



Shardlow Primary School



Science Curriculum Progression Map

Reception (Understanding the World)

	Autumn 1	Aut 2	Spring 1	Spring 2	Summer 1	Summer 2
Title Of Unit	Amazing Animals Habitats, animals and their young, where food comes from/Harvest	It's a Celebration	Tell Me a Story Seasons and Weather	Reach for the stars! Light sources, Day/night, Shadows, Nocturnal animals	Around the World Animals and landmarks	Ready, steady, grow! Life cycles, Habitats. Planting
EYFS Objectives	- Explore the natural world around them. - Explore the natural world around them, making observations and drawing pictures of animals and plants. - Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has		- Explores the natural world around them (UTW, R) - Understand the effect of changing seasons on the natural world around them (UTW, R) - Describe what they see, hear and feel whilst outside (UTW, R) - Understand some important processes and changes in the natural world around them (UTW, TNW,	- Explore the natural world around them. - Describe what they see, hear and feel whilst outside. - Explore the natural world around them, making observations and drawing pictures of animals and plants. - Know some similarities and differences between the natural world around them and contrasting environments, drawing on their experiences and what has been read in class. - Understand some	- Recognise some environments that are different to the one in which they live (UTW R) - Know some similarities and differences between the natural world around them and contrasting environments (UTW ELG)	- Understand some important processes and changes in the natural world (UTW, TNW, ELG) - Explore the natural world around them, making observations and draws pictures of animals and plants (UTW, TNW, ELG)



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	been read in class. Understand some important processes and changes in the natural world around them.		ELG)	important processes and changes in the natural world around them, including the seasons and changing states of matter.		
Core Knowledge	- To know where sea creatures live and describe their habitat. - To know where jungle animals live and describe their habitat. - To talk about the similarities and differences between habitats. - To understand where baby animals come from and name mothers and their young. - To know and talk about where food		- To identify different types of weather. - To know the 4 seasons and talk about changes and what happens to the weather during each season. - To talk about the Arctic and the features of this country. - To know some months that fall into each season.	- To know the difference between day and night and how people prepare for night and daytime. - To understand where light comes from – both manmade and natural sources. - To know what 'nocturnal' means and name some animals that are nocturnal. - Understand how shadows are made.	- To know and name London Landmarks such as; Tower Bridge, Big Ben, The London Eye. - To know which animals live in different places, such as Africa or The Antarctic. - To describe and compare places around the world. - To identify some landmarks in New York, such as The Statue of Liberty and the Empire State Building. - Describe the	- To understand and recall the life cycle of a butterfly and a frog. - To use and understand the term 'metamorphosis'. - To understand the different stages of plant growth. - To observe and talk about the changes from a seed to a plant and draw pictures.



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	comes from. To know and talk about Harvest and what happens during this time.				African savannah.	
Core Skills	- Use comparative vocabulary (similar, different). - Identifying, classifying and grouping.		- To sort appropriate clothing into different weather categories. - To compare the seasons. - Pattern seeking.	- Make observations of the natural world and living things. - To identify and classify light sources.	- To compare places around the world. - Compare places that animals live and discuss why they are suited to these environments.	- Observation over time. - Research using secondary sources.

Year 1 & 2

Year A	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	
Title of Unit	Let's Build <i>Everyday Materials</i>	Wonderful Weather <i>Seasonal Changes</i>	Materials Matter <i>Everyday Materials</i>	Ready Steady Grow <i>Plants</i>	Our Pets <i>Animals Including Humans</i>	Gardens and Allotments <i>Living Things and their Habitats</i>
NC objectives	distinguish between an object and the material from which it is	- observe changes across the four seasons - observe and	identify and compare the suitability of a variety of everyday	observe and describe how seeds and bulbs grow into mature	identify and name a variety of common animals	identify that most living things live in habitats to which they are suited and



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	made • identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock • describe the simple physical properties of a variety of everyday materials	describe weather associated with the seasons and how day length varies	materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses • find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching	plants • find out and describe how plants need water, light and a suitable temperature to grow and stay healthy	including fish, amphibians, reptiles, birds and mammals • describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)	describe how different habitats provide for the basic needs of different kinds of animals and plants, and how they depend on each other • identify and name a variety of plants and animals in their habitats, including microhabitats • 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
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Core Knowledge	• Recognise the difference between the name of an object and the material from which it is made. • Identify a range of everyday materials including wood, plastic, glass, metal, water and rock. • Describe the physical properties of everyday materials including hard/soft, stretchy/stiff, shiny/dull, rough/smooth, bendy/not bendy, waterproof/	• Understand and describe the main changes across the seasons. • Understand weather associated with the seasons. • Understand how day length varies across the year.	• Understand that, if a material does not absorb water, it is said to be waterproof. • Know the importance of recycling materials. Know what absorbency means. • Understand what happens when a material is heated up and why it changes shape.	• Understand and describe the main changes as seeds and bulbs grow into mature plants. • Understand and describe the basic needs of plants for water, light and a suitable temperature to grow and stay healthy.	• Understand there are key differences between common animals including fish, amphibians, reptiles, birds and mammals. Be aware of these terms. • Know the basic needs of animals to be healthy. • Understand there are habitats where invertebrates live.	• Recognise whether things are alive, dead or have never lived. • Identify different plants and animals and recognise that they are suited to their different habitats, including micro-habitats. • Recognise how different habitats provide for the basic needs of animals and plants. • Understand that animals get their food from other animals and/or from plants. • Recognise that a food chain is made of a
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	not waterproof, absorbent/ not absorbent, opaque/ transparent. - Understand how to group everyday materials according to their physical properties. - Know that not all metals are magnetic.					series of plants and animals that eat each other and shows how energy is transferred from one organism to another via food. •Identify and name a variety of common animals that are carnivores, herbivores and omnivores. <i>(Required as part of the Recovery curriculum).</i>
Core Skills	compare and group together a variety of everyday materials on the basis of their simple physical properties Build a structure out	Observation over time- compare the same outdoor area in different seasons: plants, trees, insect activity, temperature. Use an outdoor thermometer.	Sort materials into manmade and natural objects. Investigate which papers are the most absorbent for mopping up a spillage.	Observation over time- watch growth from bulb to plant.	Be able to describe and compare the observable features of animals from a range of groups. Identify patterns of where living things grow or live.	



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	of different materials and compare strength/ stability. Predict which material will be most successful for house building and why. Extend Yr 2s by sorting materials using a Carroll diagram (comparing 2 features e.g. rigid/flexible, hard/soft).		Test the absorbency of different materials with a dropper- which are waterproof?			
Core Skills- inter woven through out the year	During years 1 and 2, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content: • ask simple questions and recognise that they can be answered in different ways • observe closely, use simple equipment • perform simple tests • identify and classify • use observations and ideas to suggest answers to questions • gather and record data to help answer questions					

Year B	Autumn 1	Autumn 2	Spring 3	Spring 4	Summer 5	Summer 6
Title of	Ourselves	Squash, Bend, Twist	Healthy Animals	Marvellous Materials	What's Growing in	Habitats



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Unit	<i>Animals Including Humans</i>	<i>and Stretch Everyday Materials</i>	<i>Animals Including Humans</i>	<i>Everyday Materials</i>	<i>our Garden? Plants</i>	<i>Living Things and Their Habitats</i>
N/C Object ives	identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense	- identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses - find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching	- notice that animals, including humans, have offspring which grow into adults - find out about and describe the basic needs of animals, including humans, for survival (water, food and air) - describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene	- distinguish between an object and the material from which it is made - identify and name a variety of everyday materials, including wood, plastic, glass, metal, water and rock - describe the simple physical properties of a variety of everyday materials - compare and group together a variety of everyday materials on the basis of their simple	- identify and name a variety of common wild and garden plants, including deciduous and evergreen trees - identify and describe the basic structure of a variety of common flowering plants, including trees	- explore and compare the differences between things that are living, dead, and things that have never been alive - 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



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				physical properties		kinds of animals and plants, and how they depend on each other
Core Knowledge	- Be able to name and locate parts of the human body, including those relating to the senses. - Understand that people change as they get older, but often retain recognisable features. - Recognise some of the ways people change over time. - Understand the meaning of touch, sight, smell, hear, taste and sense.	- Understand how everyday materials can be used for more than one thing. - Understand how different everyday materials can be used for the same thing. - Understand why the properties of materials make them suitable or unsuitable for particular purposes. - Recognise that	- Know about the basic needs of animals, including humans, for survival. - Describe the importance of exercise, balanced diet and hygiene for humans. - Describe the main changes as young animals, including humans, grow into adults.	- Recognise the difference between the name of an object and the material from which it is made. - Identify a range of everyday materials including wood, plastic, glass, metal, water and rock. - Describe the physical properties of everyday materials including hard/soft,	- Be able to name a variety of different plants (including deciduous and evergreen trees). - Understand and describe how plants are suited to different habitats. - Understand and describe the structure of plants including leaves, flowers (blossom), petals, fruit, roots, bulb,	- Recognise whether things are alive, dead or have never lived. - Identify different plants and animals and recognise that they are suited to their different habitats, including micro-habitats. - Recognise how different



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		squashing, bending, twisting and stretching can change the shapes of solid objects made from some everyday materials.		stretchy/stiff, shiny/dull, rough/smooth, bendy/not bendy, waterproof/ not waterproof, absorbent/ not absorbent, opaque/ transparent. Priority- recovery • know that ice is water in a solid state. • know that puddles evaporate and what this means.	seed, trunk, branches and stem.	habitats provide for the basic needs of animals and plants. • Understand that animals get their food from other animals and/or from plants. • Recognise that a food chain is made of a series of plants and animals that eat each other and shows how energy is transferred from one organism to
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						another via food. •Identify and name a variety of common animals that are carnivores, herbivores and omnivores. <i>(Required as part of the Recovery curriculum).</i>
Core Skills	Measure length of hands and feet.	•perform simple tests •use observations and ideas to suggest answers to questions Bounciest ball fair test investigation Which is the stretchiest fabric? Which materials are rigid? Compare wood, plastic, metal, card.	Using photos, make comparisons between themselves as babies/ toddlers and now.	•Understand how to group everyday materials according to their physical properties. Investigate a range of materials to fix a torn umbrella Observation over time- ice to water. Consider ways to speed it up/ slow it down.	• observe closely, use simple equipment Observational drawing of a plant, with labelled parts.	• gather and record data to help answer questions Minibeast hunt- record habitat and type of minibeasts found there.



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		Which paper is the strongest? Make a paper bridge to hold a toy car. Explore a range of solid materials applying force (e.g. twist) in order to observe any changes.				
Core Skills-interwoven throughout the year	During years 1 and 2, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content: • ask simple questions and recognise that they can be answered in different ways • observe closely, use simple equipment • perform simple tests • identify and classify • use observations and ideas to suggest answers to questions • gather and record data to help answer questions					



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Year 3 & 4

Year A	Autumn 1	Autumn 2	Spring 3	Spring 4	Summer 5	Summer 6
Title of Unit	Living things and their habitats	Light	Sound	Solids, liquids and gases	Plants	AT1
N/C Objectives	Pupils should be taught to: • recognise that living things can be grouped in a variety of ways • explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment • recognise that environments can change and that this can sometimes pose dangers to living things	Pupils should be taught to: • recognise that they need light in order to see things and that dark is the absence of light • notice that light is reflected from surfaces • recognise that light from the sun can be dangerous and that there are ways to protect their eyes • recognise that shadows are formed when the light from a light source is blocked by a solid object • find patterns in the way that the size of shadows change	Pupils should be taught to: • identify how sounds are made, associating some of them with something vibrating • recognise that vibrations from sounds travel through a medium to the ear • find patterns between the pitch of a sound and features of the object that produced it • find patterns between the volume of a sound and the strength of the vibrations that produced it • recognise that sounds get fainter as the distance	Pupils should be taught to: • compare and group materials together, according to whether they are solids, liquids or gases • 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) • identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature	Pupils should be taught to: • identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers • 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 • investigate the way in which water is transported within plants • explore the part that flowers play in the life cycle of flowering plants, including pollination, seed	Skills focus whilst embedding knowledge gained over the year. Application of knowledge and skills to gain a deeper understanding of key concepts. Also opportunity to recap any areas identified as not secured.



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			from the sound source increases		formation and seed dispersal	
Core Knowledge	*Have an awareness of Sir David Attenborough and his work towards increasing public awareness about dangers to the environment.	*Have an awareness of who Thomas Edison was and his invention of the light bulb.				Pupils should be taught the 5 different enquiry types: research, observation over time, pattern seeking, identifying, classifying and grouping, and comparative/ fair testing.
Core Skills/ suggested enquiry	- asking relevant questions and using different types of scientific enquiries to answer them - using straightforward scientific evidence to answer questions or to support their findings. Using a classification key to identify living things.	- gathering, recording, classifying and presenting data in a variety of ways to help in answering questions - recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables Investigation into the relationship between the distance an opaque object is from	- making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers - using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further	- making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers - identifying differences, similarities or changes related to simple scientific ideas and processes	- setting up simple practical enquiries, comparative and fair tests - reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions Create their own investigation to test what a plant needs to	using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions



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		the light source and the size of the shadow.	questions Use data loggers to measure the effectiveness of different materials as ear defenders.	Reading a thermometer.(Priority-recovery). Making predictions and interpreting graphs. Observational drawing	stay healthy. Observational drawing	
Core Skills-interwoven throughout the year	During years 3 and 4, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content: • asking relevant questions and using different types of scientific enquiries to answer them • setting up simple practical enquiries, comparative and fair tests • making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers • gathering, recording, classifying and presenting data in a variety of ways to help in answering questions • recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables • reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions • using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions • identifying differences, similarities or changes related to simple scientific ideas and processes • using straightforward scientific evidence to answer questions or to support their findings.					

Year B	Autumn 1	Autumn 2	Spring 3	Spring 4	Summer 5	Summer 6
Title of Unit	Teeth and eating		Electricity	Amazing bodies	Forces and magnets	Rocks
N/C	Pupils should be taught to: • identify that animals, including humans,		Pupils should be taught to:	• identify that humans and some	• compare how things move on different	Pupils should be taught to:



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Objectives-	need the right types and amount of nutrition - that they cannot make their own food; they get nutrition from what they eat Pupils should be taught to: - describe the simple functions of the basic parts of the digestive system in humans - identify the different types of teeth in humans - identify their simple functions - construct and interpret a variety of food chains, - identify producers, predators and prey	- identify common appliances that run on electricity - construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers - 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 - recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple series circuit - recognise some common conductors and insulators, and associate metals with being good conductors	other animals have skeletons and muscles for support, protection and movement	surfaces - notice that some forces need contact between 2 objects, but magnetic forces can act at a distance - observe how magnets attract or repel each other and attract some materials and not others - 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 - describe magnets as having 2 poles predict whether 2 magnets will attract or repel each other, depending on which poles are facing	- compare and group together different kinds of rocks on the basis of their appearance and simple physical properties - describe in simple terms how fossils are formed when things that have lived are trapped within rock - recognise that soils are made from rocks and organic matter
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Core Knowledge	Names and order the digestive system: mouth, oesophagus, stomach, small intestines, large intestines, rectum and anus. Function: including saliva, stomach acid, digestion, absorption, nutrition, faeces. 5 food types: Carbohydrates, protein, dairy, fats, fruit and veg, balanced diet (and why they are needed). Calcium, vitamins and minerals, energy. Teeth types, position and differences. How this relates to their function. Differences between teeth of herbivores, carnivores and omnivores. Incisors, canines, premolars and molars. Food chains: producer, consumer, prey predator, energy flow.	<i>*Have an awareness of who Benjamin Franklin was and how he contributed towards harnessing electricity.</i>	Understand that a skull protects the brain, ribs protect internal organs. Identify which muscles are working when we perform simple movements. Understand that some muscles work in unison e.g. biceps and triceps.		
Core Skills/ suggested enquiry	• setting up simple practical enquiries, comparative and fair tests • reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions <i>(Research and present how to keep teeth healthy).</i> <i>Fair testing: Teeth enamel/ egg shell investigation- know the meaning of variable- only change one (Priority-recovery).</i>	• identifying differences, similarities or changes related to simple scientific ideas and processes • recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables	• gathering, recording, classifying and presenting data in a variety of ways to help in answering questions • recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and	• setting up simple practical enquiries, comparative and fair tests • asking relevant questions and using different types of scientific enquiries to answer them <i>Sorting activity- magnetic and non-magnetic materials</i>	• setting up simple practical enquiries, comparative and fair tests <i>Comparative tests- rock hardness and porosity.</i> •Using straightforward scientific evidence to answer questions or to support their



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	Observational drawing	Exploring different circuits, open and closed.	tables making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers Height vs distance jumped measuring distance.	findings. Compare amount of water that passes through different soils Fair testing: variables and using measuring jug, plus weighing scales. (Priority-recovery)
Core Skills-woven in throughout the year	During years 3 and 4, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content: - asking relevant questions and using different types of scientific enquiries to answer them - setting up simple practical enquiries, comparative and fair tests - making systematic and careful observations and, where appropriate, taking accurate measurements using standard units, using a range of equipment, including thermometers and data loggers - gathering, recording, classifying and presenting data in a variety of ways to help in answering questions - recording findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables - reporting on findings from enquiries, including oral and written explanations, displays or presentations of results and conclusions - using results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions - identifying differences, similarities or changes related to simple scientific ideas and processes - using straightforward scientific evidence to answer questions or to support their findings.			

Year 5 & 6



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Year A	Autumn 1	Autumn 2	Spring 3	Spring 4	Summer 5	Summer 6
Title of Unit	Scientific enquiry	Light	Earth, Sun and Moon	Electricity	Animals including humans	
N/C Objectives		Pupils should be taught to: • recognise that light appears to travel in straight lines • 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 • 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 • use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them	Pupils should be taught to: • describe the movement of the Earth and other planets relative to the sun in the solar system • describe the movement of the moon relative to the Earth • describe the sun, Earth and moon as approximately spherical bodies • use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky	Pupils should be taught to: • associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit • 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 • use recognised symbols when representing a simple circuit in a diagram	Pupils should be taught to: • describe the changes as humans develop to old age Pupils should be taught to: • identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood • recognise the impact of diet, exercise, drugs and lifestyle on the way their bodies function • describe the ways in which nutrients and water are transported within animals, including humans	
Core Knowledge	Know the five different types of		* Have an awareness of who Galileo was and his theories about the		Four chambers, red blood cells, arteries and veins. Alcohol, cigarettes, obesity.	



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	enquiry.		movement of Earth and its relationship between the Sun and the Moon.		
Core Skills/ suggested enquiry	Be able to choose which enquiry to use to answer a question. Know how to create own question; what variable to change and what to measure. Be able to use prior knowledge/ make links to inform predictions. Be able to record results in different ways. Be able to interpret results and give reasons for them.		Research from a range of sources	Create own switch circuits Investigate how to change the circuit to make the bulb dimmer/ buzzer quieter etc. Drawing circuits, using symbols to represent components.	Create an investigation to show the impact of exercise on heart rate.
Core Skills	During years 5 and 6, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content: - planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary - taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when				



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	appropriate • recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs • using test results to make predictions to set up further comparative and fair tests • reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations • identifying scientific evidence that has been used to support or refute ideas or arguments
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Year B	Autumn 1	Autumn 2	Spring 3	Spring 4	Summer 5	Summer 6
Title of Unit	Scientific enquiry	Forces and magnets	Living things and their habitats	Evolution and inheritance	Properties and changes of materials	
N/C Objectives		Pupils should be taught to: • explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object • identify the effects of air resistance, water resistance and friction, that act between moving surfaces • recognise that some mechanisms including levers, pulleys and gears	Pupils should be taught to: • describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird • describe the life process of reproduction in some plants and animals Living things and their habitats • Pupils should be taught to: • describe how living things are classified into broad groups according to common	Pupils should be taught to: • recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago • recognise that living things produce offspring of the same kind, but normally offspring vary and are not identical to their parents • identify how animals and plants are	Pupils should be taught to: • 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 • know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution • use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating • give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic	



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		allow a smaller force to have a greater effect	observable characteristics and based on similarities and differences, including micro-organisms, plants and animals • give reasons for classifying plants and animals based on specific characteristics	adapted to suit their environment in different ways and that adaptation may lead to evolution	- demonstrate that dissolving, mixing and changes of state are reversible changes - 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
Core Knowledge	Know there are five different types of enquiry.	*Have an awareness of Sir Isaac Newton and his theory of gravity.		*Have a knowledge of Charles Darwin, his research on the Galapagos Islands and his theory of evolution	
Core Skills/ suggested enquiry	Identify scientific evidence used to support/ challenge. Taking measurements. Repeating results for accuracy.	Create an investigation to increase air resistance e.g. egg parachute/ zip wire rockets	Glow in the dark hand gel. Mould- observations over time.	Research	Create an investigation exploring the best materials for thermal insulation. Tray of materials- how do you sort? (include sand, salt, pebbles, magnetic materials). Chdn need to use magnets, colander, add water then use filter paper and funnel, and finally evaporation.
Core Skills	During years 5 and 6, pupils should be taught to use the following practical scientific methods, processes and skills through the teaching of the programme of study content: - planning different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary - taking measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when				



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appropriate

- recording data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs
- using test results to make predictions to set up further comparative and fair tests
- reporting and presenting findings from enquiries, including conclusions, causal relationships and explanations of and a degree of trust in results, in oral and written forms such as displays and other presentations
- identifying scientific evidence that has been used to support or refute ideas or arguments