



The Canterbury Primary School



Knowledge and Skills Progression Document

Science

Strands of the subject	Year R	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Living things and their habitats. & plants	Sorting and describing natural materials – shells, leaves, rocks and pebbles	Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals. Identify and name a variety of common animals that are carnivores, herbivores and omnivores.	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.	Know the names of the different parts of a plant (roots, stem, leaves, flower, petals). Identify the parts of a plant (match vocabulary to images or real plant parts).	To recognise that living things can be grouped in a variety of ways by sorting living things into a range of groups. To explore and use classification keys to help group, identify	To describe the life process of reproduction in some plants and animals by exploring sexual reproduction in plants. To describe the life process of reproduction in some plants and animals by describing	Be able to use and create a classification key to sort different plants. Identify how plants are adapted to suit their environment (what features have been developed and why?).

		<p>Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets).</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>	<p>Describe how different habitats provide for the basic needs of different kinds of animals and Plants. Describe how they depend on each other.</p> <p>Identify and name a variety of plants and animals in their habitats, including Microhabitats.</p> <p>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.</p>	<p>Know the functions of the different parts of a plant (roots to anchor and obtain water & nutrients, stem to transport water and hold the flower, leaves to collect sunlight for food & flower for pollination).</p> <p>Know what plants need to live and grow.</p> <p>Know how water is transported in plants.</p> <p>Know the stages in the life cycle of a plant (germination, growth, flowering, and fertilisation/seed production).</p>	<p>and name a variety of living things in their local and wider environment.</p> <p>To explore and use classification keys by using keys to identify invertebrates found in the local environment.</p> <p>To recognise that environments can change and that this can sometimes pose dangers to living things by identifying changes and dangers in the local habitat.</p> <p>To recognise environmental dangers and endangered species.</p>	<p>sexual reproduction in mammals.</p> <p>To describe the life cycle of a mammal by exploring the life cycles of mammals in different habitats.</p> <p>To describe the differences in the life cycles of an amphibian and an insect by exploring complete and incomplete metamorphosis.</p> <p>To describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird by describing</p>	<p>Find out about the work of palaeontologists.</p>
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			<p>Observe and describe how seeds and bulbs grow into mature plants. Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p>	<p>Know that plants disperse seeds and why they do this (for reproduction).</p>		<p>and comparing different life cycles, including birds.</p>	
<p>Electricity:</p>					<p>Identify common appliances that run on electricity by learning to distinguish between appliances that use and do not use electricity, about the different types of electricity and identifying how to stay safe when using electricity.</p>		<p>Know the scientific symbols for electrical components.</p> <p>Be able to draw a series circuit using the internationally recognised scientific symbols.</p> <p>Associate the brightness of a lamp or the volume of a</p>

					<p>Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.</p> <p>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 by visualising and testing circuits to see if the circuit is complete.</p> <p>Recognise some common conductors and insulators, and associate metals with being good</p>	<p>buzzer with the number and voltage of cells used in the circuit.</p> <p>Understand how to stay safe when using electricity.</p>
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					conductors by testing different materials as part of circuit to see whether or not they conduct electricity.		
Classification:		<p>Observe changes across the four seasons.</p> <p>Observe and describe weather associated with the seasons and how day length varies.</p>	<p>Explore and compare the differences between things that are living, dead, and things that have never been alive.</p>	<p>Be able to compare and group animals by their diet.</p> <p>Compare the skeletons of different animals.</p>	<p>To explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.</p> <p>To explore and use classification keys by using keys to identify invertebrates found in the local environment.</p>		<p>Understand what makes something a living thing.</p> <p>Understand that broad groupings learnt about in year 4, such as microorganisms, plants and animals can be subdivided.</p> <p>Use a dichotomous key to sort organisms.</p> <p>Make a dichotomous key sort plants.</p>

<p>Animals including humans:</p>		<p>Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals.</p> <p>Identify and name a variety of common animals that are carnivores, herbivores and omnivores.</p> <p>Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets).</p> <p>Identify, name, draw and label the basic parts of the human body</p>	<p>Notice that animals, including humans, have offspring which grow into adults.</p> <p>Find out about and describe the basic needs of animals, including humans, for survival (water, food and air).</p> <p>Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</p>	<p>Understand that animals need the right types and amount of nutrition.</p> <p>Be able to compare and group animals by their diet.</p> <p>Be able to explain the functions of a Skeleton.</p> <p>Compare the skeletons of different Animals.</p> <p>Understand how muscles help animals move.</p>	<p>To describe the simple functions of the basic parts of the digestive system in humans in the context of identifying the parts of the digestive system.</p> <p>To describe the simple functions of the basic parts of the digestive system in humans by explaining the functions of different parts of the digestive system.</p> <p>To identify the different types of teeth in humans and their simple functions by</p>	<p>Describe the changes as humans develop to old age by drawing a timeline to indicate stages in the growth and development of humans.</p> <p>Describe the changes as humans develop to old age in the context of the development of babies in their first year.</p> <p>Record data and results of increasing complexity using bar and line graphs in the context of the growth of babies in height and/or weight</p>	<p>Identify and name the main parts of the human heart.</p> <p>Undertake a dissection of an animal heart.</p> <p>Understand how the circulatory system works.</p> <p>Recognise the impact of diet on the body.</p> <p>Identify the different food groups and their function.</p> <p>Understand how drugs impact the body.</p> <p>Understand the importance of exercise.</p> <p>Understand how</p>
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		and say which part of the body is associated with each sense.			<p>learning about the different types of teeth.</p> <p>To identify differences, similarities or changes related to simple scientific ideas and processes by comparing human and animal teeth.</p> <p>To set up simple Practical enquiries, comparative and fair tests by setting up an enquiry or test to understand what causes tooth decay.</p> <p>To construct and interpret a variety of food chains, identifying</p>	<p>during their first year after birth.</p> <p>Describe the changes as humans develop to old age by comparing the changes that take place to boys and girls during puberty.</p>	<p>water and nutrients are transported in humans.</p> <p>Identify how animals are adapted to suit their environment.</p> <p>Understand that living things have changed over time and how adaptation may lead to evolution.</p> <p>Understand that living things produce offspring of the same kind, but not identical to their parents.</p>
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					producers, predators and prey by understanding food chains and the role of different plants and animals within them.		
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Light & sound:

Identify light sources.

Investigate reflection.

Explore sun safety.

Understand how shadows are formed.

To identify how sounds are made, associating some of them with something vibrating, by identifying and explaining sound sources around school.

To find patterns between the volume of a sound and the strength of the vibrations that produced it.

To recognise that vibrations from sounds travel through a medium to the ear.

To find patterns between the pitch of a sound and features of the object that produced it,

Understand that light travels in straight lines.

Understand how light travels compared to sound and why light therefore travels faster.

Understand how we see things (how light travels, reflects off an object and into our eyes).

Understand why shadows have the same shape as the objects that cast them.

Understand how the human eye works.

Understand about the light spectrum.

					<p>explaining how pitch can change.</p> <p>To recognise that sounds get fainter as the distance from the sound source increases.</p> <p>To find patterns between the pitch of a sound and features of the object that produced it.</p>	
Forces:			<p>Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p>	<p>Investigate the effects of friction.</p> <p>Observe how magnets attract and repel.</p> <p>Investigate the strength of magnets.</p> <p>Identify magnetic and non-magnetic</p>		<p>To explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object by identifying forces acting on objects.</p>

				<p>material.</p> <p>Explore magnetic poles.</p>		<p>To identify the effects of air resistance, water resistance and friction by identifying forces acting on objects.</p> <p>To identify the effects of air resistance for example by investigating the best parachute to slow a person down.</p> <p>To explore and investigate the effects of water resistance.</p> <p>To explore, investigate and identify the effects of friction on a range of different objects.</p> <p>To recognise that some</p>	
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mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect by exploring and designing a simple mechanism.

Describe the movement of the Earth, and other planets, relative to the Sun in the solar system.

To explain that unsupported objects fall towards the Earth NONE because of the force of gravity acting between the Earth and the falling object by measuring the

						force of gravity pulling on objects.	
Material & states of matter:		<p>Distinguish between an object and the material from which it is made.</p> <p>Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock.</p> <p>Describe the simple physical properties of a variety of everyday materials.</p>	<p>Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.</p> <p>Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p>	<p>Compare different kinds of rocks based on their appearance and physical properties.</p> <p>Explore soil formation.</p> <p>Explore soil composition.</p> <p>Explain how fossils are formed.</p>	<p>To compare and group materials together, according to whether they are solids, liquids or gases by sorting and describing materials into solids, liquids and gases.</p> <p>To compare and group materials together, according to whether they are solids, liquids or gases by investigating gases and their uses.</p> <p>To observe that some materials change state when they are heated or</p>		

					<p>cooled, and measure or research the temperature at which this happens in degrees Celsius (°C) by exploring how water can change its state to a solid, liquid or a gas.</p>		
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To make systematic, careful and accurate observations and measurements and report on findings from enquiries by displaying results and conclusions by investigating the effect of temperature on rates of evaporation.

