

Science Year 4
Core Purpose Long Term Overview

Term	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Unit	Living things and their habitats	Animals including humans	Electricity	Animals including humans	States of matter	Sound
National Curriculum statements	<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 	<ul style="list-style-type: none"> construct and interpret a variety of food chains, identifying producers, predators and prey recognise that environments can change and that this can sometimes pose dangers to living things 	<ul style="list-style-type: none"> identify common appliances that run on electricity construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers identify whether or not a lamp will light in a simple series circuit, based on whether or not the lamp is part of a complete loop with a battery recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit recognise some common conductors and insulators, and associate metals with being good conductors 	<ul style="list-style-type: none"> describe the simple functions of the basic parts of the digestive system in humans identify the different types of teeth in humans and their simple functions 	<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 	<ul style="list-style-type: none"> identify how sounds are made, associating some of them with something vibrating recognise that vibrations from sounds travel through a medium to the ear find patterns between the pitch of a sound and features of the object that produced it find patterns between the volume of a sound and the strength of the vibrations that produced it recognise that sounds get fainter as the distance from the sound source increases
Rationale for order	Placed before food chains to allow children to understand different animals different roles.	Previous work on classifying animals will allow children to know the different between herbivore and carnivore. This will enable to children to build food chains easier.			Summer weather will allow the best chance of the children being able to see evaporation in action. Children would have already observed changes in states of matter when discussing food dissolving in the stomach	Follows states of matter as children should understand that air is made from particles and that these are what vibrate to carry sound.

Knowledge content

	Key Knowledge (to be retained in bold)						
SC1 Investigation focus	<p>SC1 Focus</p>	<p>Is it safe to eat?</p> <p>Children test whether there is any truth to the 5 second rule. Drop 3 pieces of food on the floor (one to be kept clean as a control). Pick up food at different time intervals and seal in bags. Observe any changes over time and conclude.</p>					
	<p>Working Scientifically focus covered from progression overview:</p> <p>(Focus which will be primarily child led/independent. There is a focus on developing SC1 skills, which should be first modelled and allow a chance for the children to develop indep)</p>	<p>THIS UNIT WILL BE FULLY GUIDED AND MODELLED BY THE TEACHER This should build on the plan do review model used in EYES</p> <p>PLAN -That scientific investigation begins with a question they want to find the answer to -That they can ask questions about the world and then make observations to answer these questions.</p> <p>CONDUCT -That they can use magnifying glasses to observe objects closely (as a way of collecting results) -That objects can be identified or sorted into groups based on their observable properties (Classification)</p> <p>RECORD - That in order to answer the asked questions, data needs to be gathered and recorded -That they can write down numbers and words or draw pictures to record what they find</p> <p>CONCLUDE AND EXPLAIN -To suggest an answer based on real life experience or using taught scientific knowledge</p>	<p>PLAN -That scientific investigation begins with a question they want to find the answer to -That they can ask questions about the world and then make observations to answer these questions.</p> <p>CONDUCT -That they can use magnifying glasses to observe objects closely (as a way of collecting results) -That objects can be identified or sorted into groups based on their observable properties (Classification)</p> <p>RECORD - That in order to answer the asked questions, data needs to be gathered and recorded -That they can write down numbers and words or draw pictures to record what they find</p> <p>CONCLUDE AND EXPLAIN -To suggest an answer based on real life experience or using taught scientific knowledge</p>	<p>PLAN -That scientific investigation begins with a question they want to find the answer to -That they can ask questions about the world and then make observations to answer these questions.</p> <p>CONDUCT -That they can use magnifying glasses to observe objects closely (as a way of collecting results) -That objects can be identified or sorted into groups based on their observable properties (Classification)</p> <p>RECORD - That in order to answer the asked questions, data needs to be gathered and recorded -That they can write down numbers and words or draw pictures to record what they find</p> <p>CONCLUDE AND EXPLAIN -To suggest an answer based on real life experience or using taught scientific knowledge</p>	<p>PLAN -That scientific investigation begins with a question they want to find the answer to -That they can ask questions about the world and then make observations to answer these questions.</p> <p>CONDUCT -That they can use magnifying glasses to observe objects closely (as a way of collecting results) -That objects can be identified or sorted into groups based on their observable properties (Classification)</p> <p>RECORD - That in order to answer the asked questions, data needs to be gathered and recorded -That they can write down numbers and words or draw pictures to record what they find</p> <p>CONCLUDE AND EXPLAIN -To suggest an answer based on real life experience or using taught scientific knowledge</p>	<p>PLAN -That scientific investigation begins with a question they want to find the answer to -That they can ask questions about the world and then make observations to answer these questions.</p> <p>CONDUCT -That they can use magnifying glasses to observe objects closely (as a way of collecting results) -That objects can be identified or sorted into groups based on their observable properties (Classification)</p> <p>RECORD - That in order to answer the asked questions, data needs to be gathered and recorded -That they can write down numbers and words or draw pictures to record what they find</p> <p>CONCLUDE AND EXPLAIN -To suggest an answer based on real life experience or using taught scientific knowledge</p>	<p>PLAN -That scientific investigation begins with a question they want to find the answer to -That they can ask questions about the world and then make observations to answer these questions.</p> <p>CONDUCT -That they can use magnifying glasses to observe objects closely (as a way of collecting results) -That objects can be identified or sorted into groups based on their observable properties (Classification)</p> <p>RECORD - That in order to answer the asked questions, data needs to be gathered and recorded -That they can write down numbers and words or draw pictures to record what they find</p> <p>CONCLUDE AND EXPLAIN -To suggest an answer based on real life experience or using taught scientific knowledge</p>
Assessment focus	Teacher Assessment Framework Knowledge		<p>Construct and interpret food chains</p> <p>Explain how environmental changes may have an impact on living things</p>		Name and describe the functions of the main parts of the digestive	Describe the characteristics of different states of matter and group materials on this basis; and describe how materials change state at different temperatures, using this to explain everyday phenomena, including the water cycle	<p>Use the idea that sounds are associated with vibrations, and that they require a medium to travel through, to explain how sounds are made and heard</p> <p>Describe the relationship between the pitch of a sound and the features of its source; and between the volume of a sound, the strength of the vibrations and the distance from its source</p>