

Hopton C of E Primary Academy

Science Skills Progression of Skills and Knowledge Document

Intent

At Hopton C of E Primary Academy, we encourage children to be inquisitive throughout their time at the school and beyond. The Science curriculum fosters a healthy curiosity in children about our universe and promotes respect for the living and non-living. We believe science encompasses the acquisition of knowledge, concepts, skills and positive attitudes. Throughout the programmes of study, the children will acquire and develop the key knowledge that has been identified within each unit and across each year group, as well as the application of scientific skills. We ensure that the Working Scientifically skills are built-on and developed throughout children's time at the school so that they can apply their knowledge of science when using equipment, conducting experiments, building arguments and explaining concepts confidently and continue to ask questions and be curious about their surroundings. All children are encouraged to develop and use a range of skills including observations, planning and investigations, as well as being encouraged to question the world around them and become independent learners in exploring possible answers for their scientific based questions.

How do we teach Science through our school values?

Respect	We show respect by valuing different ideas and looking after living things.
Courage	We show courage by asking questions and testing our ideas.
Perseverance	We show perseverance by repeating tests and improving our work.
Friendship	We show friendship by working together in investigations.
Forgiveness	We show forgiveness by learning from mistakes in experiments.
Responsibility	We show responsibility by using equipment safely and caring for the environment.

Content Overview

CYCLE A			
EYFS/KS1	Castles <u>Y1 Animals including Humans</u> We will name a variety of common animals including fish, amphibians, reptiles and mammals, name animals which are carnivores, herbivores and omnivores. We will also look at their structure as well as naming, drawing and labeling the basic part of the human body and the senses.	Toys <u>Y2 Animals including Humans</u> We are learning to notice that animals including humans have offspring that grow into adults. We are learning about the basic needs of animals for survival and understand the importance of exercise, healthy food and hygiene.	Trains <u>Y2 Living Things</u> We are learning to explore things that are dead and alive. We will look at habitats including microhabitats as well as learning about food chains.
LKS2	Egyptians <u>Animals including humans Y3</u> We are learning to identify that animals need the right types of nutrition. We are also learning about skeletons and muscles and how they support us, protect us and help us move.	Stone Age, Bronze Age, Iron Age <u>Forces and Magnets Y3</u> We will also be studying forces and magnets: comparing how things move on different surfaces.	Titanic <u>Living Things and Habitats Y4</u> We will be looking at grouping and classifying in a variety of ways, we will name a variety of living things in their local and wider environment. Recognise that



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	<u>Animals including humans Y4</u> We are learning about the function of the digestive system, the different types of teeth in humans. We are learning to construct and interpret a variety of food chains, identifying producers, predators and prey.	<u>Rocks Y3</u> We are learning to compare and group different kinds of rocks based on their appearance and simple properties. We are learning how fossils are formed when things that have lived are trapped within a rock.	environments can change and that this can sometimes pose dangers to living things.
UKS2	Greeks	Pole to Pole	Victorians
	<u>Earth and Space Y5</u> We will describe the movement of the Earth and moon, and other planets, in the solar system We will use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky. <u>Evolution and Inheritance Y6</u> We will recognise that living things produce offspring of the same kind, but these can vary and are not identical to their parents. We will look at adaptation and evolution. We will look at how living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago. We will focus on the works of Charles Darwin.	<u>Forces Y5</u> We will investigate gravity, identify the effects of air resistance, water resistance and friction, that act between moving surfaces Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.	<u>Animals including Humans Y5</u> We will describe the changes as humans develop to old age. We will describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird and describe the life process of reproduction in some plants and animals. <u>Animals including Humans Y6</u> We will identify and name the main parts of the human circulatory system, and describe the functions of the heart and blood vessels. We will discuss the impact of diet, exercise, drugs and lifestyle on the body. We will learn about nutrients and water within animals, including humans.

<u>CYCLE B</u>			
EYFS/KS1	Space	Healthy Me	Fire Fire!
	<u>Y1 Materials</u> We will learning to tell the difference between an object and it's materials, identify a range of everyday materials, describe properties of them, compare and group them. <u>Y2 Materials 1</u> We are learning to identify and compare the suitability of a variety of materials for particular uses. We are learning how the shapes of solid objects can be changed.	<u>Y2 Materials p2</u> We are continuing our learning on the suitability of materials and looking at how shapes can be changed. <u>Y1 Plants</u> We are learning to identify a range 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. We are learning to observe changes across the four seasons.	<u>Y2 Plants</u> We are learning to observe how seeds and bulbs grow into mature plants and find out and describe what plants need to stay healthy.
LKS2	Roman's	Tudor's	Anglo Saxons
	<u>Light Y3</u> We are learning to recognise the importance of light, look at how light is produced and how to keep our eyes safe. We will learn about shadows and look for patterns. <u>States of Matter Y4</u> We are learning to compare and group materials together, according to whether they are solids, liquids or gases. We are learning observe that some materials change state. We will also look at the water cycle.	<u>Sound Y4</u> We are learning to identify how sounds are made, recognise vibrations and find patterns in sounds.	<u>Plants Y3</u> We are learning to describe the functions of different parts of flowering plants, explore the requirements of plants for life and growth, investigate how water is transported in plants and explore the life cycle of flowering plants. <u>Electricity Y4</u> We are learning to identify what runs on electricity and construct a simple series electrical circuit, naming basic parts and test lamps and switches. We will recognise common conductors and insulators.
UKS2	Early Islam	Vikings	World War 2



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	<u>Properties and Changes of Materials Y5</u> We will compare and group together materials on the basis of their properties, solutions and mixtures. We will investigate separating materials through filtering, sieving and evaporating. We will look at fair testing, reversible changes and Irreversible changes. <u>Electricity Y6</u> We will associate the brightness of a lamp or the volume of a buzzer with the number and voltage of cells used in the circuit. We will compare and give reasons for variations in how components function. We will use symbols to represent a circuit.	<u>Light Y6</u> We will investigate that light appears to travel in straight lines and use this idea to explain that objects are seen because they give out or reflect light into the eye. We will look at how we see things because of the way light travels, and how shadows are created. <u>Living things and their Habitats Y6</u> We will look at classification, micro-organisms, plants and animals We will give reasons for classifying plants and animals based on specific characteristics.	<u>Living things and their Habitats Y5</u> We will 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.
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EYFS Foundations								
These foundations are developed further through carefully sequenced units of work, where EYFS access is identified within each unit to ensure clear progression into KS1.								
Age 3 to 4	• 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. • Show interest in different occupations • Explore how things work • 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. · Explore and talk about different forces they can feel. • Talk about the differences between materials and changes they notice.							
Reception	- Explore the natural world around them. - Describe what they see, hear and feel whilst outside. - Recognise some environments that are different from the one in which they live. - Understand the effect of changing seasons on the natural world around them. -							
ELG	Understanding the World- The Natural World - · 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 important processes and changes in the natural world around them, including the seasons and changing states of matter.							
Skills and Knowledge	Nursery	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Seasonal Changes	Notices changes in the outdoor environment (e.g. sun, rain, wind, snow)	Recognises and names the four seasons (spring, summer, autumn, winter)	Observe change across the four seasons					
	Explores seasonal weather through daily routines and outdoor play	Observes and describes different types of weather linked to seasons	Observe and describe weather associated with the seasons and how day length varies.					
	Talks about what they can see, feel, or hear outside Begins to notice simple changes in day and night (light and dark times)	Notices that the amount of daylight changes across the year						
	Uses senses to explore seasonal weather (cold/warm, wet/dry)	Talks about seasonal changes in nature (trees, plants, clothing)						
	Shares simple observations with	Compares weather in different seasons using simple sentences						



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	adults using everyday language	Begins to use simple explanations (e.g. "It is winter because it is cold")						
	<i>weather, rain, sun, snow, wind, cold, hot, warm, day, night, light, dark, outside, seasons, change, sky</i>	<i>seasons, spring, summer, autumn, winter, weather, sunny, rainy, windy, snowy, cloudy, storm, cold, warm, hot, frost, ice, daylight, night, morning, evening, sun, sky, trees, leaves, change, observe, describe</i>	<i>seasons, spring, summer, autumn, winter, weather, sunny, rainy, windy, snowy, cloudy, temperature, cold, warm, hot, frost, ice, storm, rainfall, daylight, darkness, night, daytime, sunrise, sunset, daylight hours, shadow, change, observe</i>					
Plants	Explores plants in the outdoor environment (grass, flowers, trees)	Identifies and names common plants in the environment (flowers, trees, shrubs)	Identify and name a variety of common wild and garden plants, including deciduous and evergreen trees	Observe and describe how seeds and bulbs grow into mature plants	Identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers			
	Notices differences between natural objects (leaves, flowers, sticks)	Recognises and names simple parts of plants (leaf, flower, stem, root)	Identify and describe the basic structure of a variety of common flowering plants, including trees	Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.	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			
	Talks about what they can see when looking at plants Uses senses to explore plants (touching leaves, smelling flowers)	Observes and describes how plants look different (size, colour, shape)			Investigate the way in which water is transported within plants			
	Begins to notice that plants grow in different places (garden, park)	Begins to recognise deciduous trees (lose leaves) and evergreen trees (keep leaves)			Explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal			
	Enjoys planting seeds and watching them grow in simple activities	Talks about how plants grow from seeds and need water and light						
	Draws and labels simple plant diagrams using basic vocabulary							
	<i>plant, plants, tree, flower, leaf, leaves, grass, garden, grow, growing, seed, soil, outside, nature, green, big, small, tall, smell, touch</i>	<i>plant, plants, tree, trees, flower, leaf, leaves, stem, root, roots, seed, seeds, grow, growing, garden, wild plants, deciduous, evergreen, trunk, branch, bark, soil, water, sunlight, observe, describe, label, nature, outside</i>	<i>plants, wild plants, garden plants, tree, trees, flower, flowers, leaf, leaves, stem, root, roots, trunk, branch, bark, seed, seeds, deciduous, evergreen, blossom, petal, bulb, shoot, bud, soil, grow, growing, observe, structure</i>	<i>seed, seeds, bulb, bulbs, grow, growing, germination, plant, plants, shoot, root, stem, leaf, leaves, water, sunlight, light, warmth, temperature, healthy, unhealthy, soil, compost, moisture, dry, damp, observe, record, change, lifecycle, germinate</i>	<i>roots, root system, stem, trunk, leaves, leaf, flowers, flower, petals, stamen, pollen, pollination, pollinator, insects, bees, life cycle, seed, seeds, seed formation, seed dispersal, wind, animals, water, nutrients, soil, minerals, air, light, growth, transport, xylem, water transport, absorb, photosynthesis, reproduce, reproduction, function, structure, lifecycle, healthy, observe</i>			
Living Things and Their Habitats	Explores living things in the environment	Recognises that some things are living and some are not		Explore and compare the differences between things that are living, dead, and		Recognise that living things can be grouped in a variety of ways	Describe the differences in the life cycles of mammals, amphibians, insects and birds.	Describe how living things are classified into broad groups according to common observable characteristics and based on



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	(plants, animals, minibeasts) Notices differences between living things and objects (toys vs animals/plants) Talks about animals and plants they see in familiar places (home, garden, park) Begins to understand that animals need food and water Enjoys exploring outdoor areas and noticing where animals live	Begins to talk about where animals live (homes/habitats in simple terms) Identifies familiar animals and plants in different places Notices that animals need food, water and shelter to survive Talks about simple food relationships (e.g. "cat eats fish") Explores local environments and different mini-habitats (logs, bushes, ponds)		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 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		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	Describe reproduction in some plants and animals. Explain the stages of metamorphosis and plant reproduction.	similarities and differences, including micro-organisms, plants and animals Give reasons for classifying plants and animals based on specific characteristics
	<i>animal, animals, plant, plants, living, outside, garden, park, minibeast, bug, tree, flower, home, water, food, grow, alive</i>	<i>living, dead, not alive, animal, plant, habitat, home, garden, pond, forest, minibeast, fish, bird, cat, dog, food, water, shelter, grow, alive, outside, environment</i>		<i>living, dead, never alive, habitat, microhabitat, environment, woodland, pond, garden, desert, ocean, forest, shelter, food, water, air, living things, plants, animals, depend, survival, suited, basic needs, food chain, predator, prey, herbivore, carnivore, omnivore, source, energy, grow, movement, reproduce, offspring, classify, observe</i>		<i>classification, classify, classification key, grouping, groups, living things, plants, animals, vertebrates, invertebrates, mammals, reptiles, amphibians, birds, fish, habitat, environment, local environment, wider environment, change, environmental change, danger, endangered, pollution, habitat loss, adaptation, adapt, survive, survival, identify, compare, characteristics, observe, record, feature</i>	<i>life cycle, reproduction, reproduce, offspring, mammal, amphibian, insect, bird, metamorphosis, egg, hatch, tadpole, caterpillar, chrysalis, pupa, froglet, pollination, fertilisation, seed formation, seed dispersal, juvenile, adult</i>	<i>classification, classify, classification system, grouping, characteristics, observable characteristics, similarities, differences, vertebrates, invertebrates, mammals, reptiles, amphibians, birds, fish, plants, animals, micro-organisms, microorganism, bacteria, virus, fungi, algae, microscope, environment, habitat, species, kingdom, broad group, taxonomy, key, classification key, dichotomous key, feature, structure, function, adaptation, adapted, evidence, reason, compare, identify, describe</i>
Animals Including Humans	Notices and explores a variety of animals in familiar environments (pets, farm animals, zoo animals) Talks about animals they see in stories, pictures and real life Begins to notice simple differences between animals (big/small,	Identifies and names common animals (fish, birds, mammals, reptiles, amphibians in simple terms) Talks about differences between animals (fur, feathers, scales, wings, legs, fins) Recognises that animals eat different	Identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals Identify and name a variety of common animals that are carnivores, herbivores and omnivores Describe and compare the structure of a variety of common	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	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 Identify that humans and some other animals have skeletons and muscles for support, protection and movement.	Describe the simple functions of the basic parts of the digestive system in humans Identify the different types of teeth in humans and their simple functions Construct and interpret a variety of food chains, identifying producers, predators and prey	Describe the changes as humans develop from birth to old age. Compare stages of growth and development in humans. Understand that humans reproduce and offspring grow into adults.	Identify and name the main parts of the human circulatory system, and describe the functions of the heart and blood vessels. 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



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	fur/feathers, land/water) Explores what animals eat in simple terms (e.g. “dog eats food”, “rabbit eats grass”) Talks about their own body and uses senses in everyday play Uses senses to explore the world (smelling, touching, listening, looking) Notices baby animals and talks about animal families. Talks about how animals and humans grow and change. Understands that living things need food and water. Begins to talk about healthy habits such as washing hands. Explores movement and active play.	things (plants, meat, both) Begins to sort animals into simple groups (carnivore, herbivore, omnivore in simple language) Names and describes basic parts of the human body Links senses to body parts (e.g. “I see with my eyes”) Draws and labels simple diagrams of the human body Recognises that baby animals grow into adults. Identifies some things humans need to stay alive and healthy. Talks about healthy foods and exercise. Understands the importance of washing hands and keeping clean. Describes simple changes as humans grow.	animals (fish, amphibians, reptiles, birds and mammals including pets) Identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense	humans of exercise, eating the right amounts of different types of food, and hygiene				
	<i>animal, animals, pet, farm, zoo, dog, cat, fish, bird, big, small, eat, food, body, head, arm, leg, hand, eye, ear, nose, mouth, see, hear, smell, touch</i>	<i>animal, fish, bird, mammal, reptile, amphibian, carnivore, herbivore, omnivore, fur, feathers, scales, wings, legs, fins, body, head, arm, leg, hand, foot, eye, ear, nose, mouth, skin, senses, sight, hearing, smell, taste, touch, compare, describe, label</i>	<i>animals, animal, fish, amphibians, reptile, reptiles, bird, birds, mammal, mammals, carnivore, herbivore, omnivore, animals, plants, environment, shelter, food, water, air, survive, offspring, offspring, depend, classify, group, observe, compare</i>	<i>living, dead, never alive, habitat, microhabitat, food chain, predator, prey, carnivore, herbivore, omnivore, animals, plants, environment, shelter, food, water, air, survive, offspring, offspring, depend, classify, group, observe, compare</i>	<i>skeleton, bones, muscles, support, protection, movement, nutrition, nutrients, diet, balanced diet, food groups, carbohydrates, proteins, fats, skeleton, skull, ribs, spine, vertebrate, invertebrate, animals, human, structure, function, joints, compare, describe</i>	<i>teeth, incisors, canines, molars, digestion, digestive system, mouth, oesophagus, stomach, intestines, tongue, saliva, food chain, producer, consumer, predator, prey, environment, habitat, classification, change, adapt, environment, teeth types, food, break down</i>	<i>life cycle, reproduction, reproduce, offspring, gestation, embryo, foetus, mammal, amphibian, insect, bird, growth, development, stages, metamorphosis, egg, hatch, fertilisation, pollination, seed dispersal, compare, describe, observe, adult, juvenile</i>	<i>heart, blood, blood vessels, artery, vein, capillary, circulation, circulatory system, oxygen, carbon dioxide, nutrients, exercise, healthy, lifestyle, diet, drugs, alcohol, impact, function, transport, heart rate, pulse, body, system, health, fitness, impact</i>
Use of Everyday Materials	Explores everyday objects in play (toys, building materials, containers)	Identifies that objects are made from different materials	Distinguish between an object and the material from which it is made	Identify and compare the suitability of a variety of everyday materials, including			Compare and group together everyday materials on the basis of their properties, including their hardness, solubility, transparency,	



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	Notifies that objects are made from different materials (wood, plastic, fabric) Uses senses to explore materials (touching, feeling, describing textures) Talks about simple features of objects (hard/soft, big/small, heavy/light) Sorts objects informally during play (e.g. blocks, soft toys, metal items) Enjoys construction and messy play using different materials	Names common materials (wood, plastic, metal, glass, water, rock, fabric) Describes simple properties of materials (hard, soft, smooth, rough, bendy, shiny) Sorts objects by material or simple properties Compares materials (e.g. "wood is harder than fabric") Talks about why materials are used for certain objects (simple reasoning) Uses vocabulary to describe and group materials	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 physical properties.	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			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 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	
	<i>object, toy, block, wood, plastic, metal, glass, water, rock, soft, hard, big, small, smooth, rough, play, build, feel, touch</i>	<i>object, material, wood, plastic, metal, glass, water, rock, fabric, hard, soft, smooth, rough, bendy, shiny, heavy, light, absorbent, waterproof, compare, sort, group, feel, describe, same, different</i>	<i>materials, material, wood, plastic, metal, glass, paper, cardboard, fabric, wool, hard, soft, rough, smooth, bendy, stiff, waterproof, absorbent, object, objects, compare, describe, test, sort, use</i>	<i>material, materials, suitability, suitable, object, objects, wood, plastic, glass, metal, paper, cardboard, fabric, wool, squash, bend, twist, stretch, waterproof, absorbent, opaque, transparent, translucent, strong, weak, compare, test, change, shape, use, purpose</i>			<i>materials, material, properties, hardness, solubility, transparency, conductivity, thermal, electrical, conductor, insulator, dissolve, solution, mixture, mixture separation, reversible, irreversible, change, reaction, chemical change, physical change, compare, test, fair test, variable, evidence, investigate</i>	
Rocks					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			



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					Recognise that soils are made from rocks and organic matter			
					rocks, rock, soil, fossil, fossils, sedimentary, igneous, metamorphic, marble, granite, sandstone, chalk, limestone, texture, hard, soft, permeable, impermeable, layer, layers, grain, crystal, particles, formation, formed, weathering, erosion, transport, compare, observe, record, classify, property			
Sounds						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 from the sound source increases		
						sound, sounds, vibration, vibrate, vibrating, source, sound source, ear, hearing, medium, air, travel, waves, sound waves, pitch, high pitch, low pitch, volume, loud, quiet, faint, distance, far, near, pattern, observe, compare, investigate, object, material, strength, change		
Light					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			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



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					there are ways to protect their eyes Recognise that shadows are formed when the light from a light source is blocked by an opaque object Find patterns in the way that the size of shadows change		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
					<i>light, dark, darkness, light source, sources of light, natural, artificial, sun, torch, candle, flame, reflection, reflect, reflective, mirror, shiny, dull, shadow, shadows, opaque, translucent, transparent, block, blocked, direction, straight, travel, observe, pattern, investigate</i>		<i>light, light source, reflection, reflect, ray, rays, straight lines, travel, shadow, shadowing, transparent, translucent, opaque, absorption, absorbed, refraction, refract, lens, lenses, prism, spectrum, visible light, colour, rainbow, pupil, retina, eye, diagram, investigation, compare, predict, pattern</i>
States of Matter					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.		
					<i>states of matter, solid, liquid, gas, particle, particles, arrangement, movement, state, heating, cooling, temperature, change, melt, melting, freezing, freeze, evaporation, evaporate, condensation, condense, water cycle, cycle, precipitation, rain, snow, hail, puddle, water vapour, air, gas, container, volume, shape, flow, compare, observe, investigate</i>		
Electricity					Identify common appliances that run on electricity Construct a simple series electrical circuit, identifying and naming its		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



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<u>Working Scientifically</u>	
EYFS	• Shows curiosity and asks simple “what / why / how” questions • Observes using senses and notices what is happening around them • Explores objects and materials through play and simple trial and error • Sorts and groups objects by obvious features (colour, size, shape, texture) • Talks about what they think or notice using simple explanations • Uses drawings, talk, or mark making to represent what they have observed • Shares ideas and findings with adults and peers in simple language
Year 1/2	• Asking simple questions and recognising that they can be answered in different ways • Observing closely, using simple equipment • Performing simple tests • Identifying and classifying • Using their observations and ideas to suggest answers to questions • Gathering and recording data to help in answering questions
Year 3/4	• 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	• 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 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

