



Science Long Term Overview



	Autumn Term		Spring Term		Summer Term	
Pre-School Learning in Science in Pre-School will come up as the year progresses on children's interests or from books (See Kno & Und floor book)	All About me! Starting Pre- School Who is in my family? What makes me special? I can use all my senses to explore my environment and natural materials	Celebrations! Birthdays Christmas Bonfire Night The Nativity Story Halloween Celebrations What do others celebrate? (RE) Dinosaurs (linking to personal interests) I can use all my senses to explore my environment and natural materials I can name some of my body parts (Funnybones/ PE)	MARVELLOUS MINIBEASTS! David Attenborough (Pre-Learning for Reception) Minibeasts Who am I? describing minibeasts Comparing animals- jungle, arctic Cold and hot countries Planting flowers to attract minibeasts <u>Rising 3's</u> New topics based on children's interests I understand the key features of the life cycle of the plant/ animal (Pre-learning Reception) I can name some animal body parts (beak/ tail)	People who help us! Construction How does Fireman Sam help people? 999, what's your emergency? Cars and different modes of transport Trains Aero planes Baby clinic and nurses What does the Easter Bunny do? Dentist visit? Teeth brushing and oral health <u>Rising 3's</u> New topics based on children's interests I can explore and talk about different forces I can feel I can explore materials with similar / different properties	Let's grow! Growing sunflowers Nature walks and looking at the weather Making a rain catcher Rainbows Planting and growing own fruit and vegetables Fruit salads <u>Rising 3's</u> New topics based on children's interests I can plant a seed and care for growing plants, understanding they need water and light	FANTASY LAND! Graduation ceremony Personal interests – Sooty, Elsa, Peppa, Toy story Castles, knights and Dragons Sleeping Beauty Frozen- Elsa Pirates <u>Rising 3's</u> New topics based on children's interests
Key Vocabulary	Senses Explore Environment	Body Head Shoulders Feet Arms Legs Eyes/nose/mouth/ears	Hot Cold Grow Animal body parts Life cycle	Fast Slow Move Build Hard Soft	Grow Care Sun Light Weather vocabulary	Vocabulary linked to children's interests
	1	2	1	2	1	2
Reception Learning in Science in Reception will come	All About me! Staying healthy / Food / Human body How have I changed? My family / PSED focus	Terrific Tales! Traditional Tales/Disney Little Red Hen - Harvest Disney's Frozen- arctic life Familiar tales Library visits	Amazing Animals! Life cycles Safari Animals around the world Climates / Hibernation Down on the Farm	Come Outside! Plants & Flowers Weather / seasons Does the moon shine? The great outdoors Forest School	Vehicles! Around the Town How do I get there? Where in the world have you been?	ROAR! Hook lesson with the giant dinosaur egg Creating fossils Make Volcanos Are dinosaurs extinct?

<p>up as the year progresses on children's interests or from books (See Kno & Und floor book)</p>	<p>I can explore seasonal changes (melting etc – pre-learning Y1)</p> <p>I can talk about how I am similar and different to others as well as other animals</p>	<p>I can explore seasonal changes (Antarctica-Link to Disney Frozen)</p> <p>Autumn- I can explore hibernation</p>	<p>Mini Beasts Animal Arts and crafts Night and day animals Animal patterns David Attenborough Happy Habitats</p> <p>I can explore the life cycle of animals (chicks/ butterflies) and plants</p>	<p>Planting seeds Make a sculpture Reduce, Reuse & Recycle Fun Science / Materials</p> <p>I can explore seasonal changes (melting etc – pre-learning Y1)</p> <p>I can explore the life cycle of animals (chicks/ butterflies) and plants</p>	<p>Where do we live in the UK / world? Fly me to the moon! Vehicles past and Present Design your own transport! Who was Neil Armstrong?</p>	<p>Dinosaur School Design a fact file on dinosaurs Mary Anning Magic Grandad</p> <p>I can explore seasonal changes (melting etc – pre-learning Y1)</p>
<p>Personalisation and Subject Links</p>	<p>Everything planned from children's interests from parent's questionnaires on children's likes</p>					
<p>Key Vocabulary</p>	<p>Healthy Food Animal Human Baby Adult Child Teenager</p>	<p>Hibernation Freeze Thaw Night Day</p>	<p>Climate Hibernate Life cycle Birth Grow</p>	<p>Soil Water Light Grow Care Changes Observe Recycle Design Seasons</p>	<p>Vehicles Space Moon Planets and names Design Transport</p>	<p>Dinosaurs Pre-historic Climate Hot Extinct</p>
<p>Year 1</p>	<p>Animals Sorting and Grouping</p>	<p>Enquiry Based Science Seasonal Changes</p>	<p>Everyday Materials</p>	<p>Seasonal Changes/ Weather</p>	<p>Plants</p>	<p>Animals Inc Humans Seasonal Changes/ weather</p>
<p>Key Stage 1 National Curriculum</p>	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> observe changes across the 4 seasons observe and describe weather associated with the seasons and how day length varies 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> observe changes across the 4 seasons observe and describe weather associated with the seasons and how day length varies 	<ul style="list-style-type: none"> 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. <p>Children might work scientifically by:</p> <ul style="list-style-type: none"> Observe closely using magnifying glasses whilst comparing and contrasting familiar plants. 	<ul style="list-style-type: none"> identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense. Pupils might work scientifically by: asking simple questions and recognising that they can be answered in different ways. using their observations and ideas to suggest answers to questions

			simple physical properties		<ul style="list-style-type: none"> Describe how we are able to group them whilst drawing diagrams to show the parts. Keep records of how plants change over time. 	<ul style="list-style-type: none"> gathering and recording data to help in answering questions observe changes across the 4 seasons observe and describe weather associated with the seasons and how day length varies
Personalisation and Subject Links	Art: Drawing the animals during Art Week from x7 different continents. Geography: Looking at animals from different continents.	English: create a factfile on each season Computing: Time lapse	English & DT- Creating a cape for Paddington Bear	English: create a factfile on each season Computing: Time lapse	Computing-time lapse photography Art- changing the colour of the petals Maths- recording data	English: create a factfile on each season Computing: Time lapse Art: The Human Body cut and stick bones DT: Tasting food- creating a healthy snack English: Funnybones book
Key Vocabulary	Animals Habitat Nocturnal Amphibian Reptile Fish Bird Mammal Carnivore Herbivore Omnivore	Spring Summer Autumn Winter Weather Season Changes Time lapse	Paddington Cape Waterproof Material Wood Plastic Glass Metal Fabric Man made Natural	Spring Summer Autumn Winter Weather Season Changes Time lapse	Seed, bulb, plant, water, light, temperature, leaves, flowers, blossom, petals, fruit, roots, bulb, seed, trunk, branches, stem.	Spring Summer Autumn Winter Weather Season Changes Time lapse
Year 2	Animals Inc Humans	Living things and their habitats	Uses of everyday materials	Plants	Living things and their habitats	Living things and their habitats
Key Stage 1 National Curriculum	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> explore and compare the differences between things that are living, dead, and things that have never been alive Pupils might work scientifically by: sorting and classifying things according to whether they are living, dead or were never alive, and recording their 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 Pupils should use the local environment throughout the year 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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. Pupils might work scientifically by: constructing a simple food chain that includes humans (e.g. grass, cow, human).

	<p>amounts of different types of food, and hygiene</p> <p>* To be done during Health and Fitness week summer term.</p> <p>• Pupils might work scientifically by: observing, through video or first-hand observation and measurement, how different animals, including humans, grow; asking questions about what things animals need for survival and what humans need to stay healthy; and suggesting ways to find answers to their questions.</p>	<p>findings using charts. They should describe how they decided where to place things, exploring questions for example: 'Is a flame alive? Is a deciduous tree dead in winter?' and talk about ways of answering their questions.</p>	<p>• Pupils might work scientifically by: comparing the uses of everyday materials in and around the school with materials found in other places (at home, the journey to school, on visits, and in stories, rhymes and songs); observing closely, identifying and classifying the uses of different materials, and recording their observations.</p>	<p>to observe how plants grow. (Using Nature Diaries)</p> <p>• Pupils might work scientifically by: observing and recording, with some accuracy, the growth of a variety of plants as they change over time from a seed or bulb, or observing similar plants at different stages of growth; setting up a comparative test to show that plants need light and water to stay healthy.</p>	<p>habitats, including microhabitats</p> <p>• Pupils might work scientifically by: They could describe the conditions in different habitats and micro-habitats (under log, on stony path, under bushes) and find out how the conditions affect the number and type(s) of plants and animals that live there.</p>	<p>Animals including humans</p> <p>• describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene * To be done during Health and Fitness week summer term.</p>
Personalisation and Subject Links	<p>English: The Crow's Tale; Animals: non-chronological report Art: human sculpture</p>	<p>English: The Owl Who Was Afraid of the Dark. Explore the school environment to find examples.</p>	<p>DT: lunar buggy, Computing: space History: UK space race English: Instructions-How to Make a Bird Feeder</p>	<p>Grow our own plants Eco council: sow a wild flower meadow Art: paint the gardens at Giverny</p>	<p>Maths: pictogram English: Little Red Reading Hood Back Lane Woods habitats trip</p>	<p>DT: food- create a healthy salad PE: exercise PSHE: hygiene</p>
Key Vocabulary	<p>Offspring, reproduction, growth, child, young/old stages (examples - chick/hen, baby/child/adult, caterpillar/butterfly)</p>	<p>Living, dead, never been alive</p>	<p>Materials – wood, metal, plastic, glass, brick, rock, paper, cardboard</p> <p>Properties – as for Y1 plus opaque, transparent and translucent, reflective, non-reflective, flexible, rigid</p>	<p>Seed, bulb, plant, water, light, temperature, growth, healthy, mature, observe, germinate</p>	<p>Names of local habitats e.g. pond, woodland etc. Names of micro-habitats e.g. under logs, in bushes etc</p>	<p>Food, food chain</p>

			Shape- push/pushing, pull/puling, twist/twisting, squash/squashing, bend/bending, stretch/stretching			
Year 3	Animals Inc Humans		Forces & Magnets	Rocks & Soil	Plants (across summer term)	Light & Shadows (across summer term)
Key Stage 2 National Curriculum	<p>skeletons identify that humans and some other animals have skeletons and muscles for support, protection and movement</p>	<p>healthy eating 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</p>	<ul style="list-style-type: none"> compare how things move on different 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 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 	<ul style="list-style-type: none"> 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 an opaque object find patterns in the way that the size of shadows change
Personalisation and Subject Links	P.E. movement	DT food tech: sandwiches		geog volcanoes & earthquakes art fossil prints	link with environment	D.T. outdoor shelter from the sun art silhouettes
Key Vocabulary	Bone Skeleton Joint Muscle Vertebrate Invertebrate Support Protect Move Skull Ribs Spine carnivore herbivore omnivore ext Exoskeleton	nutrition nutrients carbohydrates sugar starch protein vitamins minerals fibre fat Dairy Carnivore Herbivore Omnivore Vegetarian Energy Growth	Magnet (horseshoe/bar /button) magnetic poles attract repel force push pull contact force non-contact	(types of rock, sizes of rocks) Rock Igneous Metamorphic Sedimentary Lava Volcano Fossil Pressure Permeable Absorb Soil Humus Clay	Focus on function of part of plant Types and names of plants photosynthesis pollen pollination reproduce stamen carpel dispersal ext osmosis/ capillary action chlorophyll transpiration	Light light source darkness shadow transparent translucent opaque shiny matt surface reflect(ive) mirror comparative language

	Endoskeleton (Hydrostatic skeleton)					
Year 4	Electricity	Sound	Ongoing science using 'Explorify'.	Animals including Humans	Living things and their habitats	States of Matter
Key Stage 2 National Curriculum	<ul style="list-style-type: none"> 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. <p>Pupils might work scientifically by:</p>	<ul style="list-style-type: none"> 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. Pupils might work scientifically by: Find patterns in the sounds that are made by different objects such as saucepan lids of different sizes or elastic bands of different thicknesses. They might make earmuffs from a variety of different 		<ul style="list-style-type: none"> 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. <p>Pupils might work scientifically by:</p> <ul style="list-style-type: none"> Compare the teeth of carnivores and herbivores, and suggesting reasons for differences Find out what damages teeth and how to look after them. They might draw and discuss their ideas about the digestive system and compare them with models or images. 	<ul style="list-style-type: none"> 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 <p>Pupils might work scientifically by:</p> <ul style="list-style-type: none"> use and make simple guides or keys to explore and identify local plants and animals; making a guide to local living things Raise and answer questions based on their observations of animals and what they have found out about other animals that they have researched. 	<ul style="list-style-type: none"> 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. <p>Pupils might work scientifically by:</p> <ul style="list-style-type: none"> Group and classify a variety of different materials; exploring the effect of temperature on substances such as chocolate, butter, cream Research the temperature at which materials change state, for example,

	<ul style="list-style-type: none"> observing patterns, for example, that bulbs get brighter if more cells are added, that metals tend to be conductors of electricity, and that some materials can and some cannot be used to connect across a gap in a circuit. 	<p>materials to investigate which provides the best insulation against sound. They could make and play their own instruments by using what they have found out about pitch and volume.</p>				<p>when iron melts or when oxygen condenses into a liquid.</p> <ul style="list-style-type: none"> Observe and record evaporation over a period of time, for example, a puddle in the playground or washing on a line, and investigate the effect of temperature on washing drying or snowmen melting.
Personalisation and Subject Links	<p>Art: drawing circuits</p> <p>English – describe what they are doing and explain what they have found out.</p>	<p>Music – Hearing sounds and pitch</p> <p>D&T- Making instruments</p>		<p>Art – Drawing of digestive system and teeth.</p> <p>ICT – Research</p>	<p>Art: drawing and painting habitats.</p> <p>English – discussions / debates about habitats and impacts.</p> <p>ICT – Recording information and taking photographs.</p>	<p>Maths – data logging.</p> <p>Classifying and grouping materials.</p> <p>English – Descriptions and explanations throughout unit.</p>
Key Vocabulary	<p>Electricity, electrical appliance/device, mains, plug, electrical circuit, complete circuit, component, cell, battery, positive, negative, connect/connections, loose connection, short circuit, crocodile clip, bulb, switch, buzzer, motor, conductor, insulator, metal, non-metal, symbol</p>	<p>sound, source, vibrate, vibration, travel, pitch (high, low), volume, faint, loud, insulation</p>		<p>Saliva, tongue, teeth, omnivore, carnivore, herbivore, digestion, chemicals, digest, break up, liquid, large and small intestine, gallbladder, incisors, molars, canines</p>	<p>Classification, classification keys, environment, habitats, humans, dangers, conservation, negative, positive, migrate, hibernate.</p>	<p>Solid, liquid, gas, state change, melting, freezing, melting point, boiling point, evaporation, temperature, water cycle</p>

Year 5	Living Things	Properties of Materials	Change of Materials	Animals including humans	Earth and Space	Forces
<p>Key Stage 2 National Curriculum</p>	<p>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.</p> <p>Pupils should study and raise questions about their local environment throughout the year. They should observe life-cycle changes in a variety of living things, for example, plants in the vegetable garden or flower border, and animals in the local environment. They should find out about the work of naturalists and animal behaviourists, for example, David Attenborough and Jane Goodall.</p>	<p>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.</p> <p>Give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic.</p> <p>Pupils should build a more systematic understanding of materials by exploring and comparing the properties of a broad range of materials, including relating these to what they learnt about magnetism in Year 3 and about electricity in Year 4. They should find out about how chemists create new materials, for example, Spencer Silver, who invented</p>	<p>Use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating.</p> <p>Know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution.</p> <p>Demonstrate that dissolving, mixing and changes of state are reversible changes.</p> <p>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.</p> <p>Pupils should explore reversible changes, including, evaporating, filtering, sieving, melting and dissolving, recognising that melting and dissolving are different processes.</p> <p>Pupils should explore changes that are difficult</p>	<p>Describe the changes as humans develop to old age.</p> <p>Pupils should draw a timeline to indicate stages in the growth and development of humans. They should learn about the changes experienced in puberty.</p> <p>Pupils could work scientifically by researching the gestation periods of other animals and comparing them with humans; by finding out and recording the length and mass of a baby as it grows.</p>	<p>Describe the movement of the Earth, and other planets, relative to the Sun in the solar system.</p> <p>Describe the movement of the Moon relative to the Earth.</p> <p>Describe the Sun, Earth and Moon as approximately spherical bodies.</p> <p>Use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.</p> <p>Pupils should be introduced to a model of the Sun and Earth that enables them to explain day and night.</p> <p>Pupils should learn that the Sun is a star at the centre of our solar system and that it has eight planets: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune. They should understand that a moon is a celestial body that orbits a</p>	<p>Explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object.</p> <p>Identify the effects of air resistance, water resistance and friction, that act between moving surfaces.</p> <p>Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.</p> <p>Pupils should explore falling objects and raise questions about the effects of air resistance. They should explore the effects of air resistance by observing how different objects such as parachutes and sycamore seeds fall. They should experience forces that make things begin to move, get faster or slow down.</p> <p>Pupils should explore the effects of friction on movement and find out how it slows or stops moving objects, for example, by observing</p>

	<p>Pupils should find out about different types of reproduction, including sexual and asexual reproduction in plants, and sexual reproduction in animals.</p> <p>Pupils might work scientifically by: observing and comparing the life cycles of plants and animals in their local environment with other plants and animals around the world (in the rainforest, in the oceans, in desert areas and in prehistoric times), asking pertinent questions and suggesting reasons for similarities and differences. They might try to grow new plants from different parts of the parent plant, for example, seeds, stem and root cuttings, tubers, bulbs. They might observe changes in</p>	<p>the glue for sticky notes or Ruth Benerito, who invented wrinkle-free cotton.</p> <p>Pupils might work scientifically by: carrying out tests to answer questions, for example, 'Which materials would be the most effective for making a warm jacket, for wrapping ice cream to stop it melting, or for making blackout curtains?'</p>	<p>to reverse, for example, burning, rusting and other reactions, for example, vinegar with bicarbonate of soda. They might compare materials in order to make a switch in a circuit. They could observe and compare the changes that take place, for example, when burning different materials or baking bread or cakes. They might research and discuss how chemical changes have an impact on our lives, for example, cooking, and discuss the creative use of new materials such as polymers, super-sticky and super-thin materials.</p>		<p>planet (Earth has one moon; Jupiter has four large moons and numerous smaller ones).</p> <p>Pupils should find out about the way that ideas about the solar system have developed, understanding how the geocentric model of the solar system gave way to the heliocentric model by considering the work of scientists such as Ptolemy, Alhazen and Copernicus.</p> <p>Pupils might work scientifically by: comparing the time of day at different places on the Earth through internet links and direct communication; creating simple models of the solar system; constructing simple shadow clocks and sundials, calibrated to show midday and the start and end of the school day; finding out why some people think that structures such as Stonehenge might have been used as astronomical clocks.</p>	<p>the effects of a brake on a bicycle wheel.</p> <p>Pupils should explore the effects of levers, pulleys and simple machines on movement.</p> <p>Pupils might find out how scientists, for example, Galileo Galilei and Isaac Newton helped to develop the theory of gravitation.</p> <p>Pupils might work scientifically by: exploring falling paper cones or cup-cake cases, and designing and making a variety of parachutes and carrying out fair tests to determine which designs are the most effective. They might explore resistance in water by making and testing boats of different shapes. They might design and make products that use levers, pulleys, gears and/or springs and explore their effects.</p>
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	an animal over a period of time, comparing how different animals reproduce and grow.					
Personalisation and Subject Links	Computing – digital research Art – sketching English – writing information texts English – speaking and listening	Computing – digital research English – writing English – speaking and listening	Computing – digital research English – writing English – speaking and listening	Mathematics - graphs English – writing English – speaking and listening	Mathematics - ratio English – writing Computing – digital research	English – writing Computing – digital research
Key Vocabulary	gamete, stamen, stigma, carpel, pistil, pollination, germination, flowering, sexual reproduction, life cycle, seed, pollen, anther, filament, style, ovary, botanical illustration, dissection, asexual & sexual reproduction, metamorphosis, amphibian, insect, life cycle, mammal, bird, sexual reproduction, life cycle, gestation,	material, property, magnetic, hard, transparent, flexible, permeable, opinion/fact, variables, accuracy, precision, scatter graphs, material names, property names, enquiry, variables, accuracy, precision, line graphs, causal relationship, degree of trust, thermal insulator/conductor, Adhesive, sticky, solution, problem,	variables, accuracy, precision, enquiry, solid, liquid, gas, dissolve, soluble, solute, solution, line graph, separate, mixture, suspension, insoluble, dissolve, evaporate, filter, sieve, magnet, attract, particles, enquiry, new material, not usually reversible, irreversible, reversible, boiled, scrambled, poached, physical, chemical,	human, development, baby, toddler, child, teenager, adult, senior, life cycle, gestation, puberty, reproduce, development growth, grow, changes, fertilisation, adulthood, menstruation, period, sexual reproduction, asexual reproduction	Earth, Sun, Moon, sphere, circle, evidence, flat, round, solar system, celestial body, sphere/spherical, Mercury, Venus, Mars, Jupiter, Saturn, Uranus, Neptune, Pluto, 'dwarf' planet, orbit, opinion/fact, accuracy, precision, scatter graphs, line graphs, support/refute	Gravity, forces, Isaac Newton, newton meter, weight, mass, variables, accuracy, causal relationships, support/refute, fall, gravity, water resistance, Fraction, force, brake, prediction, investigation, measure, observe, variables, results, support, fall, Earth, gravity, air resistance, friction, moving surfaces, air

	foetus, sperm, egg, uterus, chick, egg, baby, adult, Natural scientist, naturalist, observation, conservation, endangered	microsphere adhesive, persistent, cotton, chemistry	reaction, reactant, product			resistance, friction, balancing force
Year 6	Evolution and Inheritance	Living things and their habitats	Animals including humans		Electricity	Light
Key Stage 2 National Curriculum	<p><u>NC Objectives</u> 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.</p> <p><u>Guidance</u> Find out more about how living things on earth have changed over time. They should also appreciate that variation in offspring over time can make animals more or less able to survive in particular environments, for</p>	<p><u>NC Objectives</u> Describe how living things are classified into broad groups according to common, observable characteristics and based on similarities and differences, including micro-organisms, plants and animals. Give reasons for classifying plants and animals based on specific characteristics.</p> <p><u>Guidance</u> They should be introduced to the idea that broad groupings, such as micro-organisms, plants and animals can be subdivided. Classify animals into commonly found invertebrates (such as insects, spiders, snails, worms) and vertebrates (fish, amphibians, reptiles, birds and mammals). Look at the significance of the work of scientists such as Carl Linnaeus.</p> <p>Pupils might work scientifically by: using</p>	<p><u>NC Objectives</u> Identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. Describe the ways in which nutrients and water are transported within animals, including humans.</p> <p><u>Guidance</u> Pupils should build on their learning from years 3 and 4 about the main body parts and internal organs (skeletal, muscular and digestive system)</p> <p>Pupils might work scientifically by: exploring the work of scientists and scientific research about the relationship between diet, exercise, drugs, lifestyle and health.</p>	SATs preparation N/A – work on scientific enquiry	<p><u>NC Objectives</u> 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.</p> <p><u>Guidance</u> Pupils should construct simple series circuits, to help them to answer questions about what happens when they try different components, for example, switches, bulbs, buzzers and motors. They should learn how to represent a simple circuit in a diagram using recognised symbols. Note: Pupils are expected to learn only about series circuits, not parallel circuits.</p>	<p><u>NC Objectives</u> 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.</p> <p><u>Guidance</u> Pupils might work scientifically by: deciding where to place rear-view mirrors on cars; designing and making a periscope and using the idea that light appears to travel in straight lines to explain how it works. They might investigate the relationship between</p>

	<p>example, by exploring how giraffes' necks got longer, or the development of insulating fur on the arctic fox.</p> <p>Pupils might find out about the work of palaeontologists such as Mary Anning and about how Charles Darwin and Alfred Wallace developed their ideas on evolution.</p>	<p>classification systems and keys.</p>			<p>Pupils should be taught to take necessary precautions when working with electricity.</p> <p>Pupils might work scientifically by: systematically identifying the effect of changing one component at a time in a circuit; designing and making a set of traffic lights, a burglar alarm or some other useful circuit.</p>	<p>light sources, objects and shadows by using shadow puppets. They could extend their experience of light by looking a range of phenomena including rainbows, colours on soap bubbles, objects looking bent in water and coloured filters (they do not need to explain why these phenomena occur).</p>
<p>Personalisation and Subject Links</p>	<p>Art: Fossil art work DT: Home learning opportunity to possibly make our own fossils English: Darwin, Wallace and Anning biographies Newspaper report showcasing the new animal species they design</p>	<p>Art: observational drawings Maths: Venn diagrams, flow charts etc.</p>	<p>DT: Blood model English: non-chronological reports Maths: data handling (tables and graphs to record pulse rates) Art: Homework task – portrait/haiku for blood components</p>			<p>English: Writing explanations and non-chronological reports Maths: recording results in tables and measuring angles DT: Making periscopes</p>
<p>Key Vocabulary</p>	<p>Vary, characteristics, adapted, environment fossils, evolution, change over time, species, population, features, trait, inherit, reproduce, offspring, variation, mutation, survive, adaptation, consumer, producer, predator, prey, food chain</p>	<p>Various animal types including mammals, amphibians, fish, invertebrates, worms etc</p>	<p>Lungs, veins, circulatory system, arteries, heart, blood, blood vessels, capillaries, oxygen, carbon dioxide, nutrients,</p>			<p>Refraction, transparent, opaque, translucent, shadow, prism, visible spectrum</p>