



SCIENCE CURRICULUM OVERVIEW

YEAR NURSERY

PRIME AREAS – (The Prime Areas overarch all learning)

COMMUNICATION AND LANGUAGE	PHYSICAL DEVELOPMENT	PERSONAL, SOCIAL AND EMOTIONAL DEVELOPMENT
<p>22-36 - Listening and attention Listens with interest to the noises adults make when they read stories. Recognises and responds to many familiar sounds e.g. turning to a knock on the door, looking at or going to the door Shows interest in play with sounds, songs and rhymes. Single channelled attention. Can shift to a different task if attention fully obtained-using child's name helps focus.</p> <p>22-36 - Understanding Identifies action words by pointing to the right picture e.g. 'Who's jumping?' Understands more complex sentences, e.g. 'Put your toys away then we'll read a book.' Understands 'who', 'what', 'where' in simple questions (e.g. who's that? What's that? Where is?). Developing understanding of simple concepts (e.g. big/little).</p> <p>22-36 - Speaking Uses language as a powerful means of widening contacts, sharing feelings, experiences and thoughts. Holds a conversation jumping from topic to topic. Learns new words very rapidly and is able to use them in communicating. Uses gestures, sometimes with limited talk, e.g. reaches towards toy, saying 'I have it'. Uses a variety of questions (eg: what, where, who). Uses simple sentences (e.g. Mummy gonna work). Beginning to use word endings (e.g. going, cats).</p>	<p>22-36 - Moving and handling Runs safely on whole foot. Squats with steadiness to rest or play with object on the ground, and rises to feet without using hands. Climbs confidently and is beginning to pull themselves up on nursery play climbing equipment. Can kick a large ball. Turns pages in a book, sometimes several at once. Shows control in holding and using jugs to pour, hammers, books and mark-making tools. Beginning to use three fingers (tripod grip) to hold writing tools. Imitates drawing simple shapes such as circles and lines. Walks upstairs or downstairs holding onto a rail two feet to a step. May be beginning to show preference for dominant hand.</p> <p>22- 26 - Health and self-care Feeds self competently with spoon. Drinks well without spilling. Clearly communicates their need for potty or toilet. Beginning to recognise danger and seeks support of significant adults for help. Helps with clothing, e.g. puts on hat, unzips zipper on jacket takes off unbuttoned shirt. Beginning to be independent in self-care, but still often needs adult support.</p>	<p>22-26 - Self-confidence and self-awareness Separates from main carer with support and encouragement from a familiar adult. Expresses own preferences and interests.</p> <p>22-36 - Managing feelings and behaviour Seeks comfort from familiar adults when needed. Can express their own feelings such as sad, happy, cross, scared, and worried. Responds to the feelings and wishes of others. Aware that some actions can hurt or harm others. Tries to help or give comfort when others are distressed. Shows understanding and cooperates with some boundaries and routines. Can inhibit own actions/behaviours, e.g. stop themselves from doing something they shouldn't do. Growing ability to distract self when upset, e.g. by engaging in a new play activity.</p> <p>22-36 - Making Relationships Interested in others' play and starting to join in. Seeks out others to share experiences. Shows affection and concern for people who are special to them. May form a special friendship with another child.</p>
<p>30-50 - Listening and attention Listens to others one to one or in small groups, when conversation interests them. Listens to stories with increasing attention and recall. Joins in with repeated refrains and anticipates key events and phrases in rhymes and stories. Focusing attention – still listen or do, but can shift own attention. Is able to follow directions (if not intently focused on own choice of activity).</p> <p>30-50 - Understanding Understands use of objects (e.g. "What do we use to cut things?") Shows understanding of prepositions such as 'under', 'on top', 'behind' by carrying out an action or selecting correct picture. Responds to simple instructions, e.g. to get or put away an object. Beginning to understand 'why' and 'how' questions.</p> <p>30-50 - Speaking Beginning to use more complex sentences to link thoughts (e.g. using and, because). Can retell a simple past event in correct order (e.g. went down slide, hurt finger). Uses talk to connect ideas, explain what is happening and anticipate what might happen next, recall and relive past experiences. Questions why things happen and gives explanations. Asks e.g. who, what, when, how. Uses a range of tenses (e.g. play, playing, will play, played). Uses intonation, rhythm and phrasing to make the meaning clear to others. Uses vocabulary focused on objects and people that are of particular importance to them. Builds up vocabulary that reflects the breadth of their experiences. Uses talk in pretending that objects stand for something else in play, e.g. 'This box is my castle.'</p>	<p>30-50 - Moving and handling Moves freely and with pleasure and confidence in a range of ways, such as slithering, shuffling, rolling, crawling, walking, running, jumping, skipping, sliding and hopping. Mounts stairs, steps or climbing equipment using alternate feet. Walks downstairs, two feet to each step while carrying a small object. Runs skilfully and negotiates space successfully, adjusting speed or direction to avoid obstacles. Can stand momentarily on one foot when shown. Can catch a large ball. Draws lines and circles using gross motor movements. Uses one-handed tools and equipment, e.g. makes snips in paper with child scissors. Holds pencil between thumb and two fingers, no longer using whole-hand grasp. Holds pencil near point between first two fingers and thumb and uses it with good control. Can copy some letters, e.g. letters from their name.</p> <p>30-50 - Health and self-care Can tell adults when hungry or tired or when they want to rest or play. Observes the effects of activity on their bodies. Understands that equipment and tools have to be used safely. Gains more bowel and bladder control and can attend to toileting needs most of the time themselves. Can usually manage washing and drying hands. Dresses with help, e.g. puts arms into open-fronted coat or shirt when held up, pulls up own trousers, and pulls up zipper once it is fastened at the bottom.</p>	<p>30-50 - Self-confidence and self-awareness Can select and use activities and resources with help. Welcomes and values praise for what they have done. Enjoys responsibility of carrying out small tasks. Is more outgoing towards unfamiliar people and more confident in new social situations. Confident to talk to other children when playing, and will communicate freely about own home and community. Shows confidence in asking adults for help.</p> <p>30-50 - Managing feelings and behaviour Aware of own feelings, and knows that some actions and words can hurt others' feelings. Begins to accept the needs of others and can take turns and share resources, sometimes with support from others. Can usually tolerate delay when needs are not immediately met, and understands wishes may not always be met. Can usually adapt behaviour to different events, social situations and changes in routine.</p> <p>30-50 - Making Relationships Can play in a group, extending and elaborating play ideas, e.g. building up a role-play activity with other children. Initiates play, offering cues to peers to join them. Keeps play going by responding to what others are saying or doing. Demonstrates friendly behaviour, initiating conversations and forming good relationships with peers and familiar adults.</p>

IN EYFS WE HAVE SPECIFIED ACTIVITIES WE PLAN FOR, BUT SOME ACTIVITIES WILL BE UNIQUE TO EACH COHORT AND WILL COME FROM THEIR EXPERIENCES.

Topics	All about me	Festivals	Animals (bears)	Story building (Traditional tales)	Growth	Our World/ Changes	EARLY LEARNING GOALS – EXPECTED FOR THE END OF RECEPTION
<p>Science</p> <p>UNDERSTANDING OF THE WORLD</p> <p>STRAND</p> <p>The World</p>	<p>Similarities and differences between each other and our families.</p> <p>Seasonal changes</p>	<p>Types of light Shadow Dark</p> <p>Times of day Seasonal changes</p>	<p>Seasonal changes</p> <p>Exploring ice and water</p>	<p>Seasonal changes</p> <p>Changes to materials cooking -with oats</p> <p>Gingerbread man – boat making, changes to gingerbread when gingerbread is in water - prediction</p>	<p>Growth and changes/ label plants/ what do they need to grow. Plant vegetables in garden, water observe</p>	<p>Observations of our environment.</p> <p>Insect observations/b utterflies</p> <p>Floating and sinking</p> <p>Seasonal changes</p>	<p><i>The world</i></p> <p>Children know about similarities and differences in relation to places, objects, materials and living things. They talk about the features of their own immediate environment and how environments might vary from one another. They make observations of animals and plants and explain why some things occur, and talk about changes.</p>



SCIENCE CURRICULUM OVERVIEW

YEAR RECEPTION

PRIME AREAS – (The Prime Areas overarch all learning)

COMMUNICATION AND LANGUAGE	PHYSICAL DEVELOPMENT	PERSONAL, SOCIAL AND EMOTIONAL DEVELOPMENT
<p>40-60 - Listening and attention Maintains attention, concentrates and sits quietly during appropriate activity. Two-channelled attention – can listen and do for short span.</p> <p>40-60 - Understanding Responds to instructions involving a two-part sequence. Understands humour, e.g. nonsense rhymes, jokes. Able to follow a story without pictures or props. Listens and responds to ideas expressed by others in conversation or discussion.</p> <p>40-60 - Speaking Extends vocabulary, especially by grouping and naming, exploring the meaning and sounds of new words. Uses language to imagine and recreate roles and experiences in play situations. Links statements and sticks to a main theme or intention. Uses talk to organise, sequence and clarify thinking, ideas, feelings and events. Introduces a storyline or narrative into their play.</p>	<p>40-60 - Moving and Handling Experiments with different ways of moving. Jumps off an object and lands appropriately. Negotiates space successfully when playing racing and chasing games with other children, adjusting speed or changing direction to avoid obstacles. Travels with confidence and skill around, under, over and through balancing and climbing equipment. Shows increasing control over an object in pushing, patting, throwing, catching or kicking it. Uses simple tools to effect changes to materials. Handles tools, objects, construction and malleable materials safely and with increasing control. Shows a preference for a dominant hand. Begins to use anticlockwise movement and retrace vertical lines. • Begins to form recognisable letters. Uses a pencil and holds it effectively to form recognisable letters, most of which are correctly formed.</p> <p>40-60 - Health and self-care Eats a healthy range of foodstuffs and understands need for variety in food. Usually dry and clean during the day. Shows some understanding that good practices with regard to exercise, eating, sleeping and hygiene can contribute to good health. Shows understanding of the need for safety when tackling new challenges, and considers and manages some risks. Shows understanding of how to transport and store equipment safely. Practices some appropriate safety measures without direct supervision.</p>	<p>40-60 - Self-confidence and self-awareness Confident to speak to others about own needs, wants, interests and opinions. Can describe self in positive terms and talk about abilities.</p> <p>40-60 - Managing feelings and behaviour Understands that own actions affect other people, for example, becomes upset or tries to comfort another child when they realise they have upset them. Aware of the boundaries set, and of behavioural expectations in the setting. Beginning to be able to negotiate and solve problems without aggression, e.g. when someone has taken their toy.</p> <p>40-60 - Making relationships Initiates conversations, attends to and takes account of what others say. Explains own knowledge and understanding, and asks appropriate questions of others. Takes steps to resolve conflicts with other children, e.g. finding a compromise.</p>
<p>ELG - Listening and attention Children listen attentively in a range of situations. They listen to stories, accurately anticipating key events and respond to what they hear with relevant comments, questions or actions. They give their attention to what others say and respond appropriately, while engaged in another activity.</p> <p>ELG - Understanding Children follow instructions involving several ideas or actions. They answer ‘how’ and ‘why’ questions about their experiences and in response to stories or events.</p> <p>ELG - Speaking Children express themselves effectively, showing awareness of listeners’ needs. They use past, present and future forms accurately when talking about events that have happened or are to happen in the future. They develop their own narratives and explanations by connecting ideas or events.</p>	<p>ELG - Moving and handling Children show good control and co-ordination in large and small movements. They move confidently in a range of ways, safely negotiating space. They handle equipment and tools effectively, including pencils for writing.</p> <p>ELG - Health and self-care Children know the importance for good health of physical exercise, and a healthy diet, and talk about ways to keep healthy and safe. They manage their own basic hygiene and personal needs successfully, including dressing and going to the toilet independently.</p>	<p>ELG - Self-confidence and self-awareness Children are confident to try new activities, and say why they like some activities more than others. They are confident to speak in a familiar group, will talk about their ideas, and will choose the resources they need for their chosen activities. They say when they do or don’t need help.</p> <p>ELG - Managing feelings and behaviour Children talk about how they and others show feelings, talk about their own and others’ behaviour, and its consequences, and know that some behaviour is unacceptable. They work as part of a group or class, and understand and follow the rules. They adjust their behaviour to different situations, and take changes of routine in their stride.</p> <p>ELG - Making relationships Children play co-operatively, taking turns with others. They take account of one another’s ideas about how to organise their activity. They show sensitivity to others’ needs and feelings, and form positive relationships with adults and other children.</p>

IN EYFS WE HAVE SPECIFIED ACTIVITIES WE PLAN FOR, BUT SOME ACTIVITIES WILL BE UNIQUE TO EACH COHORT AND WILL COME FROM THEIR EXPERIENCES.

Topics	Me, Myself and I	Lights, Camera, Action	Where the land meets the sea	5, 4, 3, 2, 1, Blast Off	Heads, Shoulders, knees and toes	Journeys	40-50	EARLY LEARNING GOALS – EXPECTED FOR THE END OF THE YEAR
Science UNDERSTANDING OF THE WORLD STRAND The World	Similarities and differences between each other and our families. Seasonal changes	Types of light Shadow Dark Times of day Seasonal changes	Floating and sinking Flying Types of animals - sea, land and air Seasonal changes	Rocket power Gravity Seasonal changes	Body parts inside and outside. How does our body work. Seasonal changes	Journey through schools what changes and what stays the same. Seasonal changes	The world Children look closely at similarities, differences, patterns and change.	The world Children know about similarities and differences in relation to places, objects, materials and living things. They make observations of animals and plants and explain why some things occur, and talk about changes.



SCIENCE CURRICULUM OVERVIEW

YEAR 1

Key stage 1 – National curriculum units
Scheme of work – Scholastic

National curriculum	Animals including humans	Autumn and Winter	Everyday materials	Winter and spring	Plants	Spring and summer
	Parts of body, diet Common animals	Shadows, weather/rain Seasonal change	Objects and materials	Day length Weather/cold Seasonal change	Wild garden	Day length Weather/warm Seasonal change
Working scientifically: Questioning Asking simple questions and recognising that they can be answered in different ways	✓	✓	✓	✓	✓	✓
Working scientifically: Observing Observing closely, using simple equipment	✓	✓	✓	✓	✓	✓
Working scientifically: Practical Performing simple tests						
Working scientifically: Classifying Identifying and classifying	✓	✓	✓	✓	✓	✓
Working scientifically: Reporting on findings Using their observations and ideas to suggest answers to questions						
Working scientifically: Gathering and recording data Gathering and recording data to help in answering questions						
Plants Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees					✓	
Plants Identify and describe the basic structure of a variety of common flowering plants, including trees.					✓	
Animals including humans Animals - Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals	✓					
Animals including humans Identify and name a variety of common animals that are carnivores, herbivores and omnivores	✓					
Animals including humans Describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)	✓					
Animals including humans Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense.	✓					
Materials Distinguish between an object and the material from which it is made			✓			
Materials Identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock			✓			
Materials Describe the simple physical properties of a variety of everyday materials			✓			
Materials Compare and group together a variety of everyday materials on the basis of their simple physical properties			✓			
Seasonal changes Observe changes across the four seasons		✓		✓		✓
Seasonal changes Observe and describe weather associated with the seasons and how day length varies		✓		✓		✓



SCIENCE CURRICULUM OVERVIEW

YEAR 2

Key stage 1 – National curriculum units Scheme of work – Scholastic	Habitats	Everyday materials	Living Things	Plants	Everyday materials	Animals including humans
	Habitats	Materials for different uses	Living, dead, never alive	Seeds and bulbs	Properties and changes Push, pull and twist	Growth, survival and Health
National curriculum						
Working scientifically: Questioning Asking simple questions and recognising that they can be answered in different ways	✓	✓	✓			
Working scientifically: Observing Observing closely, using simple equipment	✓	✓	✓	✓	✓	✓
Working scientifically: Practical Performing simple tests		✓	✓	✓	✓	
Working scientifically: Classifying Identifying and classifying	✓	✓	✓	✓	✓	✓
Working scientifically: Reporting on findings Using their observations and ideas to suggest answers to questions	✓	✓	✓	✓	✓	✓
Working scientifically: Gathering and recording data Gathering and recording data to help in answering questions	✓	✓	✓	✓	✓	✓
Plants / Animals including humans Explore and compare the differences between things that are living, dead, and things that have never been alive			✓			
Plants / Animals including humans 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	✓					
Plants / Animals including humans Identify and name a variety of plants and animals in their habitats, including micro-habitats	✓					
Plants / Animals including humans 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	✓					
Plants Observe and describe how seeds and bulbs grow into mature plants				✓		
Plants Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy				✓		
Animals including humans Notice that animals, including humans, have offspring which grow into adults						✓
Animals including humans Find out about and describe the basic needs of animals, including humans, for survival (water, food and air)						✓
Animals including humans Describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene						✓
Materials Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses		✓			✓	

Materials Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching		✓			✓	
Materials Find out about people who have developed useful new materials (in scholastic)		✓			✓	

 <h2 style="text-align: center;">SCIENCE CURRICULUM OVERVIEW</h2> <h3 style="text-align: center;">YEAR 3</h3>							
National curriculum	Key stage 1 – National curriculum units	Forces and magnets	Animals, including humans	Light	Plants	Rocks	Animals, including humans
	Scheme of work – Scholastic	Movement and magnets	Food and diet	Shadows and reflections	Parts of plants and growth	Rock types, fossils and soils	Skeletons and muscles
Working scientifically: Questioning Asking relevant questions and using different types of scientific enquiries to answer them		✓	✓	✓		✓	✓
Working scientifically: Practical Setting up simple practical enquiries, comparative and fair tests		✓	✓	✓	✓	✓	✓
Working scientifically: Observing Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers		✓	✓	✓			
Working scientifically: Gathering and recording data Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions		✓	✓	✓	✓	✓	✓
Working scientifically: Reporting on findings Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables		✓	✓	✓	✓	✓	
Working scientifically: Reporting on findings Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions		✓	✓		✓	✓	✓
Working scientifically: Gathering and recording data Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions				✓	✓		✓
Working scientifically: Comparing and contrasting Identifying differences, similarities or changes related to simple scientific ideas and processes		✓		✓	✓	✓	✓
Working scientifically: Using scientific evidence Using straightforward scientific evidence to answer questions or to support their findings		✓	✓	✓	✓		✓
Plants Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers					✓		
Plants 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					✓		

Plants Investigate the way in which water is transported within plants / <i>Beech Hyde planning</i>						
Plants Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal				✓		
Animals including humans Identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food; they get nutrition from what they eat		✓				
Animals including humans Identify that humans and some other animals have skeletons and muscles for support, protection and movement						✓
Rocks Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties					✓	
Rocks Describe in simple terms how fossils are formed when things that have lived are trapped within rock					✓	
Rocks Recognise that soils are made from rocks and organic matter					✓	
Light Recognise that they need light in order to see things and that dark is the absence of light			✓			
Light Notice that light is reflected from surfaces			✓			
Light Recognise that light from the sun can be dangerous and that there are ways to protect their eyes			✓			
Light Recognise that shadows are formed when the light from a light source is blocked by a solid object			✓			
Light Find patterns in the way that the size of shadows change			✓			
Forces Compare how things move on different surfaces / <i>Beech Hyde planning</i>						
Forces Notice that some forces need contact between two objects, but magnetic forces can act at a distance	✓					
Forces Observe how magnets attract or repel each other and attract some materials and not others	✓					
Forces 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	✓					
Forces Describe magnets as having two poles / <i>Beech Hyde planning</i>						
Forces Predict whether two magnets will attract or repel each other, depending on which poles are facing. / <i>Beech Hyde planning</i>						



SCIENCE CURRICULUM OVERVIEW

YEAR 4

Key stage 1 – National curriculum units Scheme of work – Scholastic	Living Things	Animals, including humans	Sound	Animals, including humans	States of matter	Electricity
	Classification and human effects on the environment	Digestion and teeth	Vibrations and features	Food chains	Solid, liquid, gas	Circuits and components
National curriculum						
Working scientifically: Questioning Asking relevant questions and using different types of scientific enquiries to answer them	✓	✓	✓	✓	✓	✓
Working scientifically: Practical Setting up simple practical enquiries, comparative and fair tests		✓	✓	✓	✓	✓
Working scientifically: Observing Making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers			✓		✓	
Working scientifically: Gathering and recording data Gathering, recording, classifying and presenting data in a variety of ways to help in answering questions	✓	✓	✓	✓	✓	✓
Working scientifically: Reporting on findings Recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables	✓	✓	✓	✓	✓	✓
Working scientifically: Reporting on findings Reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions	✓	✓		✓		✓
Working scientifically: Reporting on findings Using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions		✓	✓	✓	✓	✓
Working scientifically: Comparing and contrasting Identifying differences, similarities or changes related to simple scientific ideas and processes	✓		✓		✓	✓
Working scientifically: using scientific evidence Using straightforward scientific evidence to answer questions or to support their findings				✓	✓	
Plants / Animals including humans Recognise that living things can be grouped in a variety of ways / <i>Beech Hyde planning</i>						
Plants / Animals including humans Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment	✓					
Plants / Animals including humans Recognise that environments can change and that this can sometimes pose dangers to living things.	✓					
Animals including humans Describe the simple functions of the basic parts of the digestive system in humans		✓				

Animals including humans Identify the different types of teeth in humans and their simple functions		✓				
Plants / Animals including humans Construct and interpret a variety of food chains, identifying producers, predators and prey				✓		
Materials Compare and group materials together, according to whether they are solids, liquids or gases					✓	
Materials 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)					✓	
Materials Identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature					✓	
Materials Identify how sounds are made, associating some of them with something vibrating			✓			
Materials Recognise that vibrations from sounds travel through a medium to the ear / <i>Beech Hyde planning</i>						
Sound Find patterns between the pitch of a sound and features of the object that produced it			✓			
Sound Find patterns between the volume of a sound and the strength of the vibrations that produced it			✓			
Sound Recognise that sounds get fainter as the distance from the sound source increases			✓			
Electricity Identify common appliances that run on electricity						✓
Electricity Construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers						✓
Electricity 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						✓
Electricity Recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit						✓
Electricity Recognise some common conductors and insulators, and associate metals with being good conductors						✓



SCIENCE CURRICULUM OVERVIEW

YEAR 5

National curriculum	Key stage 1 – National curriculum units Scheme of work – Scholastic					
	Animals, including humans	Properties of materials	Earth and Space	Living things	Properties of materials	Forces
	Growth, development and puberty	Dissolving and separation	Solar system And movement	Life cycle sand reproduction of plants	Reactions	Gravity, friction and machines
Working scientifically: Questioning Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary	✓	✓	✓	✓	✓	✓
Working scientifically: Gathering and recording data Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate		✓	✓		✓	✓
Working scientifically: Gathering and recording data Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs	✓	✓	✓	✓	✓	✓
Working scientifically: Practical Using test results to make predictions to set up further comparative and fair tests		✓	✓		✓	✓
Working scientifically: Reporting on findings Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations	✓	✓	✓	✓	✓	
Working scientifically: Using scientific evidence Identifying scientific evidence that has been used to support or refute ideas or arguments	✓		✓	✓	✓	
Animals including humans Describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird	✓					
Animals including humans Describe the life process of reproduction in some plants and animals				✓		
Animals including humans Describe the changes as humans develop to old age	✓					
Materials 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		✓				
Materials Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution / <i>Beech Hyde planning</i>						
Materials Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating		✓				
Materials Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic		✓				

Materials Demonstrate that dissolving, mixing and changes of state are reversible changes		✓				
Materials 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.					✓	
Earth and Space Describe the movement of the Earth, and other planets, relative to the Sun in the solar system			✓			
Earth and Space Describe the movement of the Moon relative to the Earth			✓			
Earth and Space Describe the Sun, Earth and Moon as approximately spherical bodies			✓			
Earth and Space Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky			✓			
Earth and Space Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object						✓
Forces Identify the effects of air resistance, water resistance and friction, that act between moving surfaces						✓
Forces Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect						✓



SCIENCE CURRICULUM OVERVIEW

YEAR 6

Key stage 1 – National curriculum units Scheme of work – Scholastic	Living things	Evolution and inheritance	Animals , including humans	Light	Electricity	Evolution and Inheritance	Animals, including humans
	Classifications: plants, animals and microbes	Evolution, and adaption	Circulation	How light travels	Changing circuits and symbols	inheritance	health
National curriculum							
Working scientifically: Questioning Planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary	✓	✓	✓		✓	✓	✓
Working scientifically: Gathering and recording data Taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate	✓		✓	✓	✓	✓	✓
Working scientifically: Gathering and recording data Recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs	✓		✓	✓		✓	✓
Working scientifically: Practical Using test results to make predictions to set up further comparative and fair tests		✓			✓		✓
Working scientifically: Reporting on findings Reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and degree of trust in results, in oral and written forms such as displays and other presentations		✓		✓	✓		✓
Working scientifically: Using scientific evidence Identifying scientific evidence that has been used to support or refute ideas or arguments		✓		✓		✓	✓
Plants / Animals including humans 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	✓						
Plants Give reasons for classifying plants and animals based on specific characteristics / <i>Beech Hyde planning</i>							
Animals including humans Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood			✓				
Animals including humans Recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function							✓

Animals including humans Describe the ways in which nutrients and water are transported within animals, including humans / <i>Beech Hyde planning</i>							
Animals including humans Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago		✓				✓	
Animals including humans Recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents		✓				✓	
Animals including humans Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution		✓				✓	
Light Recognise that light appears to travel in straight lines				✓			
Light 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				✓			
Light 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				✓			
Light Use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them				✓			
Electricity Associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit					✓		
Electricity 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					✓		
Electricity Use recognised symbols when representing a simple circuit in a diagram					✓		



Curriculum Drivers

Subject: Science

Challenge	<p>Encourage pupils to use the correct scientific vocabulary to explain their ideas</p> <p>Nurturing an interest in scientific topics / concepts</p> <p>Pupils have opportunities and time to extend, explore and question ideas and theories</p> <p>In practical lessons, opportunities to plan and carry out their own investigations to explore scientific questions</p>
Inclusion	<p>Learners are prepared for the next stage of their learning by understanding the fundamental scientific principles of each unit</p> <p>Opportunities are provided for pupils to pre-learn scientific vocabulary</p> <p>Opportunities to work in different groupings / pairs for peer support</p>
Positive Minds	<p>Resilient tortoise Understanding that predictions may not be accurate Scientists discover by failure Independent rhino Promoting confidence to have their own ideas and processes</p> <p>Risk-taking penguin Develop the drive to discover more about myself and the world around me. Encourage the pupils to confidently communicate their scientific ideas.</p> <p>Reflective owl Reflecting on the results of an experiment and making adjustments during investigations to appreciate the progress you have made. Pupils make links between their knowledge about the world and their scientific understanding.</p> <p>Team Bee When working in teams, encouraging pupils to give each member of the team an identified role to carry out the group work. To be able to work in a group using knowledge and precision, sharing responsibility and having shared expectations.</p> <p>Curious and creative chameleon Through scientific enquiry, encouraging pupils to ask scientific questions. Encouraging pupils to be curious and open minded and question known concepts. Giving pupils the opportunity to learn from a wide range of experiences e.g. peers, teachers, trips, tv etc.</p>