



Class: Year 4	Topic Title: Living things and their habitats	Key Vocabulary		
<p>NC Objectives:</p> <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 	<ul style="list-style-type: none"> Know that classification is when you sort things into groups according to their similarities. Choose own criteria to group living things (plants and animals) using a Venn diagram. Group living things by finding the odd one out, stating the similarities and differences that were used to group them. Use classification keys to classify plants and minibeasts found on the school grounds. Know that Scientists use classification keys to identify new species (resource). Create own classification keys. Visit a local Woodland area to explore and classify living things found in the area (trees, plants, insects, birds). Link back to Year 2 learning about habitats – how does the habitat provide the basic needs of food and shelter for the animals living in this habitat? Research deforestation and the dangers this poses to living things. 	Classification, classification keys, environment, habitat, human impact, positive, negative, migrate, hibernate		
<p>Working Scientifically Objectives:</p> <ul style="list-style-type: none"> asking relevant questions and using different types of scientific enquiries to answer them setting up simple practical enquiries, comparative and fair tests making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers gathering, recording, classifying and presenting data in a variety of ways to help in answering questions recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions identifying differences, similarities or changes related to simple scientific ideas and processes using straightforward scientific evidence to answer questions or to support their findings. <p><i>Objectives highlighted in yellow to be taught in this topic.</i></p>			<p>Previous Learning Experiences:</p>	
<p>Possible Community Links/trips</p>			<p>Year 2:</p> <ul style="list-style-type: none"> identify and name a variety of plants and animals in their habitats, including micro-habitats 	
<ul style="list-style-type: none"> Links with the Tawd Valley park Links with the Beacon Country Park 			<p>Year 3:</p> <ul style="list-style-type: none"> identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers 	
	<p>Future Learning Experiences:</p>			
	<p>Year 5:</p> <ul style="list-style-type: none"> describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. describe the life process of reproduction in some plants and animals. 			
	<p>Year 6:</p> <ul style="list-style-type: none"> describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including micro-organisms, plants and animals. 			



- give reasons for classifying plants and animals based on specific characteristics.

Class: Year 4	Topic Title: Animals including Humans	Key Vocabulary	
<p>NC Objectives:</p> <ul style="list-style-type: none"> • identify the different types of teeth in humans and their simple functions • describe the simple functions of the basic parts of the digestive system in humans • construct and interpret a variety of food chains, identifying producers, predators and prey 	<ul style="list-style-type: none"> • Know and identify incisors, canine, molars and premolars and describe their functions. • Know the causes of tooth decay. • Know how to take care of teeth and mouth. • Carryout an investigation into the effects of different liquids on teeth. • Know and identify the basic parts of the digestive system: mouth, oesophagus, stomach, small intestine and large intestine. • Create a model of the digestive system to learn about the functions of the organs. • Explore food chains (coral reef game). • Construct food chains from a variety of different habitats: arctic, woodland, coastal, savannah etc. 	<p>teeth, incisor, canine, molar, premolars</p> <p>Digestive system, digestion, mouth, teeth, saliva, oesophagus, stomach, small intestine, nutrients, large intestine, rectum, anus, herbivore, carnivore, omnivore, producer, predator, prey, food chain</p>	
<p>Working Scientifically Objectives:</p> <ul style="list-style-type: none"> • asking relevant questions and using different types of scientific enquiries to answer them • setting up simple practical enquiries, comparative and fair tests • making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers • gathering, recording, classifying and presenting data in a variety of ways to help in answering questions • recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables • reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions • using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions • identifying differences, similarities or changes related to simple scientific ideas and processes 		<p>Previous Learning Experiences:</p>	
		<p>Year 3:</p> <ul style="list-style-type: none"> • 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 • identify that humans and some other animals have skeletons and muscles for support, protection and movement 	
	<p>Future Learning Experiences:</p>		



<ul style="list-style-type: none"> using straightforward scientific evidence to answer questions or to support their findings. <p><i>Objectives highlighted in yellow to be taught in this topic.</i></p>	<p>Year 5:</p> <ul style="list-style-type: none"> describe the changes as humans develop from birth to old age <p>Year 6:</p> <p>identify and name the main parts of the human circulatory system, and explain the functions of the heart, blood vessels and blood</p>
Possible Community Links/trips	
Visit from the school nurse (teeth) Chester zoo Knowsley safari park	

Class: Year 4	Topic Title: States of matter	Key Vocabulary
<p>NC Objectives:</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 	<ul style="list-style-type: none"> Know that a solid has a fixed shape that remains the same unless a force is acting upon it. Know that a liquid has no fixed shape but has a fixed volume and takes on the shape of its container. Know that a gas has no fixed shape or volume and will always spread out to fill the space of the container it is in. Compare and identify the properties of solids, liquids and gases (practical activities). Using a Venn diagram compare and group materials according to whether they are solids, liquids or gases. Explore melting: investigate the rate at which different types of chocolate melt (link to TAPs assessment). Explore freezing (observe what happens when a range of different liquids are left in the freezer (water, salt water, olive oil, hand soap, honey) Research the melting point of different materials (networking activity). Plan an investigation to explore evaporation. Know the main stages of the water cycle: evaporation, condensation and precipitation. Explore the part played by evaporation and condensation in the water cycle (https://www.playfullearning.net/resource/water-is-water-3-experiments-for-kids/) 	Solid, liquid, gas, state change, melting, freezing, melting point, boiling point, evaporation, temperature, water cycle
<p>Working Scientifically Objectives:</p> <ul style="list-style-type: none"> asking relevant questions and using different types of scientific enquiries to answer them setting up simple practical enquiries, comparative and fair tests making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers gathering, recording, classifying and presenting data in a variety of ways to help in answering questions recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables 		
	<p>Previous Learning Experiences:</p> <p>Year 2:</p> <ul style="list-style-type: none"> identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular use 	



<ul style="list-style-type: none"> reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions identifying differences, similarities or changes related to simple scientific ideas and processes using straightforward scientific evidence to answer questions or to support their findings. <p><i>Objectives highlighted in yellow to be taught in this topic.</i></p>	<ul style="list-style-type: none"> find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching
Possible Community Links/trips	Future Learning Experiences:
Manchester Science Museum	<p>Year 5:</p> <ul style="list-style-type: none"> compare and group together everyday materials based on evidence from comparative and fair tests, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets. understand that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution. use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic. demonstrate that dissolving, mixing and changes of state are reversible changes. explain that some changes result in the formation of new materials, and that this kind of change is not usually reversible, including changes associated with burning and the action of acid on bicarbonate of soda.

Class: Year 4	Topic Title: Sound	Key Vocabulary
<p>NC Objectives:</p> <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 	<ul style="list-style-type: none"> Explore how sounds are made using tuning forks and musical instruments. Use models to explore how vibrations from sounds travel through a medium to the ear (How does sound travel?) Investigate and review how vibrations from sounds travel through a medium to the ear with string telephones. Find patterns between the pitch of a sound and features of the object that produced it. 	<p>sound, source, vibrate, vibration, travel, pitch (high, low), volume, faint, loud, insulation</p>



<p>Working Scientifically Objectives:</p> <ul style="list-style-type: none"> • asking relevant questions and using different types of scientific enquiries to answer them • setting up simple practical enquiries, comparative and fair tests • making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers • gathering, recording, classifying and presenting data in a variety of ways to help in answering questions • recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables • reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions • using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions • identifying differences, similarities or changes related to simple scientific ideas and processes • using straightforward scientific evidence to answer questions or to support their findings. <p><i>Objectives highlighted in yellow to be taught in this topic.</i></p>	<ul style="list-style-type: none"> • find patterns between the volume of a sound and the strength of the vibrations that produced it (using cymbals). • Explore how sounds get fainter as the distance from the sound source increases (Sound and distance). • Plan and carryout an investigation to explore what material is best for protecting ears from loud sounds (Data) 	
Possible Community Links	Previous Learning Experiences:	
<p>Manchester Science Museum Liverpool Philharmonic orchestra</p>	<p>Year 1:</p> <ul style="list-style-type: none"> • identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. 	
	Future Learning Experiences:	
	<p>KS3:</p> <ul style="list-style-type: none"> • frequencies of sound waves, measured in hertz (Hz); echoes, reflection and absorption of sound • sound needs a medium to travel, the speed of sound in air, in water, in solids • sound produced by vibrations of objects, in loud speakers, detected by their effects on microphone diaphragm and the ear drum; sound waves are longitudinal • auditory range of humans and animals. 	

Class: Year 4	Topic Title: Electricity	Key Vocabulary
---------------	--------------------------	----------------



<p>NC Objectives:</p> <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"> • Identify common appliances that run on electricity using sorting diagrams (Venn or Carroll). • Know hazards and how to stay safe when using electricity and electrical appliances. • Explore simple circuits (hand battery, fruit battery) including buzzers (scribblebot) • 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 (paper switch) • recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit (explore homemade switches) • Investigate and review conductors and insulators. • Use sorting diagrams (Venn or Carroll) to group common conductors and insulators. 	<p>Electricity, electrical appliance/device, mains, plug, electrical circuit, complete circuit, component, cell, battery, positive, negative, connect/connections, loose connection, short circuit, crocodile clip, bulb, switch, buzzer, motor, conductor, insulator, metal, non-metal, symbol</p>
<p>Working Scientifically Objectives:</p> <ul style="list-style-type: none"> • asking relevant questions and using different types of scientific enquiries to answer them • setting up simple practical enquiries, comparative and fair tests • making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers • gathering, recording, classifying and presenting data in a variety of ways to help in answering questions • recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables • reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions • using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions • identifying differences, similarities or changes related to simple scientific ideas and processes • using straightforward scientific evidence to answer questions or to support their findings. <p><i>Objectives highlighted in yellow to be taught in this topic.</i></p>	<p>Previous Learning Experiences:</p>	<p>No previous learning experiences.</p>
<p>Possible Community Links</p>	<p>Future Learning Experiences:</p>	<p>Year 6:</p> <ul style="list-style-type: none"> • associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit. • compare and give reasons for variations in how components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches. • use recognised symbols when representing a simple circuit in a diagram.
<p>Manchester Science Museum Our Lady Queen of Peace (cross-curricular with DT)</p>		

