they will understand a habitat can change. This also builds upon the learning in (KS1.CB.T3) due to the weather causing environmental changes. Children will look at animal's characteristic further in (KS2.CA.T2) whilst learning about animals having skeletons and muscles.</p> <p><u>Crucial Knowledge:</u></p> <p>Classification To understand the term 'classification'. To know animals, have similar characteristics and different characteristics (skeletons, movement and habitat)- e.g fur, can fly, can swim e.tc. To know a worm, spider and snail is an invertebrate because it is an animal that does not have a backbone. To know a fish, black bird and dog is a vertebrate because it is an animal with a backbone. To explore different ways to classify animals e.g. invertebrate, vertebrate. To know a daffodil, rose and hydrangea is a flowing plant. To know moss, fern and confider is a non-flowering plant. To explore different ways to classify flowers e.g. flowering and non-flowering plant.</p> <p>Habitats To know changes to an environment can be natural or caused by humans. To understand changes to an environment can have positive as well as negative effects. To know changes to the environment could be natural e.g. storms, floods, droughts To know changes to the environment could be human-made e.g. deforestation, urbanisation, the introduction of new animal or plant species to an environment. To understand plants and animals rely on the environment to give them everything they need. Therefore, when habitats change, it can be very dangerous to the plants and animals that live there.</p>	

	<p><u>Working Scientifically:</u></p> <p><u>Identify, sort and classify:</u> To identify and study plants and animals in their habitats and understand that habitats change throughout the year. To sort and classify a variety of living things (animals and plants). To classify depending on characteristics such as vertebrates and invertebrates, can fly, can't fly, can swim, can't swim e.tc How will I be a scientist?</p> <ul style="list-style-type: none"> • Observe: animals and plants to categorise them into areas of a classification key. • Record/communicating results: make a guide to identify local plants and animals • Evaluate: why certain animals and plants have had to go in those groups and make links between, noticing similarities and differences and also thinking about habitats for them. <p><u>Research:</u> Find out about things that can harm our environment both human and physical. Understand what impacts the environment which is out of our control. Research ways in which we harm the environment and what steps we can do to prevent this.</p> <ul style="list-style-type: none"> • Ask questions: about environments and habitats we know already know about. What habitats/environments do we have in our local area that you have seen that have been impacted by nature or humans. • Report: share ways in which we can prevent harm to our environment and encourage others to do the same. <p><u>Key scientists of study: (other trust schools will have these mapped out if we are struggling)</u></p>
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KS1.CA.T1	<p>Area of study: States of Matter</p> <p>Unit aims / outcome:</p> <ul style="list-style-type: none"> • compare and group materials together, according to whether they are solids, liquids or gases • observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C) • identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.
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Geographical concepts to organise knowledge:
Chemistry- is the study of the makeup of all things and how they behave.
Working Scientifically- disciplinary knowledge required to think and work as a scientist.

Key strands of learning:

Hierarchical Strands: (see progression) e.g. plants (Build year on year)	Cumulative Strands: e.g. environment (key features throughout NC)
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Learning in Reception: Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter. Offer explanations for why things might happen, making use of recently introduced vocabulary from stories, non-fiction, rhymes and poems when appropriate.	Tier 2	Tier 3
	<u>New</u> Solid Liquid Gas Water cycle <u>Review –</u> Heated Cooled <u>KS1</u> Materials Compare Group temperature	<u>New</u> Evaporation Condensation Degrees Celsius

NC objective: Vocabulary and crucial knowledge:

<ul style="list-style-type: none"> compare and group materials together, according to whether they are solids, liquids or gases observe that some materials change state when they are heated or cooled, and measure or research the temperature at which this happens in degrees Celsius (°C) identify the part played by evaporation and 	<u>Context of study:</u> This is the first science unit where pupils learn about states of matter as part of the discipline of chemistry . This topic does however build on from materials in KS1CAT2. Children will be revisiting knowledge taught as they will have to identify between objects and the material it is made from. Children will have limited prior knowledge before studying this unit though. During this unit, pupils will identify whether objects/materials fall in to the category of solids, liquids or gases. Children will understand how particles move in the different states of matter and also how heating and cooling can cause objects to change between different states. Pupils will investigate whether or not certain objects can change back and whether the process is reversible. During this unit, children will also explore in depth the water cycle. They will learn the different parts of the water cycles and about the processes of evaporation and condensation. The water cycle links with our geography unit of local study of stone-canal, rivers but also the geography unit of Weather, Climate and the Water Cycle (KS2.CA.T2) will come after this so the knowledge will further build.
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<p>condensation in the water cycle and associate the rate of evaporation with temperature.</p>	<p><u>Crucial Knowledge:</u></p> <p><u>Materials</u></p> <p>To understand the term 'states of matter' refers to the form in which all matter takes. To know that there are 3 states of matter: solids, liquids and gases. To know that solids hold their shape; the particles inside don't move. To know that liquids form a pool; the particles flow. To know that gases escape and can't be contained; the particles move around quickly. To understand how to compare and group different objects and materials based on whether they are solids, liquids or gases. For example, a table is solid, lemonade is a liquid and stream is a gas. To understand that some materials can change between states, for example water can be a liquid, ice (solid) or steam (gas). To observe materials to see whether they change state when they are heated or cooled. To research the temperature at which a change takes place.</p> <p><u>Water Cycle</u></p> <p>To understand what is meant by the term water cycle. To know the water cycle is the journey of water from the earth to the sky and back again. To identify the part played by evaporation and understand that it is when the liquid (rain, seas, oceans, rivers) turns to vapour (gas). To understand that evaporation happens quicker when the liquid is heated and why. To identify the part played by condensation and understand that it is when the gas (vapour, clouds) turns to liquid (rain) due to the cold temperature.</p> <p><u>Working Scientifically:</u></p> <p><u>Identify, sort and classify:</u></p> <p>To sort and classify different objects/materials in to solids, liquids or gases. Understand that they change through heating and cooling and that some objects can change back and others stay in the state they were changed in to. How will I be a scientist?</p> <ul style="list-style-type: none"> • Ask questions: about different materials and objects and which category they fall in to. Can objects/materials change state and then change back? • Observe: think about which category they fall in to based on how their particles move. • Record: put the findings in to a chart or graph. <p><u>Observing a change over time:</u></p>
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Use their observations to find out the impact heat has on the evaporation of water.

How will I be a scientist?

- Observe: evaporation over a period of time and investigate the effect of temperature.
- Record: record regular data about the quantity of water remaining at regular intervals.
- Interpret: the results and make conclusions about the effect of temperature.

Key scientists of study: (other trust schools will have these mapped out if we are struggling)