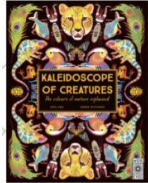

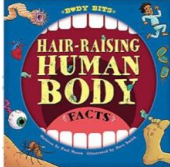

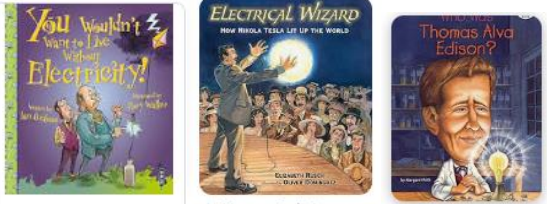
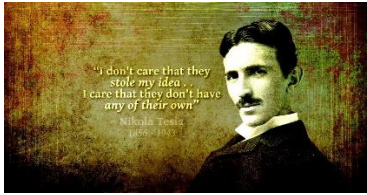



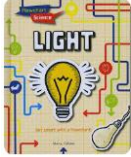


**UNIT ENQUIRY QUESTION: How can we maintain a healthy body?**

PRIOR LEARNING	FUTURE LEARNING	CONNECTED KNOWLEDGE & SUBJECTS	LINKED TEXTS
<p>In Year 1 children should:</p> <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> <p>In Year 2 children should:</p> <ul style="list-style-type: none"> <li>Know that animals, including humans, have offspring which grow into adults</li> <li>Know the basic stages in a life cycle for animals, including humans.</li> <li>Find out 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> <p>In Year 3 children should:</p> <ul style="list-style-type: none"> <li>Identify that animals, including humans, need the right types and amount of nutrition, and they cannot make their own food; they get their nutrition from what they eat.</li> <li>Know how nutrients, water and oxygen are transported within animals and humans.</li> <li>Know about the importance of a nutritious, balanced diet.</li> <li>Identify that humans and some other animals have skeletons and muscles for support, protection and movement</li> </ul>	<p>For Y2</p> <p>In Year 3 children will:</p> <ul style="list-style-type: none"> <li>Identify that animals, including humans, need the right types and amount of nutrition, and they cannot make their own food; they get their nutrition from what they eat.</li> <li>Know how nutrients, water and oxygen are transported within animals and humans.</li> <li>Know about the importance of a nutritious, balanced diet.</li> <li>Identify that humans and some other animals have skeletons and muscles for support, protection and movement:</li> </ul> <p>For Y3</p> <p>In Year 4 children will:</p> <ul style="list-style-type: none"> <li>Describe the simple functions of the basic parts of the digestive system in humans.</li> <li>Identify the different types of teeth in humans and their simple functions.</li> <li>Construct and interpret a variety of food chains, identifying producers, predators and prey</li> </ul> <p>Y4</p> <p>In Year 5 children will:</p> <ul style="list-style-type: none"> <li>Know the life cycle of different living things, e.g. Mammal, amphibian, insect bird.</li> <li>Know the differences between different life cycles.</li> <li>Know the process of reproduction in plants.</li> <li>Know the process of reproduction in animals</li> </ul>	<p>Art topics from Class 1</p> <hr/> <p><b>PRE/POST LEARNING QUIZ QUESTIONS</b></p> <p>Y2</p> <ul style="list-style-type: none"> <li>How long do should my pets live for?</li> <li>Do all animals grow and live the same way?</li> <li>Do bigger animals live longer?</li> <li>Why are we all different heights?</li> <li>How and why do we grow and change?</li> </ul> <p>Y3</p> <ul style="list-style-type: none"> <li>Why do we need a skeleton?</li> <li>What types of skeleton are there?</li> <li>Are all skeletons the same?</li> <li>Can something survive without a skeleton?</li> <li>What happens if we break a bone?</li> <li>How do we move?</li> <li>Are bones that are bigger, stronger?</li> <li>Why do we need joints?</li> <li>Why do muscles get tired?</li> <li>Can we 'break' muscles?</li> </ul>	<div style="display: flex; justify-content: space-around; align-items: center;">    </div> <p><b>SCIENTIFIC ENQUIRY</b></p> <p><u>Comparative Tests</u></p> <p>Y2- Do amphibians have more in common with reptiles or fish? Do bananas make us run faster?</p> <p>Y3 - How does the angle that your elbow/knee is bent affect the circumference of your upper arm/thigh? How does the skull circumference of a girl compare with that of a boy?</p> <p>Y4 -In our class, are omnivores taller than vegetarians?</p> <p><u>Identify &amp; Classify</u></p> <p>Y2- Which offspring belongs to which animal? How would you group things to show which are living, dead, or have never been alive?</p> <p><u>Y3</u> How do the skeletons of different animals compare?</p> <p>Y4 - What are the names for all the organs involved in the digestive system? How can we organise teeth into groups?</p> <p><u>Observation Over Time</u></p> <p>Y2 - How does a tadpole change over time? How much food and drink do I have over a week?</p> <p>Y3 - How does our skeleton change over time? (from birth to death)</p> <p>Y4 - How does an egg shell change when it is left in cola?</p>

<p><b>KEY VOCABULARY</b></p> <p><u>Y2 Vocabulary</u>  Living, dead, never alive, habitats, micro-habitats, food, food chain, leaf litter, shelter, sea shore, woodland, ocean, rainforest, conditions, desert, damp, shade,</p> <p><u>Y3 Vocabulary</u>  Nutrients, nutrition, carbohydrates, protein, fats, vitamins, minerals, water, fibre, skeleton, bones, joints, endoskeleton, exoskeleton, hydrostatic skeleton, vertebrates, invertebrates, muscles, contract, relax,</p> <p><u>Y4 Vocabulary</u>  Herbivore, Carnivore, Digestive system, tongue, mouth, teeth, oesophagus, stomach, gall bladder, small intestine, pancreas, large intestine, liver, tooth, canine, incisor, molar, premolar, producer, consumer.</p>	<p><b>Y4</b></p> <ul style="list-style-type: none"> <li>• What different types of food are there?</li> <li>• Why do we need a variety of different foods?</li> <li>• Do all organisms eat the same things?</li> <li>• Why do some people need different diets? (weightlifter vs marathon runner)</li> <li>• Why are teeth important?</li> <li>• What happens to our food?</li> <li>• What is our digestive system?</li> <li>• How does our food turn into poo and wee?</li> </ul>	<p><u>Pattern Seeking</u>  Y2 – Which age group of children wash their hands the most in a day?  Y3 - Do male humans have larger skulls than female humans?  Y4- Are foods that are high in energy always high in sugar?</p> <p><u>Research</u>  Y2 - What food do you need in a healthy diet and why? What do you need to do to look after a pet dog/cat/lizard and keep it healthy?  Y3 - Why do different types of vitamins keep us healthy and which foods can we find them in?  Y4 - Are foods that are high in energy always high in sugar?  Y2/3/4 Who was Alexander Fleming?</p>
<b>KEY SCIENTISTS &amp; SCIENCE CAPITAL</b>		
<p>Alexander Fleming</p>  <p>Visit – medical museum – Bradford  National Science and Media museum – Bradford.  Visitors – doctor/dentist/paramedic etc</p>	<p style="text-align: center;"><b>END POINTS</b></p> <p><u>Year 2</u>  Notice that animals, including humans, have offspring which grow into adults.  Find out and describe the basic needs of animals, including humans, for survival (water, food and air).  Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</p> <p><u>Year 3</u>  Identify that animals, including humans, need the right types and amount of nutrition, and they cannot make their own food; they get their nutrition from what they eat.  Identify that humans and some other animals have skeletons and muscles for support, protection and movement:</p> <p><u>Year 4</u>  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.</p> <ul style="list-style-type: none"> <li>• Construct and interpret a variety of food chains, identifying producers, predators and prey</li> </ul>	


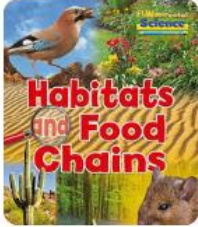

**SCIENCE: Electricity UNIT ENQUIRY QUESTION: What can we do with electricity?**

PRIOR LEARNING	FUTURE LEARNING	CONNECTED KNOWLEDGE & SUBJECTS	LINKED TEXTS
<p>In Early Years children:</p> <ul style="list-style-type: none"> <li>• May have some understanding that objects need electricity to work.</li> <li>• May understand that a switch will turn something on or off.</li> </ul>	<p>In Year 6 children will:</p> <ul style="list-style-type: none"> <li>• Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.</li> <li>• 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.</li> <li>• Use recognised symbols when representing a simple circuit in a diagram.</li> </ul>	<p>DT – using bulbs in our designs Earth and Space – natural light</p>	
<p><b>KEY VOCABULARY</b> Electricity, electric current, appliances, mains, crocodile clips, wires, bulb, battery cell, battery holder, motor, buzzer, switch, conductor, electrical insulator, component.</p>		<p><b>PRE/POST LEARNING QUIZ QUESTIONS</b></p>	<p><b>SCIENTIFIC ENQUIRY</b></p>
		<ul style="list-style-type: none"> <li>• What would life be like without electricity?</li> <li>• What sorts of things use/need electricity?</li> <li>• What electricity do I use?</li> <li>• In which ways can we 'get' electricity? (mains/plugs/batteries/wireless)</li> <li>• How do we make electricity?</li> <li>• How do batteries work?</li> <li>• How quickly can batteries run out? Does this make a difference depending on number of components?</li> <li>• How does the number of batteries added to the circuit affect a device?</li> <li>• What materials can carry electricity? (conductors/insulators)</li> </ul>	<p><u>Comparative Tests</u> How does the thickness of a conducting material affect how bright the lamp is? Which metal is the best conductor of electricity?</p> <p><u>Identify &amp; Classify</u> How would you group these electrical devices based on where the electricity comes from?</p> <p><u>Observation Over Time</u> How long does a battery light a torch for?</p> <p><u>Pattern Seeking</u> Which room has the most electrical sockets in a house?</p> <p><u>Research</u> How has electricity changed the way we live? How does a light bulb work?</p>
<p><b>KEY SCIENTISTS &amp; SCIENCE CAPITAL</b></p>		<p><b>END POINTS</b></p>	
<p>Nikola Tesla</p> 		<ul style="list-style-type: none"> <li>• Identify common appliances that run on electricity.</li> <li>• Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.</li> <li>• 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.</li> <li>• Recognise that a switch opens and closes the circuit and associate this with whether or not a lamp lights in a simple series circuit.</li> <li>• Recognise some common conductors and insulators, and associate metals with being good conductors.</li> </ul>	


PRIOR LEARNING	FUTURE LEARNING	CONNECTED KNOWLEDGE & SUBJECTS	LINKED TEXTS
<p>In Year 1 children should have:</p> <ul style="list-style-type: none"> <li>• Observed changes across the four seasons</li> <li>• Observed and describe weather associated with the seasons and how day length varies. Children may:</li> <li>• have some knowledge of where light comes from.</li> <li>• have seen their shadows and may know they appear when it is sunny.</li> <li>• Have some understanding of a reflection.</li> <li>• May understand they need light to be able to see things.</li> </ul>	<p>In Year 6 children will:</p> <ul style="list-style-type: none"> <li>• Recognise that light appears to travel in straight lines.</li> <li>• Use the idea that light travels in straight lines to explain that objects are seen because they give out or reflect light into the eye.</li> <li>• Explain that we see things because light travels from light sources to our eyes or from light sources to objects and then to our eyes.</li> <li>• Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.</li> <li>• Know how simple optical instruments work, e.g. periscope, telescope, binoculars, mirror, magnifying glass etc.</li> </ul>	<p>Light and Electricity – TESLA                      Earth and Space – natural light                      Plants – do they need light?</p>	<div style="display: flex; justify-content: space-around; align-items: center;">    </div>
<p><b>KEY VOCABULARY</b>                      Light source, dark, reflect, ray, mirror, bounce, visible, beam, sun, glare, travel, straight, opaque, shadow, block, transparent, translucent.</p>		<p style="text-align: center;"><b>PRE/POST LEARNING QUIZ QUESTIONS</b></p> <ul style="list-style-type: none"> <li>• How does distance from a light source affect how bright it looks?</li> <li>• How does being in darkness affect your sense of hearing?</li> <li>• What colour would be the best to make a safety jacket from?</li> <li>• How does the colour of a material affect how reflective it is?</li> <li>• What would be the best material to make a blind for a baby's room?</li> <li>• How does thickness of a material affect how much light can pass through it?</li> <li>• How many pieces of tracing paper are as translucent as a single piece of white paper?</li> <li>• How does the shape of a mirror affect how the light reflects?</li> <li>• How can we change the darkness, size and shape of a shadow</li> </ul>	<p style="text-align: center;"><b>SCIENTIFIC ENQUIRY</b></p> <p><u>Comparative Tests</u>                      How does the distance between the shadow puppet and the screen affect the size of the shadow? Which pair of sunglasses will be best at protecting our eyes?</p> <p><u>Identify &amp; Classify</u>                      How would you organise these light sources into natural and artificial sources?</p> <p><u>Observation Over Time</u>                      When is our classroom darkest? Is the Sun the same brightness all day?</p> <p><u>Pattern Seeking</u>                      Are you more likely to have bad eye sight and to wear glasses if you are older?</p> <p><u>Research</u>                      How does the Sun make light?</p>
<p><b>KEY SCIENTISTS &amp; SCIENCE CAPITAL</b></p> <div style="text-align: center;">  <p><b>Thomas Edison</b></p> </div>		<p style="text-align: center;"><b>END POINTS</b></p> <ul style="list-style-type: none"> <li>• Recognise that they need light in order to see things and that dark is the absence of light.</li> <li>• Notice that light is reflected from surfaces.</li> <li>• Recognise that light from the sun can be dangerous and that there are ways to protect their eyes.</li> <li>• Recognise that shadows are formed when the light from a light source, is blocked by a solid object.</li> <li>• Find patterns in the way that the sizes of shadows change.</li> </ul>	

# Living things in their habitats UNIT ENQUIRY QUESTION: Why is the right habitat so important to living things?


## Class 2

PRIOR LEARNING	FUTURE LEARNING	CONNECTED KNOWLEDGE & SUBJECTS	LINKED TEXTS
<p>In Early Years children should:</p> <ul style="list-style-type: none"> <li>• Comments and questions about the place they live or the natural world.</li> <li>• Shows care and concern for living things and the environment.</li> <li>• Can talk about things they have observed such as plants and animals.</li> <li>• Notices features of objects in their environment.</li> <li>• Comments and asks questions about their familiar world.</li> </ul> <p>In Year 2, children should:</p> <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 for 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 the different sources of food.</li> </ul>	<p>For Y2</p> <p>In Year 4 children will:</p> <ul style="list-style-type: none"> <li>• Recognise that living things can be grouped in a variety of ways.</li> <li>• Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.</li> <li>• Know and label the features of a river</li> <li>• Recognise that environments can change and that this can sometimes pose danger to living things.</li> </ul> <p>For Y4</p> <p>In Year 6 (Living things &amp; their Habitats):</p> <ul style="list-style-type: none"> <li>• Classify living things into broad groups according to observable characteristics and based on similarities and differences.</li> <li>• Give reasons for classifying plants and animals based on specific characteristics.</li> </ul>	<p>Geography – map work, where in the world are there different habitats. Adaptations</p> <p>PSHE – caring for others and the environment</p> <hr/> <p><b>PRE/POST LEARNING QUIZ QUESTIONS</b></p> <p>What food chains and webs are there in our local habitat?</p> <ul style="list-style-type: none"> <li>• How does energy move through the food chain?</li> <li>• How does removal of one species from an environment, affect others? (keystone species)</li> <li>• How does environmental change affect different organisms?</li> <li>• What are the most important things we could do to improve our outside area? (big hotels, pond, compost, wildflowers)</li> <li>• How does human activity affect our environment</li> </ul> <p><b>How do animals eat?</b></p> <ul style="list-style-type: none"> <li>• Do all animals eat the same thing?</li> <li>• Which animals hunt, and which animals are hunted?</li> </ul> <p><b>Why?</b></p> <ul style="list-style-type: none"> <li>• What animals live in our school environment?</li> <li>• How are animals and plants 'adapted' to live in their habitats</li> <li>• Why do animals and plants like to live in different places?</li> </ul>	<div style="display: flex; justify-content: space-around;">    </div> <hr/> <p><b>SCIENTIFIC ENQUIRY</b></p> <p><u>Comparative Tests</u></p> <p>Does the amount of light affect how many woodlice move around? How does the average temperature of the pond water change in each season?</p> <p><b>Which pets are the easiest to look after? Is there the same level of light in the evergreen wood compared with the deciduous wood?</b></p> <p><u>Identify &amp; Classify</u></p> <p>Can we use the classification keys to identify all the animals that we caught pond dipping?</p> <p><b>How would you group these plants and animals based on what habitat you would find them in?</b></p> <p><u>Observation Over Time</u></p> <p>How does the variety of invertebrates on the school field change over the year</p> <p><b>How does the pond change over the year?</b></p> <p><u>Pattern Seeking</u></p> <p>How has the use of insecticides affected bee population?</p> <p><b>What conditions do woodlice prefer to live in? Which habitat do worms prefer – where can we find the most worms?</b></p>





<p><b>KEY VOCABULARY</b>  Environment, flowering, nonflowering, plants, animals, vertebrates, fish, amphibians, reptiles, mammals, invertebrate, human impact, nature reserves, deforestation.  Living, dead, never alive, habitats, micro-habitats, food, food chain, leaf litter, shelter, sea shore, woodland, ocean, rainforest, conditions, desert, damp, shade,</p>	<ul style="list-style-type: none"> <li>• How do seasons affect our animals and plants?</li> <li>• Which animals hibernate and why?</li> <li>• Why do snails hibernate, but slugs don't?</li> <li>• How to habitats change over our school year?</li> </ul>	<p><u>Research</u>  Why are people cutting down the rainforests and what effect does that have?  How are the animals in Australia different to the ones that we find in Britain? How does the habitat of the Arctic compare with the habitat of the rainforest?</p>
<p><b>KEY SCIENTISTS &amp; SCIENCE CAPITAL</b></p>		<p><b>END POINTS</b></p>
 <p>David Attenborough  Forest school work  Mr Riley visitor in .  Tree planting.</p>	<p>Y2</p> <ul style="list-style-type: none"> <li>○ 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.</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 the different sources of food.</li> <li>○ Explore living things that have, been alive, never been alive and are dead.</li> <li>○ Y3/4</li> <li>○ Recognise that living things can be grouped in a variety of ways.</li> <li>○ Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.</li> <li>○ Recognise that environments can change and that this can sometimes pose danger to living things.</li> </ul>	

**SCIENCE: Forces & Magnets** *UNIT ENQUIRY QUESTION: How can we move things with Magnets?*


PRIOR LEARNING	FUTURE LEARNING	CONNECTED KNOWLEDGE & SUBJECTS	LINKED TEXTS
<p>In Year 2 children:</p> <ul style="list-style-type: none"> <li>• May have an awareness of how to make things stop and start, using simple pushes and pulls.</li> <li>• They may know about floating and sinking.</li> </ul> <p><b>KEY VOCABULARY</b> Force, push, pull, friction, surface, magnet, magnetic, magnetic field, pole, north, south, attract, repel, compass.</p>	<p>In Year 5 children will:</p> <ul style="list-style-type: none"> <li>• Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object and the impact of gravity on our lives.</li> <li>• Identify the effects of air resistance, water resistance and friction, which act between moving surfaces.</li> <li>• Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.</li> <li>• Describe the movement of the Earth, and other planets, relative to the Sun in the solar system</li> <li>• Describe the movement of the Moon relative to the Earth</li> <li>• Describe the Sun, Earth and Moon as approximately spherical bodies</li> <li>• Describe the idea of the Earth’s rotation to explain day and night and the apparent movement of the sun across the sky.</li> </ul>	<p>Can we use magnets in our DT work? Geography - compass work</p> <hr/> <p><b>PRE/POST LEARNING QUIZ QUESTIONS</b></p> <ul style="list-style-type: none"> <li>• What are magnetic materials? How can we find out?</li> <li>• Can I make a magnetic material non-magnetic?</li> <li>• How far away does a magnet have to be before it attracts a magnetic material?</li> <li>• How far away can the magnetic attraction between two magnets be experienced?</li> <li>• Is the repulsive force the same size?</li> <li>• How is the magnetic attraction of repulsion force affected by putting materials between the magnets? • Are bigger magnets stronger?</li> <li>• How could you use magnets to measure the number of pages in a book?</li> </ul>	<div style="text-align: center;"> </div> <p><b>SCIENTIFIC ENQUIRY</b></p> <p><u>Comparative Tests</u> How does the mass of an object affect how much force is needed to make it move? Which magnet is strongest? Which surface is best to stop you slipping?</p> <p><u>Identify &amp; Classify</u> Which materials are magnetic?</p> <p><u>Observation Over Time</u> If we magnetise a pin, how long does it stay magnetised for?</p> <p><u>Pattern Seeking</u> Do magnetic materials always conduct electricity? Does the size and shape of a magnet affect how strong it is?</p> <p><u>Research</u> How have our ideas about forces changed over time? How does a compass work?</p>
<p><b>KEY SCIENTISTS &amp; SCIENCE CAPITAL</b></p>		<p><b>END POINTS</b></p>	
<div style="display: flex; align-items: center;">  <p><b>Georg Simon Ohm</b> <b>How do magnets help in everyday life?</b></p> </div>		<ul style="list-style-type: none"> <li>• Compare how things move on different surfaces.             <ul style="list-style-type: none"> <li>• Notice that some forces need contact between two objects, but magnetic forces can act at a distance.</li> <li>• Observe how magnets attract and repel each other and attract some materials and not others.</li> </ul> </li> <li>• Compare and group together a variety of everyday materials on the basis of whether they are attracted to a magnet, and identify some magnetic materials.</li> <li>• Describe magnets as having two poles.</li> <li>• Predict whether two magnets will attract or repel each other, depending on which poles are facing.</li> </ul>	


**Materials UNIT ENQUIRY QUESTION:** How do we choose the right materials for the right purpose?

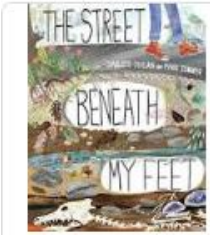
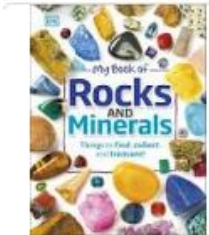

Class 2

PRIOR LEARNING	FUTURE LEARNING	CONNECTED KNOWLEDGE & SUBJECTS	LINKED TEXTS
<p>In Year 1 children should:</p> <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, metal, plastic, glass, 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 properties.</li> </ul>	<p>In Year 3 children will:</p> <ul style="list-style-type: none"> <li>• Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties</li> <li>• Describe in simple terms how fossils are formed when things that have lived are trapped within rock</li> <li>• Recognise that soils are made from rocks and organic matter.</li> </ul>	<p>Geography – water cycle.</p>	
<p style="text-align: center;"><b>PRE/POST LEARNING QUIZ QUESTIONS</b></p> <ul style="list-style-type: none"> <li>• Which materials absorb the most water?</li> <li>• The baby has spilt her drink, which material would absorb the drink the best?</li> <li>• We want to make a really slippery slide, which liquid would be best to use?</li> <li>• Which chocolate will melt the fastest on a warm plate (a model of a warm hand)</li> <li>• Which material could be used to make a waterproof hat for the teacher when she is on the playground at playtime?</li> <li>• Which plastic would be flexible enough to make a belt?</li> <li>• Which material could I wrap my ice egg / snowman in to stop it melting, or would it make it melt quicker?</li> <li>• What could I wrap a chicken egg in to keep it warm when it is waiting to hatch?</li> </ul>			<p style="text-align: center;"><b>SCIENTIFIC ENQUIRY</b></p> <p><u>Comparative Tests</u> Which shapes make the strongest paper bridge? Which material would be best for the roof of the little pig's house?</p> <p><u>Identify &amp; Classify</u> Which materials will float and which will sink? Which materials will let electricity go through them, and which will not? Which materials are shiny and which are dull?</p> <p><u>Observation Over Time</u> How long do bubble bath bubbles last for? What will happen to our snowman?</p> <p><u>Pattern Seeking</u> How do materials change with heat? leave outside in sun/windowsill/radiator How does amount of water affect the strength of a kitchen towel?</p> <p><u>Research</u> How have the materials we use changed over time? How are plastics made?</p>
<p><b>KEY VOCABULARY</b> Waterproof, fabric, rubber, cars, rock, paper, cardboard, wood, metal, plastic, glass, brick, twisting, squashing, bending, matches, cans, spoons,</p>		<p style="text-align: center;"><b>END POINTS</b></p> <ul style="list-style-type: none"> <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>• Find out how shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</li> </ul>	
<p><b>KEY SCIENTISTS &amp; SCIENCE CAPITAL</b> Charles Mackintosh</p> 			





PRIOR LEARNING	FUTURE LEARNING	CONNECTED KNOWLEDGE & SUBJECTS	LINKED TEXTS
<p>In Year 1 Children should:</p> <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.</li> <li>Identify and name the roots, trunk, branches and leaves of trees.</li> </ul> <p>In Year 2,</p> <ul style="list-style-type: none"> <li>Observe and describe how seeds and bulbs grow into mature plants.</li> <li>Find out and describe how plants need water, light and warmth to grow and stay healthy.</li> </ul>	<p>For Y2</p> <p>In Year 3 Children will:</p> <ul style="list-style-type: none"> <li>Identify and describe the functions of different parts of the flowering plant roots, stem/trunk/leaves and flowers</li> <li>Explore the part flowers play in a flowering plants life cycle, including: pollination, seed formation and seed dispersal</li> <li>Explain the requirements of plants for life and growth (air, light, water, nutrients from soil, room to grow) and how they vary between plants</li> <li>Know the way in which water is transported between plants</li> </ul> <p>For Y3/4</p> <p>In Year 6 Children will:</p> <ul style="list-style-type: none"> <li>Recognise that living things have changed over time and that fossils provide information about living things</li> <li>Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents</li> <li>Identify how animals and plants are adapted to suit their environment in different ways, and that adaptation can lead to evolution.</li> </ul>	<p>Geography - Biomes – plants around the world, conditions for living. Minibeasts – Animals and Living things unit. YDNP work</p> <hr/> <p><b>PRE/POST LEARNING QUIZ QUESTIONS</b></p> <p>Y2</p> <ul style="list-style-type: none"> <li>Do cress produce seeds, how could we find out?</li> <li>Do all plants produce flowers and seeds?</li> <li>What is different between freshly cut and planted flowers?</li> <li>Do plants flower all year round?</li> <li>What are flowers for?</li> <li>What happens to a plant after it has produced seeds?</li> </ul> <p>Y3/4</p> <ul style="list-style-type: none"> <li>How do plants reproduce?</li> <li>Do all flowers look the same?</li> <li>How do insects know which flowers to pollinate?</li> <li>Why do flowers smell? • What do seeds do?</li> <li>Can a plant live without its leaves?</li> <li>Do grass/trees make flowers?</li> <li>What conditions are perfect for a seed to grow?</li> </ul>	<div style="text-align: center;">  </div> <hr/> <p><b>SCIENTIFIC ENQUIRY</b></p> <p><u>Comparative Tests</u> Y2- Do cress seeds grow quicker inside or outside? Y3/4 - How does the length of the carnation stem affect how long it takes for the food colouring to dye the petals? Which conditions help seeds germinate faster?</p> <p><u>Identify &amp; Classify</u> Y2- How can we identify the trees that we observed on our tree hunt? Y3/4 - How many different ways can you group our seed collection?</p> <p><u>Observation Over Time</u> Y2 - What happens to my bean after I have planted it? Y3/4 - What happens to celery when it is left in a glass of coloured water? How do flowers in a vase change over time?</p> <p><u>Pattern Seeking</u> Y2 – Do bigger seeds grow into bigger plants?</p>


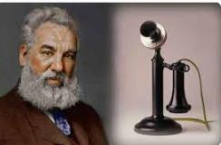
<p><b>KEY VOCABULARY</b></p> <p>Y2 Vocabulary Leaves, trunk, branch, root, seed, bulb, flower, stem, wild, garden, deciduous, evergreen, observe, grow, compare, record, temperature, predict, measure, diagram, germinate, warmth, sunlight.</p> <p>Y3/4 Vocabulary Air, light, water, nutrients, soil, support, anchor, reproduction, pollination, dispersal, transportation, flower, energy, growth, seedling, carbon dioxide, oxygen, sugar, material, photosynthesis, chlorophyll</p>	<ul style="list-style-type: none"> <li>• Where do weeds come from? • How does the space between seeds affect how well they grow?</li> <li>• Does seed size match plant size?</li> <li>• Do plants take in water through their roots? • How does water move through the plant?</li> <li>• How do plants make their food?</li> <li>• How does light affect plant growth?</li> <li>• How does a plant get carbon dioxide?</li> </ul>	<p>Y3/4 - What colour flowers do pollinating insects prefer?</p> <p><u>Research</u></p> <p>Y2 - How does a cactus survive in a desert with no water?</p> <p>Y3/4 - What are all the different ways that seeds disperse??</p> <p>Y2/3/4 Who is Alan Titchmarsh?</p>
<p><b>KEY SCIENTISTS &amp; SCIENCE CAPITAL</b></p>		<p><b>END POINTS</b></p>
<p>Alan Titchmarsh</p>  <p>Visit – Harlow Carr Locality – wildflower meadow. Outdoor learning</p>	<p>Year 2</p> <ul style="list-style-type: none"> <li>• Observe and describe how seeds and bulbs grow into mature plants.</li> <li>• Find out and describe how plants need water, light and warmth to grow and stay healthy.</li> </ul> <p>Y3/4</p> <ul style="list-style-type: none"> <li>• Identify and describe the functions of different parts of the flowering plant: roots, stem/trunk/leaves and flowers</li> <li>• Explore the part flowers play in a flowering plants life cycle, including: pollination, seed formation and seed dispersal</li> <li>• Explain the requirements of plants for life and growth (air, light, water, nutrients from soil, room to grow) and how they vary between plants Investigate the way in which water is transported between plants</li> </ul>	

ROCKS & SOILS UNIT ENQUIRY QUESTION: What are rocks and soils like? Class 2			
PRIOR LEARNING	FUTURE LEARNING	CONNECTED KNOWLEDGE & SUBJECTS	LINKED TEXTS
<p>In Year 2 children should:</p> <ul style="list-style-type: none"> <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>Find out how shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</li> </ul> <p>Children may:</p> <ul style="list-style-type: none"> <li>May have some understanding of a variety of different rocks in the natural world.</li> <li>Some understanding of what soil is. (how to identify soil etc)</li> <li>May have some knowledge of what a fossil is.</li> </ul>	<p>In Year 4 children will:</p> <ul style="list-style-type: none"> <li>Compare and group materials together, according to whether they are solids, liquids or gases.</li> <li>Observe that some materials change state when heated or cooled, and measure and research the temperature at which this happens in degrees Celsius.</li> <li>Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</li> </ul> <p>In Year 6 children will:</p> <ul style="list-style-type: none"> <li>Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago.</li> </ul>	<p>Geography – volcanoes, mountains and rivers unit.</p>	<div style="display: flex; justify-content: space-around;">   </div>
		PRE/POST LEARNING QUIZ QUESTIONS	SCIENTIFIC ENQUIRY
<p><b>KEY VOCABULARY</b> Rocks, igneous, metamorphic, sedimentary, anthropic, permeable, impermeable, chemical fossil, body fossil, trace fossil, Mary Anning, cast fossil, mould fossil, replacement fossil, extinct, organic matter, top soil, sub soil, base rock.</p>		<ul style="list-style-type: none"> <li>How are the soils different?</li> <li>Which is more likely to lead to flooding?</li> <li>How many soil types have we found?</li> <li>Where might you find more?</li> <li>How might the soil be different in different countries?</li> <li>What types of rocks are there?</li> <li>How do rocks change?</li> <li>Why do you think worms are important to the creation of soil?</li> <li>How can we use composting to make our own soil?</li> <li>How long do you think this process will take and why?</li> <li>How are fossils created?</li> <li>Why do fossils help us find out about historical events?</li> <li>If you could fossilise an object what would it be?</li> </ul>	<p><u>Comparative Tests</u> How does adding different amounts of sand to soil affect how quickly water drains through it? Which soil absorbs the most water?</p> <p><u>Identify &amp; Classify</u> Can you use the identification key to find out the name of each of the rocks in your collection?</p> <p><u>Observation Over Time</u> How does tumbling change a rock over time? What happens when water keeps dripping on a sandcastle?</p> <p><u>Pattern Seeking</u> How does tumbling change a rock over time? What happens when water keeps dripping on a sandcastle?</p> <p><u>Research</u> Who was Mary Anning and what did she discover?</p>
KEY SCIENTISTS & SCIENCE CAPITAL		END POINTS	
<p>Mary Anning</p>  <p><b>Rocks in our locality.</b> <b>Rocks from other areas.</b></p>		<ul style="list-style-type: none"> <li>Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties</li> <li>Describe in simple terms how fossils are formed when things that have lived are trapped within rock</li> <li>Recognise that soils are made from rocks and organic matter</li> </ul>	

## Solids, Liquids Gases. **UNIT ENQUIRY QUESTION:** Where do ice cubes go when they disappear? Class 2

PRIOR LEARNING	FUTURE LEARNING	CONNECTED KNOWLEDGE & SUBJECTS	LINKED TEXTS
<p>In KS1 children should:</p> <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, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.</li> <li>• Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</li> </ul>	<p>In Year 5 children will:</p> <ul style="list-style-type: none"> <li>• Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets.</li> <li>• Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.</li> <li>• Use knowledge of solids, liquids, and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.</li> <li>• Give reasons based on evidence from comparative and fair tests, for the particular uses of everyday materials, including wood, metals and plastic.</li> <li>• Demonstrate that dissolving, mixing and changes of state are reversible changes.</li> <li>• Explain that some changes result in the formation of new materials, and this kind of change is usually not reversible, including changes associated with burning and the action of acid on bicarbonate of soda.</li> </ul>	<p>Geography- water cycle Rivers unit</p>	
			<b>SCIENTIFIC ENQUIRY</b>
			<p><u>Comparative Tests</u> How does the mass of a block of ice affect how long it takes to melt? How does the surface area of water affect how long it takes to evaporate? Does seawater evaporate faster than fresh water?</p> <p><u>Identify &amp; Classify</u> Can you group these materials and objects into solids, liquids, and gases? How would you sort these objects/materials based on their temperature?</p> <p><u>Observation Over Time</u> Which material is best for keeping our hot chocolate warm? How does the level of water in a glass change when left on the windowsill?</p> <p><u>Pattern Seeking</u> Is there a pattern in how long it takes different sized ice lollies to melt? How does evaporation rate change as you add more salt to your water?</p> <p><u>Research</u> What are hurricanes, and why do they happen?</p>
<b>PRE/POST LEARNING QUIZ QUESTIONS</b>			
<p><b>KEY VOCABULARY</b> Solid, liquid, gas, particles, state, materials, properties, matter, melt, freeze, water, ice, temperature, process, condensation, evaporation, water vapour, energy, precipitation, collection,</p>			<ul style="list-style-type: none"> <li>• How does the amount of water added to flour affect its state?</li> <li>• How does the amount of detergent added to water affect how slippery it is?</li> <li>• Place a peach in a glass of lemonade and watch it spin. Why does it behave that way and can you prove it?</li> <li>• How does the material sprinkled on ice and snow affect how quickly it melts?</li> <li>• What chocolate would be best to smuggle? How does the type of chocolate affect its melting temperature?</li> <li>• What is the melting temperature of ice and how does it compare with the freezing temperature of water?</li> </ul>
<b>KEY SCIENTISTS &amp; SCIENCE CAPITAL</b>			<b>END POINTS</b>
 <p>Lord Kelvin</p>			<ul style="list-style-type: none"> <li>• Compare and group materials together, according to whether they are solids, liquids or gases.</li> <li>• Observe that some materials change state when heated or cooled, and measure and research the temperature at which this happens in degrees Celsius.</li> <li>• Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</li> </ul>

# UNIT ENQUIRY QUESTION: How can we make different sounds? Class 2

PRIOR LEARNING	FUTURE LEARNING	CONNECTED KNOWLEDGE & SUBJECTS	LINKED TEXTS
<p>In KS1 children:</p> <ul style="list-style-type: none"> <li>• May have some understanding that objects make different sounds.</li> <li>• Some understanding that they use their ears to hear sounds.</li> <li>• Know about their different senses.</li> </ul>	<p>In KS3 children will learn about:</p> <ul style="list-style-type: none"> <li>• frequencies of sound waves, measured in hertz (Hz); echoes, reflection and absorption of sound</li> <li>• sound needs a medium to travel, the speed of sound in air, in water, in solids</li> <li>• sound produced by vibrations of objects, in loud speakers, detected by their effects on microphone diaphragm and the ear drum; sound waves are longitudinal</li> <li>• auditory range of humans and animals.</li> </ul>	<p>Animals, including humans unit and Living things unit. Materials unit</p>	
<b>PRE/POST LEARNING QUIZ QUESTIONS</b>			<b>SCIENTIFIC ENQUIRY</b>
<p><b>KEY VOCABULARY</b> Amplitude, volume, quiet, loud, ear, pitch, high, low, particles, instruments, wave.</p>			<p><u>Comparative Tests</u> How does the volume of a drum change as you move further away from it? How does the length of a guitar string/tuning fork affect the pitch of the sound? Are two ears better than one?</p> <p><u>Identify &amp; Classify</u> Which material is best to use for muffling sound in ear defenders?</p> <p><u>Observation Over Time</u> When is our classroom the quietest?</p> <p><u>Pattern Seeking</u> Is there a link between how loud it is in school and the time of day? If there is a pattern, is it the same in every area of the school?</p> <p><u>Research</u> Do all animals have the same hearing range?</p>
<b>KEY SCIENTISTS &amp; SCIENCE CAPITAL</b>			<b>END POINTS</b>
<p>Alexander Graham Bell (Invented the Telephone)</p> 			<ul style="list-style-type: none"> <li>• Know how sound is made associating some of them with vibrating.</li> <li>• Recognise that vibrations from sounds travel through a medium to the ear.</li> <li>• Find patterns between the pitch of a sound and features of the object that produced it.</li> <li>• Find patterns between the volume of a sound and the strength of the vibrations that produced it.</li> <li>• Recognise that sounds get fainter as the distance from the sound increases.</li> </ul>