



The Orchard Lea Federation-




Science : Progression of knowledge and skills

Overview:

Year	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
1	Describing materials 6 sessions	Animal survival 7 sessions	Habitats 7 sessions	Seasons 7 sessions	Plants 8 sessions	
2	Animal life cycles 7 sessions	Changing materials 12 sessions <small>(Can be split into three units)</small>		Pushes and Pulls 8 sessions	Making New Plants 8 sessions	
3	Magnets 6 sessions	Animals, Skeletons and Movement 6 sessions	Solids, Liquids and Gases 7 sessions	Plants and their food production 7 sessions	Light 6 sessions	Rocks and soils 4 sessions
4	Mixtures and separating them 8 sessions	Digestion 7 sessions	Plant Reproduction 7 sessions	Making electrical circuits work 6 sessions	Living things 6 sessions	
5	Fossils, geological time and classification 4 sessions	Space and gravity 8 sessions	Making new substances 8 sessions	Forces that oppose motion 8 sessions	Circulation 7 sessions	
6	How light behaves 7 sessions		Classification and Evolution 7 sessions	Controlling electrical circuits 8 sessions	Sound 10 sessions	

BIOLOGY | CHEMISTRY | PHYSICS



The Orchard Lea Federation-  Science: Progression of knowledge and skills (Infant)

		Reception	Year 1	Year 2	End of Key Stage Expectations
	<b>Animals including humans</b>	<p>Understanding the world</p> <p>Explore the natural world around them, making observations and drawing pictures of animals and plants.</p> <p>What is the world and who lives in it? – understand that people live in different countries</p> <p>How is life different in different countries?</p> <p>Look at stories, photos, videos, visits? Skype?</p> <p>Stories from other countries – how are they similar and different to us?</p>	<p>Knowledge</p> <p>Animals are groups of organisms that need to consume food to survive.</p> <p>Food provides energy and the building blocks of growth.</p> <p>There are many different groups of animals including fish, amphibians, reptiles, birds and mammals. They have different structures, and they eat different types of foods.</p> <p>The structure of a variety of common animals varies</p> <p>Mammals have hair/fur and give birth to live young, fish can breathe underwater using gills, birds have feathers, beaks and wings. Females lay eggs. Most birds can fly, reptiles are air breathing and have scaly skin and lays eggs, and amphibians have smooth slimy skin and live on land and in water.</p> <p>Some eat other animals (carnivores), and others only eat vegetables (herbivores), and some like to eat both plants and meat (omnivores)</p> <p>Animals must move to get their food and will move in different ways to get their food.</p> <p>Animals that eat other animals are called predators</p> <p>Animals that are eaten by other animals are called prey</p> <p>Animals feeding relationships can be illustrated in a food chain</p> <p>Animals have senses to help them survive</p> <p>Animals have developed a range of ways to find prey or avoid being eaten.</p>	<p>Knowledge</p> <p>Things that are living, move, feed, grow, reproduce and use their senses</p> <p>Animals grow until they reach maturity and then don't grow any larger</p> <p>Animals reproduce when they reach maturity (adulthood)</p> <p>All animals eventually, die</p> <p>Different animals live to different ages</p> <p>Different animals reach different sizes before they are able to reproduce</p> <p>Different animals reproduce at different ages</p> <p>Animals, including humans, have offspring which grow into adults</p> <p>Exercise, eating the right amounts of different types of food and hygiene are important to maintain good health and well-being.</p> <p>Animals live in habitats in which they are suited. Different kinds of animals and plants depend on each other within a habitat.</p> <p>Animals get their food from plants and other animals. This can be shown in a food chain. A food chain begins with a producer. A living thing that eats other plants is called a consumer.</p>	<p>Children can, using appropriate scientific language:</p> <ul style="list-style-type: none"> <li>• ask their own questions about what they notice</li> <li>• use different types of scientific enquiry to gather and record data, using simple equipment where appropriate, to answer questions about:               <ul style="list-style-type: none"> <li>➤ observing changes over time</li> <li>➤ noticing patterns</li> <li>➤ grouping and classifying things</li> <li>➤ carrying out simple</li> </ul> </li> </ul>

Plants		Cut open different fruits and talk about what they see before they are used for printing. How does the seed change over time? How does this continue to grow Explore the inside of different seeds- sort into groups (big seeds/small seeds).	<p><b>Skills</b></p> <ul style="list-style-type: none"> <li>● I can identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals;</li> <li>● I can identify and name a variety of common animals that are carnivores, herbivores and omnivores.</li> <li>● I can describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets);</li> <li>● I can identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.</li> </ul>	<p><b>Skills</b></p> <ul style="list-style-type: none"> <li>● I can notice that animals, including humans, have offspring which grow into adults;</li> <li>● I can find out about and describe the basic needs of animals, including humans, for survival (water, food and air);</li> <li>● I can describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</li> </ul>	<p>comparative tests</p> <ul style="list-style-type: none"> <li>➤ finding things out using secondary sources of information</li> <li>➤ communicate their ideas, what they do and what they find out in a variety of ways</li> </ul>
			<p><b>Knowledge</b></p> <p>A seed contains a miniature plant that can develop into a fully grown plant. A bulb has underground vertical shoots which already has modified leaves Seeds and bulbs have food stores inside them to help the plant start to grow. To survive plants, need to get water, light, and avoid being eaten. A seed produces roots to allow water to get into the plant. A seed produces shoots to produce leaves to collect the sunlight. A basic plant structure can include leaves, flowers (blossom), petals, fruit, roots, bulb, seed, trunk, branches, stem</p>	<p><b>Knowledge</b></p> <p>All flowering plants make seeds (reproduction) that can grow (germinate) into new plants Plants need water, light and a suitable temperature to grow and stay healthy Some plants die after it has produced its seed and sometimes the plant lives for many generations producing seeds each year. Pupils should use the local environment throughout the year to observe how different plants grow. Pupils should be introduced to the requirements of plants for germination, growth and survival, as well as to the processes of reproduction and growth in plants.</p>	
			<p><b>Skills</b></p> <ul style="list-style-type: none"> <li>● I can identify and name a variety of common wild and garden plants, including deciduous and evergreen trees.</li> <li>● I can identify and describe the basic structure of a variety of common flowering plants, including trees.</li> </ul>	<p><b>Skills</b></p> <ul style="list-style-type: none"> <li>● I can observe and describe how seeds and bulbs grow into mature plants.</li> <li>● I can find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</li> </ul>	

<b>Materials</b>	Investigating the Egg, testing the egg. Looking at the school environment – where is the best place to keep the egg safe? What is the world and who lives in it?	<p><b>Knowledge</b> There are many different materials that have different observable properties Materials that have similar properties are grouped into metals, rocks, fabrics, wood, plastic and ceramics (including glass).</p>	<p><b>Knowledge</b> Materials can be changed by physical force (twisting, bending, squashing and stretching).  The properties of a material determine whether they are suitable for a purpose</p>	
		<p><b>Skills</b></p> <ul style="list-style-type: none"> <li>● I can distinguish between an object and the material from which it is made;</li> <li>● I can identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock;</li> <li>● I can describe the simple physical properties of a variety of everyday materials;</li> <li>● I can compare and group together a variety of everyday materials on the basis of their simple physical properties.</li> </ul>	<p><b>Skills</b></p> <ul style="list-style-type: none"> <li>● I can 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>● I can find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</li> </ul>	
<b>Living things &amp; their habitats</b>	Making superhero clothing – strong materials/waterproof clothing	<p><b>Knowledge</b></p>	<p><b>Knowledge</b> Explore and compare the differences between things that are living, dead, and things that have never been alive.</p>	
	Children will participate in regular sensory walks to observe, reflect and discuss changes in the season and environment as they naturally occur. They will be encouraged to collect items that represent the natural world on these walks	<p><b>Skills</b></p>	<p><b>Skills</b></p> <ul style="list-style-type: none"> <li>● I can 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>● I can identify and name a variety of plants and animals in their habitats, including micro habitats</li> <li>● I can 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.</li> </ul>	

	<b>Forces</b>	<p>to develop their understanding.</p> <p>How are forests / sea different from each other and different from here?  How is life different / the same to here?  Which animals are in forest / sea? How have they adapted to survive?</p> <p>Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class.</p>	<p>Knowledge</p>	<p>Knowledge</p> <p>Compare how things move on different surfaces.</p> <p>Notice that some forces need contact between two objects.</p>	
	<b>Seasonal Changes</b>		<p>Skills</p>	<ul style="list-style-type: none"> <li>● Skills</li> <li>● I know that objects can move (be in Motion) in various ways-roll, slide and bounce.</li> <li>● I know that the pushing or pulling of an object can affect its motion.</li> <li>● I know that the pushing or pulling can do three things, slow down, speed up or change the direction of an object.</li> <li>● I know that the larger the push/pull the bigger the effect on motion.</li> </ul>	
			<p>Knowledge</p> <p><b>Observe changes across the 4 seasons;  Observe and describe weather associated with the seasons and how day length varies.</b></p>	<p>Knowledge</p>	

Understand some important processes and changes in the natural world around them, including the seasons and changing states of matter.

**Skills**

There are four seasons, Spring, summer, autumn and winter. Each season is about three months long.

In Spring, young animals like lambs and chicks are born, the flowers bloom and the weather starts to become warmer.

In autumn, the leaves fall off the trees and the amount of time we have in the day becomes less.

Winter has the shortest amount of time during the day and the weather is at its coldest.

**Skills**

vocabulary		<b><u>Year R Vocab:</u></b> look closely observe watch touch, feel, smell, listen same, different compare ask questions record sort group	<b><u>Year 1 and 2 Vocab:</u></b> Material Properties Living Non-living Describe Push Pull Patterns Measure Test Investigate Fair Test	Classify Grow Germinate Produce Reproduce Seed Weed Force Distance Predict Direction Natural Manufactured Healthy Unhealthy Growth Resources	<b><u>Other Vocabulary</u></b> table, tally chart, present, pictogram, block chart, Venn diagram, magnifying glass, hand lens, ruler, tape measure, metre stick, pipette, syringe, spoon, teaspoon, interpret results, scientific enquiry, comparative testing, observing over time, researching using secondary sources equipment identify classify record - diagram, chart, map data gender  biology chemistry physics



# The Orchard Lea Federation - Science: Progression of knowledge and skills (Junior)

See HIAS substantive knowledge progression documents for knowledge blocks.

		Year 3	Year 4	Year 5	Year 6
<b>Biology</b>	<b>Animals (including humans)</b>	<p><b><u>Animals, skeletons and movement</u></b></p> <p>I can identify that humans and some other animals have skeletons and muscles for support.</p> <p>I can identify that humans and some other animals have skeletons and muscles for protection.</p> <p>I can identify that humans and some other animals have skeletons and muscles for movement.</p>	<p><b><u>Digestion</u></b></p> <p>I can understand 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.</p> <p>I can describe the simple functions of the basic parts of the digestive system in humans.</p> <p>I can identify the different types of teeth in humans and their simple functions</p> <p>I can construct and interpret a variety of food chains, identifying producers, predators and prey.</p> <p>I can understand 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.</p>	<p><b><u>Circulation</u></b></p> <p>I can identify and name the main parts of the human circulatory system.</p> <p>I can describe the functions of the heart, blood vessels and blood.</p> <p>I can recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function.</p> <p>I can describe the ways in which nutrients and water are transported within animals, including humans.</p>	



		<p><b><u>Disciplinary skills</u></b></p> <ul style="list-style-type: none"> <li>• Make systematic and careful observations.</li> <li>• Record findings using simple scientific drawings</li> <li>• Gathering, recording, classifying and presenting data to help answer questions.</li> <li>• Set up simple practical enquiries, comparative and fair tests.</li> <li>• Take accurate measurements using a range of equipment.</li> <li>• Use straightforward scientific evidence to answer questions or to support their findings.</li> <li>• Report on findings from enquires, including oral and written explanations, displays or presentations of results and conclusions</li> </ul>	<p><b><u>Disciplinary skills</u></b></p> <ul style="list-style-type: none"> <li>• Record findings using simple scientific language, drawings, diagrams, bar charts and tables.</li> <li>• Gathering, recording, classifying and presenting data in a variety of ways to help answer questions.</li> <li>• Set up simple practical enquires, comparative and fair tests</li> <li>• Use results to draw simple conclusions, make predictions, suggest improvements and raise further questions.</li> <li>• Use straightforward scientific evidence to answer questions or to support their findings.</li> </ul>	<p><b><u>Disciplinary skills</u></b></p> <ul style="list-style-type: none"> <li>• Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.</li> <li>• Use test results to make predictions to set up further comparative and fair tests.</li> <li>• Record data and results of increasing complexity using graphs (line and scatter).</li> <li>• Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations.</li> <li>• Identify scientific evidence that has been used to support or refute ideas or arguments.</li> </ul>	
	<b>Plants</b>	<p><b><u>Plants and their food production</u></b></p> <p>I can identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers.</p> <p>I can explore the requirements of plants for life and growth (air, light, water, nutrients from soil, and room to grow) and how they vary from plant to plant.</p> <p>I can investigate the way in which water is transported within plants.</p>	<p><b><u>Plants reproduction</u></b></p> <p>I can explore the part that flowers play in the life cycle of flowering plants (including pollination, seed formation and seed dispersal).</p>		
		<p><b><u>Disciplinary skills</u></b></p> <ul style="list-style-type: none"> <li>• Gathering, recording, classifying and presenting data in a variety of ways to help answer questions.</li> <li>• Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables etc.</li> <li>• Setting up simple practical enquiries, comparative and fair tests (planning mindmap).</li> <li>• Identify differences, similarities or changes related to simple scientific ideas and processes.</li> </ul>	<p><b><u>Disciplinary skills</u></b></p> <ul style="list-style-type: none"> <li>• Gathering, recording, classifying and presenting data in a variety of ways to help answer questions.</li> <li>• Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables etc.</li> <li>• Setting up simple practical enquiries, comparative and fair tests (planning mindmap).</li> <li>• Identify differences, similarities or changes related to simple scientific ideas and processes.</li> </ul>		

	<b>Variation and Evolution</b>		<p><b><u>Living things and their habitats</u></b></p> <p>I can recognise that living things can be grouped in a variety of ways.</p> <p>I can explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment.</p> <p>I can recognise that environments can change and that this can sometimes pose dangers to living things.</p>	<p><b><u>Living things and their habitats</u></b></p> <p>I can describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird.</p> <p>I can describe the life process of reproduction in some plants and animals.</p> <p><b><u>Evolution and Inheritance</u></b></p> <p>I can recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago</p> <p>I can recognise that living things produce offspring of the same kind (but normally offspring vary and are not identical to their parents).</p> <p>I can identify how animals and plants are adapted to suit their environment in different ways</p> <p>I can understand how adaptation may lead to evolution.</p>	<p><b><u>Living things and their habitats</u></b></p> <p>I can 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).</p> <p>I can give reasons for classifying plants and animals based on specific characteristics.</p>
		<p><b><u>Disciplinary skills</u></b></p> <ul style="list-style-type: none"> <li>Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions (focus on classifying and sorting using keys).</li> <li>Make systematic and careful observations and, where appropriate, take accurate measurements.</li> </ul>	<p><b><u>Disciplinary skills</u></b></p> <ul style="list-style-type: none"> <li>Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables etc.</li> <li>Identify similarities, differences or changes related to simple scientific ideas and processes.</li> <li>Using straightforward scientific evidence to answer questions or to support their findings.</li> <li>Identify similarities, differences or changes related to simple scientific ideas and processes.</li> <li>The disciplinary knowledge of models.</li> </ul>	<p><b><u>Disciplinary skills</u></b></p> <ul style="list-style-type: none"> <li>The method of scientific classification</li> <li>Using straightforward scientific evidence to answer questions or to support finding.</li> <li>Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of trust in results (oral and written forms).</li> <li>Identifying scientific evidence that has been used to support or refute ideas or arguments.</li> </ul>	

# Chemistry

## Materials

### Rocks

I can compare and group together different kinds of rocks on the basis of their appearance and simple physical properties.

I can describe in simple terms how fossils are formed when things that have lived are trapped within rock.

I can recognise that soils are made from rocks and organic matter.

### States of matter

I can compare and group materials together, according to whether they are solids, liquids or gases.

I can observe that some materials change state when they are heated or cooled.

I can measure or research the temperature at which cooling or heating happens in degrees Celsius (°C).

I can identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.

### Properties and changes of materials (mixtures and separation)

I can 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.

I can know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.

I can use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.

### Properties and changes of materials (making new substances)

I can give reasons (based on evidence from comparative and fair tests) for the particular uses of everyday materials, including metals, wood and plastic.

I can demonstrate that dissolving, mixing and changes of state are reversible changes.

I can 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).

	<p><b><u>Disciplinary skills</u></b></p> <ul style="list-style-type: none"> <li>• Gathering, recording, classifying and presenting data in ways to help answer questions.</li> <li>• Make systematic and careful observations and, where appropriate, take accurate measurements</li> <li>• Report on findings from enquiries, including oral and written explanations, displays or presentations of results.</li> <li>• Ask relevant questions and use different types of scientific enquiries to answer them,</li> <li>• Set up simple, practical enquiries, comparative and fair tests.</li> </ul> <p><b><u>Disciplinary skills</u></b></p> <ul style="list-style-type: none"> <li>• Making systematic and careful observations (focus on developing vocabulary to describe materials).</li> <li>• Gathering, recording, classifying and presenting data in a variety of ways to help answer questions.</li> <li>• Setting up simple practical enquiries, comparative and fair tests (focus on <b>measure</b>).</li> <li>• Record findings using simple scientific language, drawings, labelled diagrams, bar charts or tables.</li> <li>• Use straightforward scientific evidence to answer questions or to support findings.</li> <li>• Use results to draw simple conclusions, make predictions and suggest improvements.</li> <li>• Ask relevant questions and use different types of scientific enquiries to answer them.</li> </ul>		<p><b><u>Disciplinary skills</u></b></p> <ul style="list-style-type: none"> <li>• Identify differences, similarities or changes related to simple scientific ideas and processes</li> <li>• Record findings using simple, scientific language, drawings, labelled diagrams, bar charts or tables.</li> <li>• Set up simple practical enquiries, comparative and fair tests (explicit teaching on how fair testing works)</li> <li>• Use straightforward scientific evidence to answer questions or to support findings.</li> <li>• Take measurements using a range of scientific equipment with increasing accuracy and precision.</li> <li>• Use results to draw simple conclusions, make predictions and suggest improvements (focus on using diagrams to predict).</li> <li>• Report and presenting</li> </ul>	
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# Physics

	Earth and Space			<p><b><u>Earth and Space</u></b></p> <p>I can describe the movement of the Earth, and other planets, relative to the Sun in the solar system.</p> <p>I can describe the movement of the Moon relative to the Earth.</p> <p>I can describe the Sun, Earth and Moon as approximately spherical bodies.</p> <p>I can use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.</p>	
				<p><b><u>Disciplinary skills</u></b></p> <ul style="list-style-type: none"> <li>Identifying scientific evidence that has been used to support or refute ideas or arguments.</li> <li>Take measurements using a range of scientific equipment, with increasing accuracy and precision. Taking repeat measurements where appropriate.</li> <li>Recording data and results of increasing complexity using scientific diagrams, classification keys, graphs (focus on teaching of axis in graphs).</li> </ul>	
	Electricity	<p><b><u>Electricity</u></b></p> <p>I can identify common appliances that run on electricity.</p> <p>I can construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers.</p> <p>I can 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.</p> <p>I can recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit.</p> <p>I can recognise some common conductors and insulators, and associate metals with being good conductors.</p>	<p><b><u>Electricity</u></b></p> <p>I can associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit.</p> <p>I can 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.</p> <p>I can use recognised symbols when representing a simple circuit in a diagram.</p>		

			<p><b><u>Disciplinary skills</u></b></p> <ul style="list-style-type: none"> <li>• Ask relevant questions and use different types of scientific enquiries to answer them.</li> <li>• Make systematic and careful observations, and where appropriate, take accurate measurements.</li> <li>• Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</li> <li>• Gathering, recording, classifying and presenting data to help answer questions.</li> </ul>		<p><b><u>Disciplinary skills</u></b></p> <ul style="list-style-type: none"> <li>• Take measurements using a range of scientific equipment, with increasing accuracy and precision. Taking repeat measurements where appropriate.</li> <li>• Recording data and results of increasing complexity using scientific diagrams, classification keys, graphs (focus on teaching of axis in graphs).</li> <li>• Use test results to make predictions to set up further comparative and fair tests.</li> <li>• Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.</li> </ul>
	<p><b>Energy pathways</b></p>	<p><b><u>Light</u></b></p> <p>I can recognise that they need light in order to see things and that dark is the absence of light</p> <p>I can notice that light is reflected from surfaces.</p> <p>I can recognise that light from the sun can be dangerous and that there are ways to protect their eyes.</p> <p>I can recognise that shadows are formed when the light from a light source is blocked by an opaque object.</p> <p>I can find patterns in the way that the size of shadows changes.</p>			<p><b><u>Light</u></b></p> <p>I can recognise that light appears to travel in straight lines.</p> <p>I can 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.</p> <p>I can 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.</p> <p>I can use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.</p> <p><b><u>Sound</u></b></p> <p>I can identify how sounds are made, associating some of them with something vibrating.</p> <p>I can recognise that vibrations from sounds travel through a medium to the ear</p> <p>I can find patterns between the pitch of a sound and features of the object that produced it</p> <p>I can find patterns between the volume of a sound and the strength of the vibrations that produced it</p> <p>I can recognise that sounds get fainter as the distance from the sound source increases.</p>

		<p><b><u>Disciplinary skills</u></b></p> <ul style="list-style-type: none"> <li>• Set up simple practical enquires, comparative and fair tests (focus on 'same' section of planning map, control variables).</li> <li>• Make systematic, careful observations, and where appropriate, take accurate measurements using equipment.</li> <li>• Gathering, recording, classifying and presenting data to help answer questions (record classifications using tables, venn diagrams)</li> <li>• Using results to draw simple conclusions, make predictions and suggest improvements.</li> </ul>			<p><b><u>Disciplinary skills</u></b></p> <ul style="list-style-type: none"> <li>• Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.</li> <li>• Use test results to make predictions to set up further comparative and fair tests.</li> <li>• Record data and results of increasing complexity using graphs (line and scatter).</li> <li>• Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations.</li> <li>• Identify scientific evidence that has been used to support or refute ideas or arguments.</li> </ul> <p><b><u>Disciplinary skills</u></b></p> <ul style="list-style-type: none"> <li>• Set up simple practical enquires, comparative and fair tests (focus on 'same' section of planning map, control variables).</li> <li>• Ask relevant questions and use different types of scientific enquiries to answer them.</li> <li>• Make systematic and careful observations, and where appropriate, take accurate measurements.</li> <li>• Report on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions.</li> </ul>
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<b>Forces</b>	<p><b><u>Forces and magnets</u></b></p> <p>I can compare how things move on different surfaces.</p> <p>I can notice that some forces need contact between two objects.</p> <p><b><u>Magnets</u></b></p> <p>I can compare how things move on different surfaces.</p> <p>I can notice that some forces need contact between two objects, but magnetic forces can act at a distance.</p> <p>I can observe how magnets attract or repel each other and attract some materials and not others.</p> <p>I can 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.</p> <p>I can describe magnets as having two poles.</p> <p>I can predict whether two magnets will attract or repel each other, depending on which poles are facing.</p>		<p><b><u>Forces and magnets</u></b></p> <p>I can explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.</p> <p>I can identify the effects of air resistance, water resistance and friction, that act between moving surfaces.</p> <p>I can recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.</p>	
	<p><b><u>Disciplinary skills</u></b></p> <ul style="list-style-type: none"> <li>· Make systematic and careful observations, and where appropriate take accurate measurements.</li> <li>· Record findings using simple scientific language, drawings, labelled diagrams and tables. (tables – magnetic or not).</li> <li>· Report on findings from enquiries, including oral and written explanations, displays or presentations.</li> <li>· Set up simple practical enquiries, comparative and fair tests (focus on planning mindmap).</li> </ul>		<p><b><u>Disciplinary skills</u></b></p> <ul style="list-style-type: none"> <li>· Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.</li> <li>· Use test results to make predictions to set up further comparative and fair tests.</li> <li>· Record data and results of increasing complexity using scientific diagrams.</li> <li>· Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations.</li> <li>· Identify scientific evidence that has been used to support or refute ideas or arguments.</li> <li>·</li> </ul>	