



# Science

## Skills progression overview at Sixpenny Handley First School and Nursery

National curriculum/EY curriculum					
Year N (ages in brackets)	Year R	Year 1	Year 2	Year 3	Year 4
<p><b>Children aged 0-3 will be learning to: (Development matters)</b></p> <p>Repeat actions that have an effect. Explore materials with different properties.</p> <p>Explore natural materials, indoors and outside.</p> <p>Explore and respond to different natural phenomena in their setting and on trips.</p> <p>Children aged 3-4 will be learning to: (Development matters)</p> <p>Use all their senses in hands –on exploration of natural materials.</p> <p>Explore collections of materials with similar and/or different properties.</p> <p>Talk about what they see, using a wide vocabulary.</p> <p>Explore how things work.</p> <p>Plant seeds and care for growing plants.</p> <p>Understand the key features of the life cycle of a plant or animal.</p> <p>Begin to understand the need to respect and care for the natural environment and all living things.</p>	<p><b>Reception children will be learning to: (Development matters)</b> <b>ELG</b></p> <p>Explore the natural world around them, making observations and drawing pictures of animals and plants.</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>Understand some important processes and changes in the natural world around them, including the seasons and the changing states of matter.</p>	<p><b>National curriculum objectives:</b></p> <p><b>Sc1/1 Working Scientifically</b> During years 1 and 2, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:</p> <p><b>Sc1/1.1</b> asking simple questions and recognising that they can be answered in different way</p> <p><b>Sc1/1.2</b> observing closely, using simple equipment</p> <p><b>Sc1/1.3</b> performing simple tests</p> <p><b>Sc1/1.4</b> identifying and classifying</p> <p><b>Sc1/1.5</b> using their observations and ideas to suggest answers to questions</p> <p><b>Sc1/1.6</b> gathering and recording data to help in answering questions.</p> <p><b>Sc1/2.1 Plants</b></p> <p><b>Sc1/2.1a</b> identify and name a variety of common wild and garden</p>	<p><b>National curriculum objectives:</b></p> <p><b>Sc2/1 Working Scientifically</b> During years 1 and 2, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:</p> <p><b>Sc2/1.1</b> asking simple questions and recognising that they can be answered in different ways</p> <p><b>Sc2/1.2</b> observing closely, using simple equipment</p> <p><b>Sc2/1.3</b> performing simple tests</p> <p><b>Sc2/1.4</b> identifying and classifying</p> <p><b>Sc2/1.5</b> using their observations and ideas to suggest answers to questions</p> <p><b>Sc2/1.6</b> gathering and recording data to help in answering questions.</p> <p><b>Sc2/2.1 Living things and their habitats</b></p> <p><b>Sc2/2.1a</b> explore and compare the differences between things that are living, dead, and things that have never been alive</p> <p><b>Sc2/2.1b</b> identify that most living things live in habitats to</p>	<p><b>National curriculum objectives:</b></p> <p><b>Sc3/1 Working Scientifically.</b> During years 3 and 4, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:</p> <p><b>Sc4/1.1</b> asking relevant questions and using different types of scientific enquiries to answer them</p> <p><b>Sc4/1.2</b> setting up simple practical enquiries, comparative and fair tests</p> <p><b>Sc4/1.3</b> making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers.</p> <p><b>Sc4/1.4</b> gathering, recording, classifying and presenting data in a variety of ways to help in answering questions</p> <p><b>Sc4/1.5</b> recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables</p> <p><b>Sc4/1.6</b> reporting on findings from enquiries, including oral and written explanations, displays or</p>	<p><b>National curriculum objectives:</b> <b>Sc4/1 Working Scientifically</b></p> <p>During years 3 and 4, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content:</p> <p><b>Sc4/1.1</b> asking relevant questions and using different types of scientific enquiries to answer them</p> <p><b>Sc4/1.2</b> setting up simple practical enquiries, comparative and fair tests</p> <p><b>Sc4/1.3</b> making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers</p> <p><b>Sc4/1.4</b> gathering, recording, classifying and presenting data in a variety of ways to help in answering questions</p> <p><b>Sc4/1.5</b> recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables</p> <p><b>Sc4/1.6</b> reporting on findings from enquiries, including oral and written explanations, displays or</p>



<p>Explore and talk about different forces they can feel.</p> <p>Talk about the differences between materials and the changes they notice.</p> <p>Understand the effect of the changing seasons on the natural world around them.</p>		<p>plants, including deciduous and evergreen trees</p> <p><b>Sc1/2.1b</b> identify and describe the basic structure of a variety of common flowering plants, including trees</p> <p><b>Sc1/2.2 Animals including humans</b></p> <p><b>Sc1/2.2a</b> identify and name a variety of common animals including, fish, amphibians, reptiles, birds and mammals</p> <p><b>Sc1/2.2b</b> identify and name a variety of common animals that are carnivores, herbivores and omnivores</p> <p><b>Sc1/2.2c</b> describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets)</p> <p><b>Sc1/2.2d</b> identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.</p> <p><b>Sc1/3.1 Everyday materials</b></p> <p><b>Sc1/3.1a</b> distinguish between an object and the material from which it is made</p> <p><b>Sc1/3.1b</b> identify and name a variety of everyday materials,</p>	<p>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</p> <p><b>Sc2/2.1c</b> identify and name a variety of plants and animals in their habitats, including microhabitats</p> <p><b>Sc2/2.1d</b> describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name different sources of food.</p> <p><b>Sc2/2.2 Plants</b></p> <p><b>Sc2/2.2a</b> observe and describe how seeds and bulbs grow into mature plants</p> <p><b>Sc2/2.2b</b> find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.</p> <p><b>Sc2/2.3 Animals including humans</b></p> <p><b>Sc2/2.3a</b> notice that animals, including humans, have offspring which grow into adults</p> <p><b>Sc2/2.3b</b> find out about and describe the basic needs of animals, including humans, for survival (water, food and air)</p> <p><b>Sc2/2.3c</b> describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</p> <p><b>Sc2/3.1 Uses of everyday materials</b></p> <p><b>Sc2/3.1a</b> identify and compare the suitability of a variety of</p>	<p>presentations of results and conclusions</p> <p><b>Sc4/1.7</b> using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions</p> <p><b>Sc4/1.8</b> identifying differences, similarities or changes related to simple scientific ideas and processes</p> <p><b>Sc4/1.9</b> using straightforward scientific evidence to answer questions or to support their findings.</p> <p><b>Sc3/2.1 Plants</b></p> <p><b>Sc3/2.1a</b> identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers</p> <p><b>Sc3/2.1b</b> 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><b>Sc3/2.1c</b> investigate the way in which water is transported within plants</p> <p><b>Sc3/2.1d</b> explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal.</p> <p><b>Sc3/2.2 Animals including humans</b></p> <p><b>2.2a</b> describe the simple functions of the basic parts of the digestive system in humans</p> <p><b>Sc4/2.2b</b> identify the different types of teeth in humans and their simple functions</p> <p><b>Sc4/2.2c</b> construct and interpret a variety of food chains, identifying producers, predators and prey.</p> <p><b>Sc3/2.2a</b> identify that animals, including humans, need the right types and amount of nutrition, and</p>	<p>presentations of results and conclusions</p> <p><b>Sc4/1.7</b> using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions</p> <p><b>Sc4/1.8</b> identifying differences, similarities or changes related to simple scientific ideas and processes</p> <p><b>Sc4/1.9</b> using straightforward scientific evidence to answer questions or to support their findings.</p> <p><b>Sc4/3.1 States of Matter</b></p> <p><b>Sc4/3.1a</b> compare and group materials together, according to whether they are solids, liquids or gases</p> <p><b>Sc4/3.1b</b> 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)</p> <p><b>Sc4/3.1c</b> identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p> <p><b>Sc4/4.1 Sound</b></p> <p><b>Sc4/4.1a</b> identify how sounds are made, associating some of them with something vibrating</p> <p><b>Sc4/4.1b</b> recognise that vibrations from sounds travel through a medium to the ear</p> <p><b>Sc4/4.1c</b> find patterns between the pitch of a sound and features of the object that produced it</p> <p><b>Sc4/4.1d</b> find patterns between the volume of a sound and the strength of the vibrations that produced it.</p>
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		<p>including wood, plastic, glass, metal, water, and rock</p> <p><b>Sc1/3.1c</b> describe the simple physical properties of a variety of everyday materials</p> <p><b>Sc1/3.1d</b> compare and group together a variety of everyday materials on the basis of their simple physical properties</p> <p><b>Sc1/4.1 Seasonal Changes</b></p> <p><b>Sc1/4.1a</b> observe changes across the 4 seasons</p> <p><b>Sc1/4.1b</b> observe and describe weather associated with the seasons and how day length varies.</p>	<p>everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for different uses</p> <p><b>Sc2/3.1b</b> compare how things move on different surfaces.</p> <p><b>Sc2/3.1c</b> find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching</p>	<p>that they cannot make their own food; they get nutrition from what they eat</p> <p><b>Sc3/2.2b</b> identify that humans and some other animals have skeletons and muscles for support, protection and movement.</p> <p><b>Sc4/2.1 All Living Things</b> Sc4/2.1a recognise that living things can be grouped in a variety of ways <b>Sc4/2.1b</b> explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment <b>Sc4/2.1c</b> recognise that environments can change and that this can sometimes pose dangers to living things.</p> <p><b>Sc3/3.1 Rocks</b> <b>Sc3/3.1a</b> compare and group together different kinds of rocks on the basis of their appearance and simple physical properties <b>Sc3/3.1b</b> describe in simple terms how fossils are formed when things that have lived are trapped within rock <b>Sc3/3.1c</b> recognise that soils are made from rocks and organic matter.</p> <p><b>Sc3/4.1 Light</b> <b>Sc3/4.1a</b> recognise that they need light in order to see things and that dark is the absence of light <b>Sc3/4.1b</b> notice that light is reflected from surfaces <b>Sc3/4.1c</b> recognise that light from the sun can be dangerous and that there are ways to protect their eyes <b>Sc3/4.1d</b> recognise that shadows are formed when the light from a light source is blocked by a solid object <b>Sc3/4.1e</b> find patterns in the way that the size of shadows changes.</p>	<p><b>Sc4/4.1e</b> recognise that sounds get fainter as the distance from the sound source increases</p> <p><b>Sc4/4.2 Electricity</b> <b>Sc4/4.2a</b> identify common appliances that run on electricity <b>Sc4/4.2b</b> construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers <b>Sc4/4.2c</b> 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 <b>Sc4/4.2d</b> recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit <b>Sc4/4.2e</b> recognise some common conductors and insulators, and associate metals with being good conductors.</p> <p><b>Sc3/4.2 Forces and Magnets</b> <b>Sc3/4.2a</b> compare how things move on different surfaces <b>Sc3/4.2b</b> notice that some forces need contact between 2 objects, but magnetic forces can act at a distance <b>Sc3/4.2c</b> observe how magnets attract or repel each other and attract some materials and not others <b>Sc3/4.2d</b> 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 <b>Sc3/4.2e</b> describe magnets as having 2 poles <b>Sc3/4.2f</b> predict whether 2 magnets will attract or repel each other, depending on which poles are facing.</p>
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Themes within subject	Year N (ages in brackets)	Year R	Year 1	Year 2	Year 3	Year 4
	As a scientist, a nursery child can:	As a scientist, a reception child can:	As a scientist, a year 1 child can:	As a scientist, a year 2 child can:	As a scientist, a year 3 child can:	As a scientist, a year 4 child can:
<b>Working scientifically</b>						
<b>Scientific skills</b>						
<b>Enquiry</b> <b>Plan, predict and infer</b>	Ask simple questions when prompted about the natural world and their environment.  Answer simple how and why questions about experiences and in response to objects and activities with guidance.	Ask simple questions about the natural world and their environment.  Answer how and why questions about experiences including responses to the objects and activities with some guidance.	Ask more complex questions when prompted.  Answer how and why questions about experiences including responses to the objects and activities with little guidance.  Make predictions	Ask relevant and more complex questions when prompted.  Use different types of scientific enquiry to answer them, Set up simple and practical enquiries, comparative and fair tests with some support.  Make basic predictions with guidance.	Ask relevant questions and complex questions. With some guidance.  Use different types of scientific enquiries to answer questions. Plan and set up simple and practical enquiries, comparative and fair tests.  Make informed predictions with guidance.	Ask complex and relevant questions.  Use different types of scientific enquiries to answer questions. Plan and set up simple and practical enquiries, comparative and fair tests.  Make informed predictions and start to justify them .
<b>Observe, Record and measure</b>	Gather and record information using marks or concrete representations.	Make observations using simple equipment. With support and guidance, identify and classify.	Make relevant observations using simple equipment, conduct simple tests, with support. Identify and classify with guidance.  Gather and record	Observe closely, using simple equipment. Perform simple tests, understand what a fair test is. Identify and classify. record results using different methods.  Record and communicate their findings in a range of ways and begin to use simple scientific language.	With modelling and guidance, gather, record, classify and present data in a variety of ways to help answer questions. With prompting, use various ways of recording, grouping and display evidence and suggest how findings may be tabulated.	Make systematic and careful observations using a range of equipment, including thermometers (and data loggers if available). Take accurate measurements using standard units, where appropriate. Take and process repeat readings. Record data and results using labelled diagrams, keys, tables and charts. Gather, record, classify and present data in a variety of ways to help answer questions. Record findings using simple scientific language, drawings and labelled diagrams. Record findings using keys, bar charts and tables.



				Gather data to help answer questions.		
<b>Understand, review and communicate.</b>	When prompted can orally communicate their understanding with guidance	Orally communicate their understanding	Recognise findings. Use their observations and ideas to suggest answers to simple questions.	Use their observations and ideas to suggest answers to simple questions. With prompting suggest conclusions. Discuss and suggest how your findings could be presented.	With prompting, report on findings from enquiries, including oral and written explanations, of results and conclusions.  Suggest possible improvements or further questions to investigate.	Report and present findings from enquiries, including conclusions and with prompting suggest a causal relationship. Suggest improvements to the experiment.  Identify differences and similarities or changes to simple ideas or processes. Use straightforward scientific evidence to answer questions or to support findings. Use results to draw conclusions and make new predictions for new experiments, suggest improvements and raise further questions.
<b>Knowledge and Interpretations</b>	Demonstrate understanding of growth and changes over time and offer simple reasons.	Describe changes that are observed and offer simple explanations about why some things change over time.	Describe and explain more complex changes that are observed and offer some simple explanations about why some things change over time.	Predict, describe and start to try and explain some changes that are observed and start to offer more explanations about why some things change over time.	Predict, describe and start to explain some changes that are observed and begin to offer more explanations about why some things change over time.	Predict, describe and explain changes that are observed and begin to offer more complex explanations about why some things change over time.
<b>Themes</b>		<b>Reception</b>	<b>Year 1</b>	<b>Year 2</b>	<b>Year 3</b>	<b>Year 4</b>
<b>Animals including humans</b>	Begin to understand the need to respect and care for the natural environment and all living things.  Understand the key features of the life cycle of an animal.	Explore the natural world around them.  Making observations and draw pictures of animals.	<b>We will know:</b>  Understand and explore the importance of exercise, hygiene and a healthy, balanced diet for humans  <b>What animal is this?</b>  Name animals including fish, amphibians, reptiles, birds and mammals.  Use the local environment to explore animals in their habitats.  Name and group animals that are <i>carnivores</i> , <i>herbivores</i> and <i>omnivores</i> .	<b>We will know:</b>  The difference between things that are living, dead or have never been alive  Identify a range of polar animals and their habitats  Explain how animals obtain their food and draw simple food chains  Explain the basic needs of animals and how they have adapted to live in their environments	<b>We will know:</b>  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.  Construct and interpret a variety of food chains, identifying producers, predators and prey.  Identify that animals, including humans, need the right types and amount of nutrition.	<b>We will know:</b>  Identify that animals, including humans, need the right types and amount of nutrition (Jigsaw)
<b>Living things and their habitats</b>	Start to understand the key features of	Begin to understand the need to respect and care for the		Create simple food chains to show how different creatures obtain their food	Know how to classify animals according to	



	<p>the life cycle of a plant or animal.</p>	<p>natural environment and all living things. 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>Identify a range of plants and animals in their habitats and microhabitats (insects and other 'mini-beasts')</p> <p>Compare the differences between things that are living, dead and things that have once been alive.</p> <p>Identify that most living things live in <i>habitats</i> that are suited to them.</p> <p>What effects our environment? Know that environments change and this can sometimes be dangerous to living things.</p> <p>Understand how different <i>habitats</i> help animals and plants to <i>live/survive</i>.</p>	<p>characteristics (Rainforest focus) Know that environments change and this can sometimes be dangerous to living things (links to geography).</p> <p>Know that environments are different and can change and how this might impact on living things (biomes)</p>	
<p><b>Plants</b></p>	<p>Children aged 3-4</p> <p>Plant seeds and care for growing plants.</p> <p>Understand the key features of the life cycle of a plant.</p>	<p>Explore the natural world around them. Make observations and draw pictures of plants.</p>	<p><b>We will know</b></p> <p>What is this plant? Name different <i>wild</i> and <i>garden plants</i>.</p> <p>Name some <i>deciduous</i> and <i>evergreen</i> trees and know the difference between them. Know the different parts of a <i>flowering plant</i>.</p> <p><b>Know the different parts of a tree.</b> Leaf, flower, blossom, petal, fruit, bulb, seed, trunk, branch and stem.</p>	<p>Observe and describe how seeds and bulbs grow into mature plants.</p> <p>Describe the needs of a plant (water, warmth, sunlight) and explain what happens when these needs are not met (investigation)</p> <p>Carry out investigations and make predictions about what a plant needs to be healthy.</p>	<p>Understand that parts of plants have different functions.</p> <p>Understand the key features of the life cycle of a plant.</p>	



			<p>Observe the growth of flowers and vegetables that they have planted. Keep records of how plants change over time.</p> <p>Begin to talk about what they see, hear, smell and feel</p> <p>Ask simple questions about what they see.</p> <p>Record their findings, with support in drawing a table.</p>			
<b>Seasonal changes</b>	<p><b>Children aged 3-4</b> Understand the effect of the changing seasons on the natural world around them.</p>	<p><b>We will</b> Understand more about the effect of the changing seasons on the natural world around them.</p> <p>Watch how things change across the four <i>seasons</i>.</p> <p>Describe the <i>weather</i> during each season. (Links with Geography)</p>	<p><b>We will</b> Watch how things change across the four <i>seasons</i>.</p> <p>Describe the <i>weather</i> during each season. (Links with Geography)</p> <p>Understand why day length changes throughout the seasons.</p>	<p><b>We will</b> Watch how things change across the four <i>seasons</i>.</p> <p>Understand why day length changes throughout the seasons also why the seasons in the UK differ from the seasons in the polar regions (Links with Geography)</p>	<p><b>We will</b> Understand why the seasons are different in the Rainforest compare to the UK and other parts of the world.</p>	
<p><b>Everyday materials (Y1)</b></p> <p><b>Uses of materials (Y2)</b></p>	<p><b>Children aged 3-4</b> Talk about the differences between materials and the changes they notice.</p> <p>Explore collections of materials with similar and/or different properties.</p>	<p><b>We will</b> Understand some important processes and changes in the natural world around them, including changing states of matter such as changes in weather</p>		<p><b>We will</b> Know the names and properties of a range of everyday materials</p> <p>Know the main uses of common materials and understand why they can be used for some things but not for others</p>	<p><b>We will</b> Explore how materials change state when heated or cooled</p> <p>Understand the impact of temperature on the water cycle</p> <p>Observe that some</p>	<p><b>We will</b> Explore in more depth how materials change state when heated or cooled</p> <p>Have a deeper understand the impact of temperature on the water cycle linked to rivers.</p> <p>Observe that some materials change state when they are heated or cooled.</p>



<p><b>States of matter (Y4)</b></p>		<p>Name and recognise materials.</p>		<p>Investigate how some materials can be changed, whilst others cannot and that some changes are reversible</p> <p>Learn about significant people who helped to invent new materials e.g. John Dunlop/Charles Macintosh</p> <p>Compare the use of materials in different settings</p>	<p>materials change state when they are heated or cooled.</p> <p>Measure or research the temperatures at which materials change state (in Celsius) observe water as a solid, a liquid and a gas understanding the changes to water when it is heated or cooled.</p> <p>Understand the terms evaporation and condensation in the water cycle.</p> <p>Know that evaporation happens at a certain temperature.</p> <p>Suggest what equipment they need and use thermometers and data loggers. Use equipment carefully and accurately and measure using standard units. Ask questions relating to their science knowledge and make predictions based on this.</p> <p>Record data in tables, keys, graphs and diagrams starting to choose the best way to record it.</p>	
	<p><b>Children aged 3-4</b> - Explore and talk about different forces they can feel.</p>				<p><b>We will</b></p> <ul style="list-style-type: none"> <li>• Know that light travels in straight lines</li> </ul>	<p><b>We will</b></p> <ul style="list-style-type: none"> <li>• Identify how sounds are made, associating some of them with something vibrating.</li> </ul>





<p><b>Light and sound</b></p>					<ul style="list-style-type: none"> <li>• Know that light travels from a light source to our eyes or from light sources to objects to our eyes</li> <li>• Understand that because light travels in straight lines shadows create the same patterns as the objects that cast them</li> </ul>	<ul style="list-style-type: none"> <li>• Recognise that vibrations from sounds travel through a medium to the ear.</li> <li>• Find patterns between pitch of 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 source increases.</li> </ul>
<p><b>Forces and magnets</b></p>	<p><b>Children aged 3-4</b></p> <p>Talk about the differences between materials and the changes they notice.</p> <p>Explore and talk about different forces they can feel.</p>		<p><b>We will</b></p> <p>Explore hot air balloons and aircrafts, gaining a simple understanding of forces, air pressure, gravity, flight and density:</p> <p>Perform simple tests (paper aeroplanes, heat rising, hot air balloons)</p>			<p><b>We will</b></p> <p>Understand what a force is and does.</p> <p>Understand that the roughness of a surface affects how things move.</p> <p>Know friction is a force between two surfaces in contact.</p> <p>Know magnetism can act at a distance.</p> <p>Know magnets attract and repel each other Know that N and N, and S and S, repel</p> <p>Know magnets have 2 poles Know magnets attract some materials, e.g. iron, but not others</p> <p>Use different methods to answer questions, including experiments</p> <p>Use equipment such as data loggers and thermometers with support.</p> <p>Start to understand what makes a fair test.</p> <p>State what they have found out using their data and observations.</p> <p>Suggest how an investigation could have been improved.</p>
<p><b>Electricity</b></p>						<p><b>We will</b></p> <p>Understand what is electricity and how do we use it?</p> <p>Be able to name appliances that run on electricity.</p> <p>Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers, including drawing a circuit as a pictorial representation (links with DT mechanics, electric).</p> <p>Know they need a complete loop and a battery to light a lamp in a series circuit.</p>



						<p>Know the purpose of a switch in a series circuit and how this affects a lamp.</p> <p>Name some common conductors and insulators. Know that metals make good conductors.</p> <p>Use equipment carefully and accurately.</p> <p>Ask questions related to their science knowledge and make predictions based on this.</p>
<b>Theme specific vocabulary</b>	<b>Plants</b>	<b>Living things and their habitats including humans</b>	<b>Seasonal changes</b>	<b>Everyday Materials States of Matter</b>	<b>Forces and magnets</b>	<b>Sound, Light and electricity</b>
	<p><i>Stem, root, stamen, pollen, petal, anther, ovary, deciduous, Solid, liquid, gas, condensation, camouflage, stem, root, stamen, pollen, petal, anther, ovary, deciduous, evergreen, oxygen, carbon-dioxide, producer, primary consumer</i></p> <p><i>Photosynthesis, temperature, egg, caterpillar, chrysalis, butterfly, life cycle, fish, evergreen, antenna, head, species, energy, consumer, producer, pollination, seed dispersal, nectar,</i></p>	<p><i>Carbohydrate, protein, fibre, fruit, vegetables, dairy, grains, balanced, healthy, energy, exercise, heart rate, thorax, abdomen,</i></p> <p><i>Palaeontologist, fossil, skeletons, scientific, prehistoric, modern, similarities, differences, extinction, meteorite exploration, hygienic Habitat, den, burrow, energy, consumer, producer, mammal, insect, amphibian, bird, reptile, carnivore, omnivore, herbivore offspring, grow, infant, young, predator, prey insect, microhabitat, adult,,</i></p>	<p><i>Evaporation, precipitation, climate, temperature, summer, winter, spring, Autumn, clouds, rain, monsoon, weather, climate, freezing, hot, warm, polar, equator,</i></p>	<p><i>Wood, metal, plastic, glass, brick, rock, rubber, paper, leather, cardboard, fabric, bend, squash, twist, stretch, change, reversible, irreversible, natural, manmade, solid, soft, hard, flexible, transparent, translucent, opaque, waterproof, smooth, shiny, rough, light, heavy, sharp, reflective</i></p>	<p><i>Forces, push, pull, resistance, air pressure, gravity, flight, density, balance, heat, aerodynamic.</i></p>	<p><i>Wave, oscillation, frequency, vibration, pitch, higher, lower, volume, louder, quiter/fainter</i></p> <p><i>Medium, air, sound-proof, insulate, vacuum</i></p> <p><i>Light, dark, shadow, dim, bright, reflect, protect, light source, opaque, beam, straight line, shine, sun, transparent, translucent, predict, explain, fair test</i></p>