

Science Curriculum Map from EYFS to Year 6

Children's experiences of Science in the EYFS looks like this:

<p>EYFS Statutory Educational Programme: Understanding the world involves guiding children to make sense of their physical world and their community. The frequency and range of children's personal experiences increases their knowledge and sense of the world around them – from visiting parks, libraries and museums to meeting important members of society such as police officers, nurses and firefighters. In addition, listening to a broad selection of stories, non-fiction, rhymes and poems will foster their understanding of our culturally, socially, technologically and ecologically diverse world. As well as building important knowledge, this extends their familiarity with words that support understanding across domains. Enriching and widening children's vocabulary will support later reading comprehension.</p>			
<p>Birth to three – babies, toddlers and young children will be learning to:</p>			
<p>Understanding the world</p>	<p>Repeat actions that have an effect. Explore materials with different properties. Explore natural materials, indoors and outside.</p>	<p>Examples of how to support this: Repeat actions that have an effect. Explore materials with different properties. Explore natural materials, indoors and outside. Encourage babies' explorations and movements, such as touching their fingers and toes. Show delight at their kicking and waving. Provide open-ended play materials inside and outdoors. Suggestion: <ul style="list-style-type: none"> • Treasure Baskets for repeated exploration of textures, sounds, smells and tastes. • Offer lots of different textures for exploration with fingers, feet and whole body. Suggestions: wet and dry sand, water, paint and playdough. </p>	
	<p>Explore and respond to different natural phenomena in their setting and on trips.</p>	<p>Examples of how to support this: Encourage toddlers and young children to enjoy and explore the natural world. Suggestions: <ul style="list-style-type: none"> • standing in the rain with wellies and umbrellas • walking through tall grass • splashing in puddles • seeing the spring daffodils and cherry blossom • looking for worms and minibeasts • visiting the beach and exploring the sand, pebbles and paddling in the sea Encourage children's exploration, curiosity, appreciation and respect for living things. Suggestions: <ul style="list-style-type: none"> • sharing the fascination of a child who finds woodlice teeming under an old log • modelling the careful handling of a worm and helping children return it to the dug-up soil • carefully planting, watering and looking after plants they have grown from seeds Encourage children to bring natural materials into the setting, such as leaves and conkers picked up from the pavement or park during autumn.</p>	
	<p>3 and 4-year-olds will be learning to:</p>		
	<p>Use all their senses in hands-on exploration of natural materials. Explore collections of materials with similar and/or different properties. Talk about what they see, using a wide vocabulary</p>	<p>Examples of how to support this: Provide interesting natural environments for children to explore freely outdoors. Make collections of natural materials to investigate and talk about. Suggestions: <ul style="list-style-type: none"> • contrasting pieces of bark • different types of leaves and seeds • different types of rocks • different shells and pebbles from the beach Provide equipment to support these investigations. Suggestions: magnifying glasses or a tablet with a magnifying app. Encourage children to talk about what they see. Model observational and investigational skills. Ask out loud: "I wonder if...?" Plan and introduce new vocabulary, encouraging children to use it to discuss their findings and ideas.</p>	
<p>Explore how things work. Provide mechanical equipment for children to play with and investigate.</p>	<p>Examples of how to support this: Explore how things work. Provide mechanical equipment for children to play with and investigate.</p>		

<p>Plant seeds and care for growing plants. Understand the key features of the life cycle of a plant and an animal. Begin to understand the need to respect and care for the natural environment and all living things.</p>	<p>Examples of how to support this: Show and explain the concepts of growth, change and decay with natural materials. Suggestions: <ul style="list-style-type: none"> • plant seeds and bulbs so children observe growth and decay over time • observe an apple core going brown and mouldy over time • help children to care for animals and take part in first-hand scientific explorations of animal life cycles, such as caterpillars or chick eggs. Plan and introduce new vocabulary related to the exploration. Encourage children to use it in their discussions, as they care for living things. Encourage children to refer to books, wall displays and online resources. This will support their investigations and extend their knowledge and ways of thinking.</p>
<p>Explore and talk about different forces they can feel.</p>	<p>Examples of how to support this: Draw children's attention to forces. Suggestions: <ul style="list-style-type: none"> • how the water pushes up when they try to push a plastic boat under it • how they can stretch elastic, snap a twig, but cannot bend a metal rod • magnetic attraction and repulsion Plan and introduce new vocabulary related to the exploration and encourage children to use it.</p>
<p>Talk about the differences between materials and changes they notice.</p>	<p>Examples of how to support this: Provide children with opportunities to change materials from one state to another. Suggestions: <ul style="list-style-type: none"> • cooking – combining different ingredients, and then cooling or heating (cooking) them • melting – leave ice cubes out in the sun, see what happens when you shake salt onto them (children should not touch to avoid danger of frostbite) Explore how different materials sink and float. Explore how you can shine light through some materials, but not others. Investigate shadows. Plan and introduce new vocabulary related to the exploration and encourage children to use it.</p>

The Science Curriculum from Year 1 to Year 6 is broken down into three tiers

	Key Stage 1		Lower Key Stage 2		Upper Key Stage 2	
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Exploratory Tier	P4 and below	P4 and below	P4 and below	P4 and below	P4 and below	P4 and below
Functional Tier	P5-P6	P5-P6	P5-P8	P5-P8	P8-Y1-Y2	P8-Y1-Y2
Core Tier	P7-P8	P7-P8	Y1-2	Y1-2	Y3-4	Y3-4

Yr 1	Physical Processes (forces)	Materials and their properties	Physical Processes (light and sound)	Materials and their properties	Life Processes and Living Things (Animals)	Life Processes and Living Things (Plants)
Core	<p>Forces—focus on physical movements push, pull, fast and slow LO: To demonstrate understanding of fast and slow when carrying out different movements e.g. spin, slide, stretch, roll, bounce, kick. LO: To demonstrate different types of movements e.g. push and pull. LO: To observe how a range of objects move. LO: To investigate and record their findings of what products can be pushed. LO: To investigate and record their findings of what products can be pulled.</p>	<p>Everyday Materials— explore and match materials. LO: To identify a range of everyday materials (wood, plastic, glass, metal, water and rock). LO: To identify features of a range of everyday materials. LO: To explore the materials a range of familiar objects are made from. LO: To begin to match objects to the material which they are made from. LO: To test a range of everyday materials and record their findings.</p>	<p>Light and sound—observing properties of light and sound—on, off, loud quiet. Sound LO: To explore contrasting properties of sound through music e.g. noisy and quiet, fast and slow. LO: To reproduce contrasting properties of sound through music. LO: To describe changes in sound. Light LO: To explore contrasting properties of light e.g. bright/ dark. LO: To begin to make generalisations and record their findings when exploring light sources around school. LO: To sort light sources according to a single criteria e.g. appliances that use electricity/ appliances that don't use electricity.</p>	<p>Materials—begin to explore material changes. LO: To demonstrate understanding of different types of movement e.g. squash, bend, twist and stretch. LO: To identify and name different types of movements e.g. squash, bend, twist and stretch. LO: To describe the changes when materials are mixed. LO: To describe the changes when materials are heated. LO: To describe the changes when materials are cooled.</p>	<p>Animals—explore animals and their habitats. LO: To explore the similarities and differences between a range of animals. LO: To sort animals according to a single criteria. LO: To investigate which footprint belongs to which animal. LO: To demonstrate understanding of the features of desert habitats. LO: To demonstrate understanding of the features of ocean habitats. LO: To create their own habitat.</p>	<p>Plants— exploring plants LO: To recognise flowers in a natural environment and record their findings. LO: To closely observe a range of plants and draw their findings. LO: To explore similarities and differences when observing a range of leaves. LO: To identify some features of a plant e.g. flower, stem, leaf. LO: To record a plant investigation. LO: To make a prediction about a plant investigation. LO: To evaluate a plant investigation.</p>
Functional	<p>LO: To explore different types of movements e.g. spin, slide, stretch, roll, bounce, kick. LO: To explore different types of movements e.g. push and pull. LO: To explore how different objects/toys move LO: To sort objects according to the type of movement. LO: To make wheeled objects move faster by pushing on a smooth surface or down a slope. (Push, pull, up, down, fast, slow).</p>	<p>LO: To explore a range of everyday materials (wood, plastic, glass, metal, water and rock). LO: To explore features of a range of everyday materials. LO: To identify a single feature or property of everyday materials. LO: To sort objects and everyday materials according to single features or properties. LO: To make a prediction when testing a range of everyday materials.</p>	<p>Sound LO: To experience and develop awareness of sounds made with instruments and noise makers. LO: To match sounds to their sources. LO: To give a positive or negative response towards what they have heard. Light LO: To explore a range of light sources. LO: To match pictures to light sources around school. LO: To identify an appliance that uses electricity.</p>	<p>LO: To explore different types of movements e.g. squash, bend, twist and stretch. LO: To change materials by using different types of movements. LO: To observe the changes when materials mixed. LO: To observe the changes when materials are heated. LO: To observe the changes when materials are cooled.</p>	<p>LO: To explore a range of animals. LO: To identify and name a range of animals. LO: To match some distinctive features to animals e.g. matching a trunk to an elephant. LO: To explore desert habitats. LO: To explore ocean habitats. LO: To sort animals according to their habitat.</p>	<p>LO: To recognise a flower in a natural environment. LO: To explore plants in an appropriate way. LO: To explore leaves in an appropriate way. LO: To match symbols to parts of plants e.g. flower, leaf. LO: To engage in a plant investigation, using a range of equipment. LO: To observe the changes that has occurred during a plant investigation.</p>
Exploratory	<p>LO: To copy different types of movements e.g. spin, slide, stretch, roll, bounce, and kick. LO: To explore different types of movements e.g. push and pull. LO: To explore how different objects/toys move LO: To show a preference for a preferred object or action LO: Explore using wheeled objects on different surfaces. (Push, pull, up, down, fast, slow).</p>	<p>LO: To actively explore a range of materials. LO: To explore a preferred object or material for an extended period. LO: To use a range of actions to manipulate materials (e.g., squash, bend, scrunch, stretch) LO: To show an interest in manipulating materials. LO: To observe a group investigation.</p>	<p>Sound LO: To use a range of instruments to create a sound. LO: To show a preference towards an instrument or sound. LO: To communicate their awareness of changes in sound. Light LO: To explore cause and effect through sources of light. LO: To explore light sources around school. LO: To know that certain results produce predictable results.</p>	<p>LO: To copy different types of movements e.g. squash, bend, twist and stretch. LO: To explore different types of movements e.g. squash, bend, twist and stretch. LO: To use a range of actions to manipulate materials e.g. mix, chop, roll, pinch. LO: To show an interest in manipulating materials. LO: To select a material when given a choice of two.</p>	<p>LO: To explore a preferred toy animal for an extended period. LO: To imitate animal sounds. LO: To copy actions that represent animal movements. LO: To respond to choices by creating a 'desert word mat'. LO: To respond to choices by creating an 'ocean word mat'. LO: To explore habitats.</p>	<p>LO: To show engagement with an event for an extended period e.g. a flower hunt. LO: To actively explore a range of plants. LO: To show an interest in handling and observing leaves. LO: To explore the parts of plants. LO: To show an interest in a plant investigation.</p>
Yr 2	Physical Processes (forces-floating and sinking)	Physical Processes (Light and Sound)	Life Processes and Living Things- (plants)	Life Processed and Living things (animals)	Materials and their properties (Everyday materials)	Materials and their properties (Investigating materials)

Core	Forces—exploring and observing floating and sinking LO: To Investigate what floats and sinks using a range of materials. LO: To predict what will float or sink. LO: To record which objects float or sink. LO: To observe how changes affect objects ability to float or sink. LO: To design and choose materials to make a floating boat. LO: To test and record the results of the boat design.	Light and sound— observing and describing changes in light and sound LO: to be able to operate a range of light and sound toys independently LO: to identify and label sources of light and sound. LO: to investigate changes of light – using a dimmer switch LO: to describe changes in light (e.g. is it bright or dark) LO: to investigate changes in sound (e.g. using a volume button to make something loud or quiet) LO: to describe changes in sound	Plants— investigating plants LO: To describe how to plant a bean. LO: To suggest a question about plants and a way we could answer it. LO: To identify and name common wild plants. LO: To gather information to answer a question. LO: To identify and name some garden plants. LO: To identify trees by their leaves. LO: To sort deciduous and evergreen leaves. LO: To identify and describe the parts of plants and trees. LO: To talk about how my bean plant has grown. LO: To say what plants need to grow well and give reasons for my answers.	Animals—exploring features of animals and changes in animals LO: To engage in a mini beast hunt and be able to observe and communicate their findings LO: To create a mini beast habitat using prior knowledge LO: To create a mini beast model and communicate its features using simple phrases (e.g., it has wings, it has 6 legs etc.) LO: To observe the changes that take place in a butterfly life cycle. LO: To communicate the life cycle of a butterfly through a preferred method.	Everyday Materials—Identify everyday materials LO: To identify and label a range of everyday materials. LO: To sort recycling items by their material LO: To begin to use adjectives to describe a range of materials LO: To sort object by a given property (e.g. shiny, dull, and bumpy) and create a visual record. LO: To create a recycling robot (junk model) using a range of materials LO: To use some scientific language to describe their robot and how they made it	Everyday Materials—Identify properties of materials and categories them LO: To explore a range of waterproof and non-waterproof materials. LO: To explore the similarities and differences in the properties of paper. LO: To explore ways to make paper stronger. LO: To explore the absorbency of different papers. LO: To explore and predict which materials are good for boat making.
Functional	LO: To Investigate floating and sinking using a range of materials. LO: To begin to say what is floating or sinking. LO: To record which objects float or sink. LO: To observe how changes affect objects ability to float or sink. LO: To choose materials to make a floating boat. LO: To test and record the results of the boat materials.	LO: To actively investigate light and sound toys LO: To operate sound and light toys independently LO: To explore and recognise sources of light and sound (e.g. thorough a scavenger hunt) LO: To explore and recognise sources of sound LO: To identify some familiar sources of light and sound LO: To identify light and sound sources that use electricity.	LO: To plant a bean and sequence the events with support. LO: To find and identify common wild plants with adult support. LO: To find and identify some garden plants with adult support. LO: To explore tree and sort the leaves onto groups. LO: To identify and label the parts of plants and trees. LO: To observe and make simple comments on the growth of my bean plant. LO: to begin to say what plants need to grow.	LO: To engage in a mini beast hunt and explore an outdoor environment LO: To create a mini beast habitat LO: To observe the mini beast habitat and know where mini beasts live LO: To create a mini beast model including distinct feature (e.g., wings, legs eyes etc.) LO: To recognise the distinct features of a butterfly, caterpillar, chrysalis and eggs.	LO: To begin to identify a range of everyday materials (wood, plastic, glass, metal, water and rock). LO: To sort recycling objects into 2 groups (e.g., metal and not metal) LO: To sort materials by a single property (e.g., shiny, bumpy, rough) LO: To create a recycling robot (junk model) out of a single material LO: To sort a range of materials when the contrast is obvious	LO: To begin to explore a range of waterproof and non-waterproof materials. LO: To explore different types of paper through touch, ripping and scrunching. LO: To explore ways to make paper stronger. LO: To explore the absorbency of different papers. LO: To explore and predict which materials are good for boat making.
Exploratory	LO: To engage in a floating and sinking activity. LO: To indicate what objects are floating or sinking. LO: To sort which objects float or sink, with support. (Read Who sank the boat first) LO: To observe how changes affect objects ability to float. LO: To investigate materials to make a floating boat, with support. LO: To test and record the results of the boat materials, with support.	LO: To explore light and sound toys LO: To anticipate repeated sounds and sights when an adult demonstrates a light or sound toy LO: To be able to turn on a preferred piece of light room equipment or a toy LO: to be able to turn off a piece of equipment or toy LO: expresses a preference for a certain piece of equipment in the sensory room,	LO: To explore filling and emptying and to plant a bean LO: To engage in a wild plant hunt, exploring the plants by touching and smelling, and listen to the adult as they say the names. LO: To engage in garden plant hunt, and listen to the adult as they say the names. LO: To explore trees and their leaves. LO: To begin to label parts of plants and trees using simple labels, with adult support. LO: To observe and make very simple comments using sign/symbols with adult support	LO: To engage in a mini beast hunt LO: To choose a range of materials to create a mini beast habitat with support LO: To create a mini beast model by imitating an adults actions (e.g. rolling dough, sticking pipe cleaners into playdough) LO: to engage in a topic related song by imitating actions or sounds (e.g. https://youtu.be/7xyXB8_BetQ) LO: to engage in a butterfly life cycle sensory circuit by copying movements	LO: To actively explore a range of materials LO: To engage in a recycling activity with support LO: To explore different textures of materials LO: To manipulate different materials to create a collage using different textures LO: To engage in a junk modelling activity with support	LO: To engage in the exploration of waterproof and non-waterproof materials. LO: To begin to explore different types of paper through touch, ripping and scrunching. LO: To engage in the exploration of ways to make paper stronger. LO: To engage in the exploration of absorbency of different papers. LO: To engage in the exploration of which materials are good for boat making.
Yr 3	Life Processes and Living things (Animals)	Materials and their Properties	Physical Processes (light and Sound)	Materials and their Properties	Physical Processes (Forces)	Life Processes and Living Things (Plants)

Core	<p>Animals Inc. Humans—name, identify, describe different animals and label human body parts. LO: To label my body parts. LO: To know which parts of my body I use to see, hear, taste, smell and feel. LO: To begin use my senses to do tests. LO: To identify common animals. LO: To describe common animals. To compare common animals. LO: To begin to match animals to their food source.</p>	<p>Materials - identify materials and describe and compare their properties LO: To identify and name different materials. LO: To tell the difference between an object and the materials it is made from. LO: To describe the properties of everyday materials. LO: To identify which materials have certain properties. LO: To test different materials. LO: To sort objects by their properties.</p>	<p>Light and sound— recognizing sources of light and sound. Subject not covered LO: To join in with a light song and explore sources of light. LO: To Investigate shadows. LO: To Investigate how light travels. LO: To listen to and identify different sounds. LO: To investigate sound waves and vibrations. LO: To explore how we can change the volume of sound.</p>	<p>Materials—explore waterproof/not water proof LO: To sort materials into groups. (features/properties) LO: To say if a material is waterproof. LO: To take part in a science investigation. LO: To use simple scientific vocabulary. (words/symbols) LO: To show my results. (with symbols, with photos, in writing) LO: To make a prediction. (words/symbols) LO: To begin to evaluate my investigation.</p>	<p>Forces—communicating changes in movement—friction. LO: To investigate pushes and pulls as a force. LO: To investigate which ball will travel the furthest down a ramp. LO: To investigate how a toy car moves over different surfaces. LO: To investigate a friction car. LO: To investigate how friction can be reduced. LO: To investigate how friction can create movement.</p>	<p>Plants— identifying some plants and trees and describing their structure LO: To make a seed helicopter and try it out in the playground LO: To make a burr and display in the classroom, with accompanying facts. LO: To plant a bean in a bag and record its growth. LO: To know what cress seeds need and plant them in contrasting locations LO: To make careful observations about the beans. LO: To make egg and cress sandwiches.</p>
Functional	<p>LO: To label my body parts. LO: To know which parts of my body I use to see, hear, taste, smell and feel. LO: To begin use my senses to do tests. LO: To identify common animals. LO: To describe common animals. To compare common animals. LO: To begin to match animals to their food source.</p>	<p>LO: To explore and begin to name different materials. LO: To explore an object and the materials it is made from. LO: To begin describe the properties of everyday materials. LO: To begin to explore which materials have certain properties. LO: To test different materials, with support. LO: To sort objects by their properties, with support.</p>	<p>LO: To join in with a light song and explore sources of light. LO: To begin to investigate shadows. LO: To begin to investigate how light travels. LO: To begin to listen to and identify different sounds. LO: To explore sound waves and vibrations. LO: To explore the volume of sound.</p>	<p>LO: To sort materials into groups. (features/properties) LO: To say if a material is waterproof. LO: To take part in a science investigation. LO: To use simple scientific vocabulary. (words/symbols) LO: To show my results. (with symbols, with photos, in writing) LO: To make a prediction. (words/symbols) LO: To begin to evaluate my investigation.</p>	<p>LO: To investigate pushes and pulls. LO: To investigate which ball will travel the furthest down a ramp. LO: To investigate how a toy car moves over different surfaces. LO: To investigate a friction car. LO: To investigate how friction can be reduced. LO: To investigate how friction can create movement.</p>	<p>LO: To engage in a seed dispersal experiment with support, and comment (symbol or sign) on what they observe, with support. LO: To engage in a model making activity with support, and comment (symbol or sign) on the model they make. LO: To engage in a planting and watering activity and predict what will happen to the plants. LO: To begin to know what plants need to grow. LO: To engage in observational activity and comment on what they can see with support. LO: To make and egg and cress sandwich with support, say if they like/don't like with support.</p>
Exploratory	<p>LO: To point my body parts. LO: To use parts of my body to see, hear, taste, smell and feel. LO: To use my senses to engage in tests. LO: To begin to identify common animals. LO: To begin to find common animals. LO: To begin to match animals to their food source, with support.</p>	<p>LO: To explore to name different materials. LO: To explore an object and their textures. LO: To begin describe the properties of everyday materials. LO: To begin to explore which materials have certain properties. LO: To test different materials, with support. LO: To sort objects by their properties, with support.</p>	<p>LO: To join in with a light song and explore sources of light, with support. LO: To begin to investigate shadows, with support. LO: To begin to investigate how light travels, with support. LO: To begin to listen to and identify different sounds, with support. LO: To explore sound waves and vibrations, with support. LO: To explore the volume of sound, with support.</p>	<p>LO: To engage in a waterproof experiment. LO: To engage in a science investigation. LO: To begin use simple scientific vocabulary. (words/symbols) LO: To show my results. (with symbols, with photos, in writing) LO: To make a prediction. (words/symbols) LO: To begin to evaluate my investigation, with support.</p>	<p>LO: To investigate pushes and pulls, with support. LO: To engage with rolling a ball down a ramp. LO: To engage with toy car and different surfaces. LO: To investigate a friction car, with support. LO: To investigate how friction can be reduced, with support. LO: To investigate how friction can create movement, with support.</p>	<p>LO: To engage in a seed dispersal experiment with support, and comment (symbol or sign) on what they observe, with support. LO: To engage in a model making activity with support, and comment (symbol or sign) on the model they make. LO: To engage in a planting and watering activity and predict what will happen to the plants. LO: To begin to know what plants need to grow. LO: To engage in observational activity and comment on what they can see with support. LO: To make and egg and cress sandwich with support, say if they like/don't like with support.</p>
Yr 4	Materials and their properties (comparisons)	Physical Processes (Forces)	Physical Processes (Electricity)	Materials and their properties (Changes)	Life Processes and Living Things (animals)	Life Processes and Living Things (Plants)

Core	<p>Materials - Suitability of different materials</p> <p>LO: To explore the properties of a variety of balls. LO: To examine fabrics and explore its properties. LO: To understand that some materials need to be able to 'give' a little and not break. LO: To identify and discuss the materials/properties of objects and sort them according to criteria. LO: To be challenged to find the strongest paper to wrap a present. LO: To design and make a paper bridge to hold a toy car.</p>	<p>Forces— compare the movement of different objects in terms of speed and direction.</p> <p>LO: To begin to know about gravity and resistance. LO: To investigate the effect friction has on movement. LO: To investigate the effects of air resistance. LO: To explore the effects of water resistance. LO: To investigate how pulleys work. LO: To explore how gears and gear ratios work.</p>	<p>Electricity— recognizing sources of light and sound.</p> <p>LO: To explore sources of light and identify the sun as a light source. LO: To investigate if light is needed in order to see. LO: To investigate if light travels in a straight line. LO: To explore sound and how it is made. LO: To investigate if the pitch and volume of sounds can be changed. LO: To investigate how sound travels.</p>	<p>Materials—changing shape of materials.</p> <p>LO: To compare materials according to their properties. LO: To investigate materials which will dissolve. LO: To investigate materials which will melt or solidify. LO: To use different processes to separate mixtures of materials. LO: To identify and explain irreversible chemical changes. LO: To identify and explain reversible changes.</p>	<p>Living things and their Habitats— exploring things that are alive and where they live and get their food from.</p> <p>LO: To match animals and their babies. LO: To describe how animals change as they grow. LO: To describe how humans change as they grow. LO: To describe the basic needs of humans and animals. LO: To ask and answer questions about a pet. LO: To identify healthy and unhealthy food, and say how much of them I should eat. LO: To give reasons why humans need to exercise. LO: To know how and why I should keep myself clean.</p>	<p>Plants and animals—what they need to grow.</p> <p>LO: To look closely at plants and trees and record what I see. LO: To plant seeds and bulbs and suggest how to care for them. LO: To set up a test and make a prediction. LO: To use my observations to explain what plants need to grow and stay healthy. LO: To use my observations to say what food crops will need to grow and stay healthy. LO: To make a bar chart to show the growth of my plants.</p>
Functional	<p>LO: To explore the properties of a variety of balls. LO: To examine fabrics and explore its properties. LO: To test which materials 'give' and which break. LO: To investigate materials/properties of objects and sort them using a criteria with an obvious contrast, e.g. bend/not bend. LO: To be challenged to find the strongest paper, e.g. which will tear and not tear. LO: To engage in a group activity to design and make a paper bridge to hold a toy car.</p>	<p>LO: To explore gravity and resistance. LO: To explore the effect friction has on movement. LO: To explore the effects of air resistance. LO: To explore the effects of water resistance. LO: To explore how pulleys work. LO: To explore how gears and gear ratios work.</p>	<p>LO: To explore sources of light and begin to understand the sun is a light source. LO: To investigate if light is needed in order to see. LO: To investigate if light travels in a straight line. LO: To explore sound and how it is made. LO: To investigate if the pitch and volume of sounds can be changed. LO: To investigate how sound travels.</p>	<p>LO: To compare materials according to their properties. LO: To investigate materials which will dissolve. LO: To investigate materials which will melt or solidify. LO: To use different processes to separate mixtures of materials. LO: To identify and explain irreversible chemical changes. LO: To identify and explain reversible changes.</p>	<p>LO: To match animals and their babies. LO: To sort pictures of how animals change as they grow. LO: To sort pictures of how humans change as they grow. LO: To know some of the basic needs of humans and animals. LO: To ask and answer questions about a pet, with support. LO: To identify healthy and unhealthy food. LO: To know that humans need to exercise. LO: To know how to keep myself clean.</p>	<p>LO: To look closely at plants and trees and record what I see. LO: To can plant seeds and bulbs and suggest how to care for them. LO: To set up a test and make a prediction, with support. LO: To begin to know what plants need to grow and stay healthy. LO: To begin to know what food crops will need to grow and stay healthy. LO: To make a bar chart to show the growth of my plants, with support.</p>
Exploratory	<p>LO: To explore the properties of a variety of balls. LO: To examine fabrics and materials by touching, pulling and stretching. LO: To engage briefly in a test to see which materials 'give' and which break. LO: To investigate materials and sort them using a criteria with an obvious contrast, e.g. bend/not bend. LO: To engage in a challenge to find the strongest paper, e.g. which will tear and not tear. LO: To engage in a group activity to design and make a paper bridge to hold a toy car, e.g. push the car along the bridge.</p>	<p>LO: To engage in activities about gravity and resistance. LO: To engage in a group activity exploring the effect friction has on movement. LO: To engage in a group activity exploring the effects of air resistance. LO: To engage in water activates exploring the effects of water resistance. LO: To engaging in activity using pulleys. LO: To engage in an activity using gears.</p>	<p>LO: To explore different sources of light. LO: To engage in an investigation to discover if light is needed in order to see. LO: To engage in an investigation to discover if light travels in a straight line. LO: To explore sound and how it is made. LO: To investigate if the pitch and volume of sounds can be changed. LO: To investigate how sound and vibrations.</p>	<p>LO: To explore materials and their properties. LO: To engage in an investigation to dissolve materials. LO: engage in an investigation exploring which materials which will melt or solidify. LO: To engage in processes to separate mixtures of materials. LO: To observe irreversible chemical changes. LO: To observe reversible changes.</p>	<p>LO: To match animals and their babies. LO: To sort pictures of how animals change as they grow. LO: To sort pictures of how humans change as they grow. LO: To know some of the basic needs of humans and animals. LO: To ask and answer questions about a pet, with support. LO: To identify healthy and unhealthy food. LO: To know that humans need to exercise. LO: To know how to keep myself clean.</p>	<p>LO: To look closely at plants and trees. LO: To engage in an activity to plant seeds and bulbs. LO: To engage in a test and make a prediction, with support. LO: To water plants to help them grow and stay healthy. LO: To water a food crop to help it grow and stay healthy. LO: To use an iPad to take photos to show the growth of my plants,</p>
Yr 5	Physical processes - Light	Materials and their Properties	Life Processes and Living Things - Animals	Materials and their Properties - Rocks	Life Processes and Living Things - Plants	Physical Processes - Magnets

Core	<p>Light— shadows and reflections. Learning about light safety. LO: To recognise that I need light to see things, and that dark is the absence of light. LO: To investigate which surfaces reflect light and record the findings. LO: To use a mirror to reflect light and explain how mirrors work. LO: To know that light from the sun can be dangerous and that there are ways we can protect our eyes LO: To investigate which materials block light to form shadows, create a chart to record the findings. LO: To find patterns when investigating how shadows change size.</p>	<p>States of matter - changing materials and suitability of materials. LO: To explore the properties of different kitchen papers and disposable cloths, and record findings in their own table. LO: To think about hard materials and their absorbent properties and record the findings. LO: To explore different fabrics and investigate how waterproof they are using a dropper of water. LO: To explore the textures and properties of different materials by printing with a selection of items and label the materials used. LO: To learn about the waterproof properties of wax by creating a wax resist picture and say why the wax resists the paint. LO: To design and choose a material to make a waterproof garment or objects, stating why that material has been chosen.</p>	<p>Animals Inc. Humans— skeletal and muscular system and nutrition. LO: To understand that they get nutrition from food they eat, and make a menu of a balanced meal. LO: To say why animals, including humans, need the right type of nutrients. LO: To identify that humans and some other animals have skeletons by investigating skeleton types. LO: To identify and name bones, drawing and labelling them. LO: To identify and explain the three main functions of a skeleton. LO: To take part in a simple practical enquiry investigating pairs of muscles, and record the findings.</p>	<p>Rocks—grouping rocks and learning about fossils and soil. LO: To compare different types of rocks based on their appearance, and begin to understand the difference between 'natural' and 'man-made' rocks LO: To group rocks based on their properties on the basis of their physical properties. LO: To explain how fossils are formed, make a drawing to begin show the process. LO: To explain Mary Anning's contribution to palaeontology, and how she changed the theories about fossils. LO: To realise that soil is made from rocks and organic matter. LO: To carry out and simple investigation into soil and its properties.</p>	<p>Plants— function of different parts of the plant and what they need to grow. LO: To name the different parts of flowering plants and explain their jobs. LO: To set up an investigation to find out what plants need to grow well. LO: To record the observations from my investigation into what plants need to grow. LO: To investigate how water is transported in plants, and create a flow chart to show this. LO: To name the different parts of a flower and explain their role in pollination and fertilisation. LO: To understand and order the stages of the life cycle of a flowering plant.</p>	<p>Forces—exploring magnets LO: To identify the forces acting on objects. LO: To compare how things move on different surfaces by investigating the speed of a toy car over different surfaces. LO: To sort magnetic and non-magnetic materials. LO: To investigate the strength of magnets. LO: To explore magnetic poles. LO: To observe how magnets attract some materials.</p>
Functional PB – ARE year 3	<p>LO: To investigate that I need light to see things. LO: To explore which surfaces reflect light. LO: To investigate how a mirror reflect light. LO: To know that light from the sun can be dangerous and that there are ways we can protect our eyes LO: To investigate how some materials block light to form shadows. LO: To investigating how shadows change size and position.</p>	<p>LO: To explore the properties of different kitchen papers and disposable cloths and record in a ready-made table. LO: To investigate hard materials and their absorbent properties. LO: To explore different fabrics and investigate how waterproof they are. LO: To explore the textures and properties of different materials by printing with a selection of items. LO: To learn about the waterproof properties of wax by creating a wax resist picture. LO: Design a waterproof garment or object, and test it for suitability.</p>	<p>LO: To begin to understand healthy foods and not healthy foods are and sort them into a chart. LO: To know what 'healthy foods' animals and humans need. LO: To examine x-rays of human and animal skeletons, naming some of the features of animals, e.g. wings. LO: To identify and name common bones, e.g. arm, leg etc. and label them. LO: To begin to know the three main functions of a skeleton. LO: To take part in a simple practical enquiry investigating pairs of muscles.</p>	<p>LO: To begin compare different types of rocks. LO: To group rocks based on their properties, were the contrast is explicit. LO: To explain how fossils are formed, e.g. role play pressing a toy dinosaur between layers of playdough. LO: To begin to know that Mary Anning found fossils. LO: To explore and investigate how soil is formed. LO: To explore and investigate different soil types.</p>	<p>LO: To explore flowering plants, draw it and label the parts, saying with support what their role is. LO: To take part in an investigation of what plants need to grow, contributing to the planning of the investigation. LO: To record the results of last week's investigation, either through annotated photographs or drawing. LO: To take part in a simple practical experiment to show how water is transported in plants. LO: To draw and label the common parts of a flower, leaves, petals etc. LO: To order pictures showing the life cycle of a plant.</p>	<p>LO: To identify and name different magnetic materials. LO: To tell the difference between an object and the materials it is made from. LO: To describe the properties of everyday materials. LO: To identify which materials have certain properties. LO: To test different materials. LO: To sort objects by their properties.</p>
Exploratory P4 and below	<p>LO: To investigate a variety of light sources LO: To explore reflective surfaces. LO: To explore mirrors and lights. LO: To know that light from the sun can be dangerous and that there are ways we can protect our eyes LO: To investigate shadows. LO: To investigating how to change shadow shapes.</p>	<p>LO: To explore the textures and absorbency of different kitchen papers and disposable cloths. LO: To explore different type's hard materials. LO: To explore different fabrics and textures, investigating their waterproof properties. LO: To explore the textures and materials by printing with them. LO: To create a wax resist picture. LO: To explore how waterproof garments work.</p>	<p>LO: To label the common body parts, with support. LO: To explore 'healthy foods' by tasting, touching or smelling, using pupil voice to say if they like or don't like it. LO: To look at x-rays of human and animal skeletons, and create their own suitable resources. LO: To create their own skeleton and label some parts with support. LO: To test the function of a skeleton in a practical activity, e.g. running and jumping. LO: To observe a simple practical enquiry investigating pairs of muscles, participating with support.</p>	<p>LO: To begin investigate different types of rocks by touch, expressing how they feel using appropriate communication. LO: To begin to select a rock on request, e.g. "Give me a smooth rock." LO: To explore fossilisation by pressing a toy dinosaurs, leaves, rocks etc. into playdough. LO: To explore a selection of fossils. LO: To explore and investigate soil, e.g. scooping, filling and emptying with soil, observing the results. LO: To explore and investigate different soil types, smelling, squeezing and pressing.</p>	<p>LO: To explore flowering plants by touch and smell, To point to named parts, e.g. show me the petals. LO: To take part in an investigation of what plants need to grow, with support. LO: To observe the results of the plant investigation, record by taking photographs. LO: To take part in a simple practical experiment to show how water is transported in plants, with support. LO: To make a model of a flower, labelling its parts, with support. LO: To order a simple sequence of pictures showing the life cycle of a plant.</p>	<p>LO: To explore magnets and magnetic materials. LO: To repeat and action, indicating an understanding of what is happening, e.g. directing the magnet at the same object to watch it move. LO: To use symbols, signing or verbally the properties of everyday materials, e.g. hard/soft, rough/smooth. LO: To consistently select materials in response to, "Show me something hard/soft." LO: To interact with different materials. LO: To sort objects by their properties, with support</p>
Yr 6	Materials and their Properties	Materials and their Properties	Life Processes and Living Things – Animals	Life Processes and Living Things - Humans	Physical Processes - electricity	Physical Processes - Sound
Core ARE Year	<p>Changing States—Reversible and Irreversible changes. LO: To compare and group together everyday materials based on their properties, e.g. hardness,</p>	<p>States of matter—categorizing solids, liquids, gases. LO: To sort and describe materials according to whether they are solids, liquids or gases.</p>	<p>Living things and their Habitats—classifying animals and explore how environmental changes impact living things. LO: To recognise that living things</p>	<p>Animals Inc. Humans—Digestive systems, teeth and food chains. LO: To identify and name parts of the human digestive system through a drawing or picture with labels.</p>	<p>Electricity— creating different types of circuits, conductors and insulator. LO: To identify electrical appliances and the types of electricity they use, e.g. batteries/mains.</p>	<p>Sound— how sounds are made and how they travel. LO: To describe and explain how sound is made and exploring this as vibrations.</p>

	<p>transparency and response to magnets. LO: To investigate materials which will dissolve into a liquid solution, recording their findings LO: to investigate reversible changes. E.g. water can be in three states, record their findings. LO; To investigate irreversible changes, and understand this is caused by a chemical change, e.g. making toast. LO: To carry out investigations that attempt to separate mixed materials by sieving or filtering. Recording what they used to separate the different materials. LO: To investigate evaporation as a process of separation of mixtures. Drawing a picture to show the process.</p>	<p>LO: To investigate gases and their uses, recording their findings. LO: To observe materials as they change state by heating or cooling, measuring and recording the temperature at which this happens. LO: To investigate how water changes state as it heated and cooled and evaporates. LO: To Investigate evaporation and the effect of temperature. LO: To identify and describe the part played by evaporation and condensation in the water cycle.</p>	<p>can be grouped, classified and recorded in a variety of ways. LO: To explore and use classification keys to help identify vertebrates by observing their similarities and differences. LO: To use a key to identify invertebrates in a mini beast hunt. LO: To show the characteristics of living things in a table and a key. LO: To recognise positive and negative changes to the environment and the impact on living things. LO: To describe environmental dangers to endangered species.</p>	<p>LO: To explain the functions of the basic parts of the digestive system. LO: To identify the types and simple functions of teeth in humans LO: To create an enquiry or test for investigate the causes of tooth decay. LO: To investigate how food chains work, recording this through drawing, words or pictures. LO: To construct and interpret food chains and the role of plants and animals in them.</p>	<p>LO: To identify complete and incomplete circuits. LO: To identify and sort materials into electrical conductors or insulators. LO: To explain how a switch works and why they are needed. LO: To construct a simple series electrical circuit, identifying and naming it basic parts. Draw the circuit and record the findings from the investigation. LO: To research and record ways that electricity is generated.</p>	<p>LO: To recognise that sound travels through a medium to the ear and draw a diagram to show this. LO: To explore ways to change the pitch of a sound. LO: To investigate how sound gets fainter as the distance it travels increases. LO: To investigate ways to absorb sound. LO: To make a musical instrument to play different sounds and explain how it works.</p>
	<p>LO: To compare and group together everyday materials based on their properties, e.g. hardness, transparency and response to magnets. LO: To investigate materials which will dissolve into a liquid solution. LO: to investigate reversible changes, e.g. water can be in three states. LO; To investigate irreversible changes, and understand this is caused by a chemical change, e.g. making toast. LO: To carry out investigations that attempt to separate mixed materials by sieving or filtering. LO: To investigate evaporation as a process of separation of mixtures.</p>	<p>LO: To sort and describe materials according to whether they are solids, liquids or gases, with support. LO: To investigate gases and their uses, recording their findings in a simple chart LO: To observe materials as they change state by heating or cooling, measuring the temperature at which this happens. LO: To take part in an investigation how water changes state as it heated and cooled and evaporates. LO: To Investigate evaporation and the effect of temperature. LO: To create a water cycle window, observe and record findings.</p>	<p>LO: To sort objects into three groups as those that are living, dead and those that have never been alive. LO: To begin to use a simple classification key to help identify invertebrates. LO: To create a habitat map and identify what is in it during a mini beast hunt. LO: To record the characteristic of living things in a simple table. LO: To identify how changes to the environment affects an animal and it habitat. LO: To begin to describe environmental dangers to endangered species.</p>	<p>LO: To identify and name parts of the human body. LO: To say which part of the body is linked to the 5 senses. LO: To identify the types and functions of teeth. LO: To create an enquiry or test for investigate the causes of tooth decay. LO: To investigate how food chains work. LO: To construct a simple food chain.</p>	<p>LO: To identify electrical appliances and the types of electricity they use, e.g. batteries/mains. LO: To make a simple circuit. LO: To identify and sort materials into electrical conductors or insulators, with support. LO: To explore how a switch works and why they are needed. LO: To construct a simple series electrical circuit, identifying and naming it basic parts. Draw the circuit and record the findings from the investigation, with support. LO: To research and record ways that electricity is generated.</p>	<p>LO: To investigate and name different sound sources, and explore vibration. LO: To investigate how sound travels. LO: To identify and sort the pitch of a sound. LO: To investigate the link between vibrations and sound. LO: To investigate the link between distance and volume. LO: To make a musical instrument to play different sounds.</p>
<p style="writing-mode: vertical-rl; transform: rotate(180deg);">Exploratory P4 and below</p>	<p>LO: To explore and compare everyday materials. LO: To begin to make mixtures of materials. LO: To use resource to spate materials, e.g. magnet for metal in sand, sieve for rice in sand. LO: To observe a liquid freeze and then melt. LO: To observe an irreversible change, e.g. oubleck. LO: To observe an irreversible chemical change, e.g. toast.</p>	<p>LO: To sort materials according to a single property. LO: To fill and empty different containers with fizzy water, making comments using speech, signs or symbols. LO: To interact with Playdough, using tools and hands to change it shape, making comments using speech, signs or symbols. LO: To observe ice as it melts, making comments using speech, signs or symbols, making comments using speech, signs or symbols. LO: To interact with a water cycle activity, using sponges to show evaporation. LO: To create a water cycle window and observe what happens.</p>	<p>LO: To sort animals using a single criteria, e.g. fur/no fur. LO: To create a habitat sensory picture. LO: To look for mini beast and record with a phot where they were found. LO: To select a mini beast to make a model of and with support label it features. LO: To engage in an activity about the environment and its effect on animals. .</p>	<p>LO: To join in with songs about the human body, e.g. If your happy and you know it. LO: To explore the senses though sensory play, e.g. scented/textured playdough. LO: To engage in a teeth cleaning activity. LO: To sort foods that cause tooth decay. LO: To investigate food that animals eat. LO: To construct a simple food chain, with support.</p>	<p>LO: To sort electrical appliances and the types of electricity they use, batteries/no batteries. LO: To explore the resources needed to make a circuit. LO: To explore the resources in the light room, using switches to change colours in the bulb tube. LO: To explore switches, attempting to turn resources on independently. LO: To observe the construction of a simple circuit and with support attempt the switch it on. LO: To investigate different electricity resources to cause an event by pushing or pulling switches.</p>	<p>LO: To investigate different sound sources. LO: To investigate how to make sounds using their body parts. LO: To investigate the pitch of different instruments. LO: To investigate vibrations made by a variety of materials. LO: To investigate how sound changes by using a volume switch. LO: To make a musical instrument.</p>