Progression of Knowledge, Skills and Vocabulary- Science					
Animals including humans					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Knowledge					
● Identify and name a variety of common animals including fish, amphibians, reptiles, birds and ma ● Identify and name a variety of common animals that are carnivores, herbivores and omnivores ● Describe and compare the structure of a variety of common 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	● Understand that animals, including humans, have offspring which grow into adults ● 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	● 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 (LINK BACK: Y3 the different food groups our body needs- nutrients) ● 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 to old age ● (see Life Cycles - Living things and their habitats)	● 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
Skills					

●Make first hand close observations of animals from each of the groups ● Compare the structure of two animals from the same or different group e.g. wings, feathers, vertebrates/invertebrates. ● Classify animals using a range of features e.g. lay eggs/give birth to live young. herbivore, omnivore (these terms do not have to be explicitly taught). ● Identify animals by matching statements to named images. ● Take measurements of parts of the body and present results in a table to interpret . ● Conduct simple sense experiments. Which part of my body is good for feeling, which is not? Which food/flavours can I identify by taste?	●Ask questions and use secondary sources to find out about the life cycles of some animals ● Observe animals growing over a period of time e.g. chicks, caterpillars, a baby ● Ask questions of a parent about how they look after their baby ● Ask pet owners questions about how they look after their pet ● Investigate the effect of exercise on their bodies ● Classify food in a range of ways, including using the Eatwell guide ● Investigate washing hands, using glitter gel	●Classify food in a range of ways ● Use food labels to explore the nutritional content of a range of food items ● Use secondary sources to find out the types of food that contain different nutrients ● Use food labels to answer enquiry questions e.g. How much fat do different types of pizza contain? How much sugar is in soft drinks? ● Plan a daily diet contain a good balance of nutrients and record and present findings ● Explore the nutrients contained in fast food ● Use secondary sources to research the parts and functions of the skeleton ● Investigate pattern seeking questions such as ; Can people with longer legs run faster?; Can people with bigger	● Construct and interpret a variety of food chains, identifying producers, predators and prey. ● Can create food chains based on research. ● Identifies differences, and similarities of different types of teeth according to herbivore, omnivore and carnivore. ● Can record the teeth in their mouth (make a dental record). ● recreate the human stomach and observe representation of how food breaks down. ● Label the different parts of the digestive system.	●Plan and conduct a scientific enquiry to identify different food groups. ● Use labelled diagrams to support understanding of how nutrients and oxygen are delivered around the body. ● Use information to identify the main components of the heart. ● Predict what will happen to the heart during exercise. ● Construct and analyse the variables that makes a fair test. ● Conduct a fair investigation on the effects of exercise on the heart. ● Use scientific equipment to track results and record data using tables and graphs. ● Analyse whole class data after investigation to compare and reflect on findings and draw conclusions. ● Use information acquired to write a scientific report on how the

Which smells can I match?	● Describe, using diagrams, the life cycle of some animals, including humans, and their growth to adults e.g. by creating a life cycle book for a younger child ● Measure/observe how animals, including humans, grow. ● Collate what they know about looking after a baby/animal by creating a parenting/pet owners' guide ● Explain how development and health might be affected by differing conditions and needs being met/not met	hands catch a ball better? ● Compare, contrast and classify skeletons of different animals		
Vocabulary				

arm, leg, hand, foot, eyes, ears, mouth, nose see,hear,taste,smell, touch fish, amphibian, reptile, bird and mammal herbivore, carnivore, omnivore	offspring, adult, baby,parents,dead, alive, never-alive	carbohydrates, protein, fats, sugar, dairy, fruit and vegetables, balanced diet, energy skeleton,vertebrates/invertebrates, muscles, bones, ribs, skull, joints, spine, pelvis	molars, canines, incisors, oesophagus, saliva, stomach, intestines, anus, digestion, nutrients, food chain, energy, producer, predator, prey, decomposer	puberty ,life cycle reproduce	heart, blood, lungs, oxygenated, deoxygenated, plasma, platelets, red and white blood cells,plasma, blood vessels, veins, arteries, pulse

Progression of Knowledge, Skills and Vocabulary- Science					
Living things in their habitats					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Knowledge					
	● 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 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 micro-habitats ● Describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and		● 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 and have an impact on living things	● Describe the differences in the life cycles of a mammal, amphibian, insect and a bird ● Describe how different plants reproduce using the vocabulary related to pollination, asexual reproduction and seed dispersal	● Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences, including microorganisms, plants and animals ● Give reasons for classifying plants and animals based on specific characteristics

	identify and name different sources of food.				
Skills					
	● Explore the outside environment regularly to find objects that are living, dead and have never lived ● Classify objects found in the local environment ● Observe animals and plants carefully, drawing and labelling diagrams ● Create simple food chains for a familiar local habitat from first hand observation and research ● Create simple food chains from information given e.g. in picture books (Gruffalo etc.) ● Can sort into living, dead and never lived ● Can give key features that mean the		● Observe plants and animals in different habitats throughout the year and use recordings to compare and contrast the living things observed. ● Explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment. ● Classify living things found in different habitats based on their features. ● Create a simple identification key based on observable features. ● Use research to explore human	● Grow and observe plants that reproduce asexually e.g. strawberries, spider plant, potatoes organise mammals into different groups - sea and land and marsupials and use scientific evidence to refute/support correct/incorrect statements (such as 'dolphins are fish'). ● Draw and label appropriate scientific diagrams following use of secondary sources and first hand observations relating to the life cycle of a range of animals. ● Compare and contrast the life cycles of different living things and present findings	● Classify plants and animals and record conclusions from the use of classification keys. ● Use information about the characteristics of an unknown animal or plant to assign it to a group. ● Use secondary sources to learn about the formal classification system devised by Carl Linnaeus and why it is important. ● Research an unfamiliar animal or plant using its characteristics to establish where it belongs in the classification system.

	animal or plant is suited to its microhabitat ● Using a food chain can explain what animals eat ● Can explain in simple terms why an animal or plant is suited to a habitat		impact on the local environment e.g. litter, tree planting.* ● Use secondary sources to find out about how environments may naturally change.* ● Use secondary sources to find out about human impact, both positive and negative, on environments and write a report on this.	● Identify which insects complete which type of metamorphosis and present findings identify the key differences between some amphibians – for example, toads and frogs, and present findings in different forms. ● Use data to compare and find patterns, for example to compare the gestation times for mammals and look for patterns e.g. in relation to size of animal or length of dependency after birth/Look for patterns between the size of an animal and its expected life span)	
Vocabulary					
	dead, alive, never alive, habitat- desert, arctic, rainforest, ocean, food		classify, classification, classification key environment,deforestation, pollution, extinction,	life cycle, reproduction,pollination,fertilisation, asexual reproduction, seed dispersal, fruit, stigma,	microorganism, germ,microbe, characteristic, Linnaean system

	chain, predator, prey, diet		endangered, producer, decomposer	anther, ovary, ovule, pollen, nectar,	

Progression of Knowledge, Skills and Vocabulary- Science					
Plants					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Knowledge					
● 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	● Observe and describe how seeds and bulbs grow into mature plants ● Find out and describe how plants need water, light and a suitable temperature to grow and stay healthy	● 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 formation and seed dispersal	*See* Living things and their habitats- *Plant reproduction, seed dispersal, life cycles)*	● Identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution
Skills					
●Can sort and group parts of plants using similarities and differences e.g. the shape of	●Make close observations of seeds and bulbs ● Classify seeds and bulbs ● Research and plan when and how	●Observe what happens to plants over time when the leaves or roots are removed. ● Observe the effect of putting cut white carnations or celery in coloured water. ● Investigate what happens to plants when they are put in different conditions e.g. in darkness, in the cold, deprived of air, different types of soil,			

leaves, the colour of the flower/blossom. ● Can use simple charts and Venn diagrams etc. to identify and classify plants. ● Use photographs and their own observations to talk about how plants change over time (e.g. seed to sapling to tree) and over the year (deciduous and fruit bearing trees). ● Plant seeds and observe how they grow and change by making simple observations. ● Point to and name the parts of a plant, recognising that they are not always the same e.g. leaves and stems may not be	to plant a range of seeds and bulbs ● Look after the plants as they grow – weeding, thinning, watering etc. ● Make close observations and measurements of their plants growing from seeds and bulbs ● Make comparisons between plants as they grow ● Can spot similarities and difference between bulbs and seeds	different fertilisers, varying amount of space. ● Spot flowers, seeds, berries and fruits outside throughout the year. ● Observe flowers carefully to identify the pollen ● Observe flowers being visited by pollinators e.g. bees and butterflies in the summer. ● Observe seeds being blown from the trees e.g. sycamore seeds. ● Research different types of seed dispersal. ● Classify seeds in a range of ways including by how they are dispersed. ● Create a new species of flowering plant ● Can explain observations made during investigations. ● Can look at the features of seeds to decide on their method of dispersal. ● Can draw and label a diagram of their created flowering plant to show its parts, their role and the method of pollination and seed dispersal.

green, the leave					
Vocabulary					
deciduous, evergreen, plant, tree, leaf, stem, flower, petals, roots	seed, bulb, germination,temperature, sunlight, water, healthy, root, shoot	nutrients, photosynthesis, function	pollination,seed,dispersal, stigma, anther, ovary, ovule, pollen, nectar,	life cycle, reproduction, asexual reproduction,	adaptation, evolution

Progression of Knowledge, Skills and Vocabulary- Science					
Evolution and Inheritance					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Knowledge					
(*Links with Animals including Humans work on Parents and Offspring)*					● 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 adapted to suit their environment in different ways and that adaptation may lead to evolution
Skills					
					● Follow lines of enquiry to support Explanation of the process of

					evolution. ● Demonstrate an understanding, with specific examples, of how an animal or plant has evolved over time e.g. penguin, peppered moth. ● Identify characteristics that will make a plant or animal suited or not suited to a particular habitat. ● Compare the ideas of Charles Darwin and Alfred Wallace on evolution. ● Research the work of Mary Anning and understand how this provided evidence of evolution. ● Referring to and using examples of fossil evidence that support the theory of evolution.
Vocabulary					

parent, baby		fossil (from unit on rocks)			offspring, characteristic adaptation, natural selection, identical, genes, Charles Darwin

Progression of Knowledge, Skills and Vocabulary- Science					
Seasonal Changes					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Knowledge					
● Observe changes across the four seasons ● Observe and describe weather associated with the seasons and how day length varies			*water cycle- different types of precipitation*	*Link to Space unit- Why do we have different Seasons?*	
Skills					
●Gather and record data about weather conditions in autumn, drawing on observation and using simple equipment (such as a container to measure rainfall) *.* ● Use data to create a pictogram and use this to describe changes in day length over the seasons.				Plans different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary. ● Takes measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. ● Records data and results of increasing	

● Use their evidence to describe some other features of the weather, surroundings, themselves, animals, and plants found in autumn. ● Demonstrate their knowledge in different ways e.g. creating seasonal artwork, creating a pictogram (and use this to ask and answer related questions)				complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs. ● Reports and presents 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. ● Uses test results to make predictions to set up further comparative and fair tests. ● Identifies scientific evidence that has been used to sup	
Vocabulary					
autumn, winter, spring, summer, rain, snow, frost, wind, sun, fog, mist, clouds,			precipitation- snow, hail, rain	autumn, winter, spring, summer, rain, snow, frost, wind, sun, fog, mist, clouds,	

temperature (warm/cold/freezing) day, night,				temperature (warm/cold/freezing) day, night,	

Progression of Knowledge, Skills and Vocabulary- Science					
Materials and States of Matter					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Knowledge					
● 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 physical properties	● Identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses ● Describe how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching	(Rocks, Light, Magnets)	● 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 ● Know that some materials are good thermal insulators that prevent the transfer of heat from warm to cold	● 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 ● Recognise 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	
Skills					
● Compare and group together a variety of everyday materials on the basis of their simple physical properties. ● Classify objects made of one	● Classify and sort materials by their properties e.g. manmade, natural ● Investigate and observe what happens to different materials		● Observe closely and classify a range of solids and liquids. ● Explore making gases visible ● Classify materials according to whether they	●Investigate the properties of different materials in order to recommend materials for particular functions depending on these properties e.g. test waterproofness and	

material in different ways e.g. a group of objects made of metal. ● Classify one type of object made from a range of materials e.g. a collection of spoons made of different materials. ● Chosen an appropriate method for testing an object for a particular property. ● Use their test evidence to answer the questions about properties e.g. Which cloth is the most absorbent? ● Test the properties of objects e.g. absorbency of cloths, strength of party hats made of different papers, stiffness of paper plates, waterproofness of shelters.	during testing and use this to inform explanation of their properties ● Investigate which materials are fit for a purpose e.g. What is the best material for an umbrella? ● Explain from their observations how materials change when a force is exerted on them by squashing, bending, twisting and stretching. ● Investigate the transparency of objects, recording class data in a table and drawing simple conclusions from the findings. ● Ask and answer questions about everyday materials		are solids, liquids and gases. ● Observe a range of materials melting. ● Investigate how to melt ice more quickly. ● Observe the changes that are non-reversible relating (common ingredients). ● Investigate melting point of different materials. ● Explore freezing different liquids. ● Observe and measure temperature of icy water, tap water, hot water. ● Observe water evaporating and condensing. ● Set up investigations to explore changing the rate of evaporation.* ● Use secondary sources to find out about the water cycle.* ● Using their data, can explain what affects how	thermal insulation to identify a suitable fabric for a coat ● Explore adding a range of solids to water and other liquids e.g. cooking oil, as appropriate ● Investigate rates of dissolving by carrying out comparative and fair test and records findings * * ● Separate mixtures by sieving, filtering and evaporation, choosing the most suitable method and equipment for each mixture ● Explore a range of non-reversible changes e.g. rusting, adding fizzy tablets to water, burning ● Carry out comparative and fair tests involving non-reversible changes e.g. What affects the	

			quickly a solid melts. ● From their data, can explain how to speed up or slow down evaporation. ● Present learning about the water cycle in a range of ways e.g. diagrams, explanation text, story of a water droplet.	rate of rusting? What affects the amount of gas produced? ● Research new materials produced by chemists e.g. Spencer Silver (glue of sticky notes) and Ruth Benerito (wrinkle free cotton)	
Vocabulary					
object, material, wood, plastic, metal, water, rock, fabric property- everyday language *e.g hard/soft, stretchy, rough, bendy, see-through, strong etc* sort, waterproof	squash, bend, twist, stretch	absorbent/not,absorbent, durable transparent, translucent, opaque,magnetic	solid, liquid, gas, state, heat, cool, melt, freeze, evaporate, condense, thermometer, temperature, degrees celsius, The water cycle, precipitation, thermal insulator	dissolve, soluble, insoluble, solution, conductor, insulator, filter, filtering, filter paper, sieving, evaporation, reversible change, irreversible change, burning	

Progression of Knowledge, Skills and Vocabulary- Science					
Electricity					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Knowledge					
Know that electricity is needed to make some things work.	Know that electricity is needed to make some things work. Know that some appliances need batteries and some use mains electricity to work.		● 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		● 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

			lamp lights in a simple series circuit ● Recognise some common conductors and insulators, and associate metals with being good conductors		
Skills					
			● Construct and investigate a range of circuits. ● Investigate which materials can be used instead of wires to make a circuit . ● Classify materials that conduct electricity and those that don't following investigation and record findings..* ● Investigate the effect of a switch and combinations of switches in simple circuits. ● Investigate switches and consider variations for specific uses, such		● Draw circuit diagrams of a range of simple series circuits, using recognised symbols. ● Communicate structures of circuits using circuit diagrams with recognised symbols ● make electric circuits and demonstrate, following investigation, how variation in the working of particular components can be changed. ● Plan and select resources for a fair scientific enquiry,

			as a pressure switch for a burglar alarm. ● Apply their knowledge of conductors and insulators to design and make different types of switch.		deciding which variables to control. ● Record results from an experiment using tables and graphs ● Evaluate and explain their investigation, results and conclusions.
Vocabulary					
			electricity, mains, electricity, battery, wire, bulb, buzzer, motor, switch, circuit, electrical conductor, electrical insulators, metals		cell, voltage, component, circuit diagram, symbols

Progression of Knowledge, Skills and Vocabulary- Science					
Earth and Space					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Knowledge					
				● 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 ● Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky	
Skills					
				● Use secondary sources to help create a model e.g. role play or using balls, to show the movement of the Earth around the Sun and the Moon around the Earth. ● Use secondary sources to create a	

				model to show why day and night occur ● Make first-hand observations of how shadows caused by the Sun change through the day ● Make a sundial and report on findings following observation of the changing place of the shadow, making conclusions as to what this demonstrates and how the sundial was used to indicate the time. ● Research time zones ● Consider the views of scientists in the past and how evidence was used to deduce the shapes and movements of the Earth, Moon and planets before space travel.	
Vocabulary					

				solar system, orbit, sphere, Earth's axis, planets (Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune) gas giant, terrestrial planet, meteor, star crater	

Progression of Knowledge, Skills and Vocabulary- Science					
Forces and Magnets					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Knowledge					
Explore floating and sinking, pushes and pulls.	*Explore cars moving quicker on different surfaces.*	● Compare how things move on different surfaces ● Notice that some forces need contact between two objects, but magnetic forces can act at a distance ● 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 two poles Predict whether two magnets will attract or repel each other, depending on which poles are facing		● 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, allow a smaller force to have a greater effect	
Skills					

		●Record and report on findings from investigations, involving how things move on different surfaces ● Compare and group materials following magnetic testing, recording findings and use the outcome to answer questions about which materials are magnetic. ● Make and investigate predictions on whether two magnets will attract or repel, depending on which poles are facing		● Investigate the pull on different objects using a newton metre and record forces in Newtons (N). ● Report on conclusions relating to an object's mass and its weight in Newtons. ● Investigate the effect of friction in a range of contexts . ● Investigate the effects of water resistance in a range of contexts e.g. dropping shapes through water, pulling shapes e.g. boats along the surface of water. ● Investigate the effects of air resistance in a range of contexts e.g. parachutes, spinners, sails on boats. ● Explore how levers, pulleys and	

				gears work. ● Research how the work of scientists such as Galileo Galilei and Isaac Newton helped to develop the theory of gravitation.	
Vocabulary					
float, sink, push pull		magnet, magnetic, poles, north pole, south pole, magnetic force,attract, repel, metals, friction, force metre		gravity, air resistance, water resistance, mechanism, machine, lever, pulley, gears, work	

Progression of Knowledge, Skills and Vocabulary- Science					
Light					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Knowledge					
● Know that we use our eyes to see		● Recognise that he/she needs 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 eyes ● Find patterns in the way that the size of shadows change		*(Link and revisit- Year 5 work on Space, Day and Night, Shadows on the Moon)*	● 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. Notice how light can be split into different colours using a prism.

Skills					
● Investigate that the brain and eyes work together to give us our sense of sight		● Observe and identify changes to the size and orientation of shadows, relative to their proximity to the light source. ● Observe and identify the difference in shadows of opaque, translucent and transparent objects/materials. ● Observe how shadows are formed and affected by different circumstances. ● To notice that light can be reflected off surfaces and Replace with 'investigate the visibility of different materials (eg shiny; foil, mirrors and matt; sugar paper) in a darker environment according to which reflect most light.'			● Plan and conduct a test to investigate how light travels and explain/present the findings. ● Investigate the use of mirrors to reflect light and record using straight line diagrams to indicate the direction of light. ● Use mirrors, torches and protractors to demonstrate and record how light is reflected in a mirror and how we see ourselves in a mirror. ● Measure and record the angle of incidence and angle of reflection using a protractor and detailed diagram.

		● Investigate the size of shadows according to times of day and year, by tracing shadows outside and comparing differences. ● Classify materials according to opaque, transparent and translucent. ● Use oral and written explanations to report on why shadows are formed and how the length and size of a shadow can be changed. ● Investigates questions related to an object and the shadow it will cause.			
Vocabulary					
eyes, sight		source of light darkness reflect, mirror transluce nt			prism, periscope

		transpar ent opaque shadow			

Progression of Knowledge, Skills and Vocabulary- Science					
Sound					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Knowledge					
Exploring how to change the volume of a sound during music lessons. ● Know we use our ears to hear	*Exploring how to change the volume and pitch of a sound during music lessons.*	*Exploring how to change the volume and pitch of a sound during music lessons.*	● 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	*Links with Music*	*Links with Music*
Skills					

●Experiment with at least three different instruments to observe and explore volume and pitch to know that we use our ears to hear.			● Make predictions and draw conclusions about the pitch and volume of sounds.* ● Note how vibrations make sounds of different volumes and travel to our ears. ● Identify and show how sound travels through particles and into the ear. ● Make own instruments that produce a range of pitches.		
Vocabulary					
ear,sound,hearing			vibration, volume, pitch ear,sound,hearing		

Progression of Knowledge, Skills and Vocabulary- Science					
Rocks					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Knowledge					
		● 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			● Recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago
Skills					
		● Can compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. ● Can devise tests to			●Make observations and begin testing properties ●Discover how rocks are formed ●Observe how rocks are used in the local environment

		explore the properties of rocks and use data to rank the rocks* ● Can link rocks changing over time with their properties e.g. soft rocks get worn away more easily ● Can present in different ways their understanding of how fossils are formed e.g. in role play, comic strip, chronological report, stop-go animation etc. ● Can identify plant/animal matter and rocks in samples of soil ● Can devise a test to explore the water			●Research about fossils and how they are made ●Research famous rock and fossil experts ●Explore soils
Vocabulary					
		fossil rock,sedimentary ,soil, organic matter, crystals,molten rock, lava	palaeontologist	sedimen tary soil, fossil rock,sedi mentary ,soil, organic	

				matter, crystals, molten rock, lava	