



Progression in Science							
Teaching Sequence in Science	Each unit of Science begins with a ‘think 1’ activity to establish prior knowledge and understanding.						
	For each unit there is a ‘knowledge organiser’ which consists of pictures and explanations of the key concepts. This will be referred to throughout the unit.						
	Vocabulary is shared at the start of the unit. This will be taught and revisited throughout the unit. Words may also be added as the unit progresses.						
	Each lesson will begin with a starter to develop scientific thinking.						
	The science knowledge will be taught through a hands-on investigative approach.						
	Careful questioning will be continually used to assess pupil understanding and develop scientific thinking.						
	Pre-loading will be used to link what they have learnt with future learning.						
	Scaffolding will be used to support all children including those with SEND requirements to have access to the full science curriculum.						
	The working scientifically skills that have been matched to each unit will be specifically taught. Each objective will be taught once across each year group.						
Each unit will end with an assessment opportunity to establish understanding. Key misconceptions will be addressed at this point.							
Animals including Humans	EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	<p>Personal. Social and Emotional Development Reception Manage their own needs. ELG: Managing Self Make their own basic hygiene and personal needs, including dressing, going to the toilet and understanding the importance of healthy food choices. Physical Development 3-4 year olds Make healthy choices about food, drink, activity and toothbrushing. Reception Know and talk about the different factors that support their overall health and wellbeing. Communication and Language Reception Learn new vocabulary Engage in non-fiction books</p>	<p>To identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals</p> <p>To identify and name a variety of common animals that are carnivores, herbivores and omnivores</p> <p>To describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals, including pets)</p> <p>To identify, name,</p>	<p>To notice that animals, including humans, have offspring which grow into adults</p> <p>To find out about and describe the basic needs of animals, including humans, for survival (water, food and air)</p> <p>To describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene.</p>	<p>To 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> <p>To identify that humans and some other animals have skeletons and muscles for support, protection and movement.</p>	<p>To 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> <p>To identify the different types of teeth in humans and their simple functions</p>	<p>To describe the simple functions of the basic parts of the digestive system in humans</p> <p>To identify the different types of teeth in humans and their simple functions</p> <p>To construct and interpret a variety of food chains, identifying producers, predators and prey</p>	<p>To describe the changes as humans develop to old age (Covered through RSE)</p>



		draw and label the basic parts of the human body and say which part of the body is associated with each sense					
Animals including Humans Vocabulary	Human body parts – head, face, leg, arm, hand, foot, eyes, nose, mouth, ears, hair Healthy Hygiene Names of fruit and vegetables	five senses fish, reptiles, mammals, birds, amphibians herbivore, omnivore, carnivore, wings, beak, claw, names of human body parts.	Habitat, offspring, babies, young, reproduction, water, air, survival, mouth, tongue, teeth exercise, diet hygiene, clean, wash, healthy medicine drugs, nutrition growth, main food groups	skeleton, muscles skull, ribs, hips, protection, healthy carbohydrates, protein, vitamins minerals, dietary fibre, balanced diet movement, nutrient nutrition, fats, sugar, bread, rice, potato, pasta, meat, fish, egg, beans	omnivore herbivore carnivore Environment Food chain Producer Consumer Predator, prey mouth, tongue, teeth, oesophagus, stomach, small Intestine, large intestine, rectum, anus, canine, incisor, molar, saliva, root, enamel, gum,	foetus, embryo, womb, gestation, baby, toddler, teenager, young adult elderly, growth, development, puberty reproduction, sibling offspring, life cycle, period	Circulatory, heart, blood vessels, veins, arteries, oxygenated, deoxygenated, valve, exercise, respiration Glucose, starch trans and saturated fats, medicine, diet exercise, drugs lifestyle
Plants	Understanding the world 3-4 year olds Understand the key features of the life cycle of a plant and an animal. Plant seeds and care for growing plants. Begin to understand the need to respect and care for the natural environment and all living things.	To identify and name a variety of common wild and garden plants, including deciduous and evergreen trees To identify and describe the basic structure of a variety of common flowering plants, including trees.	To observe and describe how seeds and bulbs grow into mature plants To find out and describe how plants need water, light and a suitable temperature to grow and stay healthy.	To identify and describe the functions of different parts of flowering plants: roots, stem/trunk, leaves and flowers To explore the requirements of plants for life and growth (air, light, water, nutrients			



	<p>Reception Describe what they see, hear and feel whilst outside. Explore the natural world around them.</p> <p>ELG_ 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 changed in the natural world around them, including the seasons and changing states of matter</p> <p>Communication and Language Reception Learn new vocabulary Engage in non-fiction books</p>			<p>from soil, and room to grow) and how they vary from plant to plant</p> <p>To investigate the way in which water is transported within plants</p> <p>To explore the part that flowers play in the life cycle of flowering plants, including pollination, seed formation and seed dispersal</p>			
<p>Plants Vocabulary</p>	<p>plant, flower, grass, tree, grow Life cycle Plan and introduce new vocabulary related to the exploration. Encourage children</p>	<p>deciduous, evergreen trees, leaves, flowers, petals, fruit, roots, bulb, seed, trunk, branches, stem, blossom, fruit. berry Names of locally found</p>	<p>seeds, bulbs, water, light, growth, seedlings shoot, temperature, bud, germination, reproduction, nutrients,</p>	<p>air, light, water, nutrients, soil, reproduction, transportation, dispersal, pollination, flower, transported,</p>			



	to use it in their discussions, as they care for living things.	wild plants/garden plants/flowering plants/trees/ fruits and vegetables	conditions damp/wet/dry hot/warm/cold/cool grow, growth, wither, limp, die dry/crispy soil	stamen, style, stigma, fertilizer, pollen, nectar stalk			
Living things and their Habitats	<p>Understanding the world Reception Describe what they see, hear and feel whilst outside. Explore the natural world around them.</p> <p>ELG_ 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;</p> <p>Communication and Language Reception Learn new vocabulary Engage in non-fiction books</p>		<p>To explore and compare the differences between things that are living, dead, and things that have never been alive</p> <p>To 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</p> <p>To identify and name a variety of plants and animals in their habitats, including microhabitats</p> <p>To describe how animals obtain their food from plants and other animals, using the idea of a simple food chain, and identify and name</p>		<p>To recognise that living things can be grouped in a variety of ways</p> <p>To explore and use classification keys to help group, identify and name a variety of living things in their local and wider environment</p> <p>To recognise that environments can change and that this can sometimes pose dangers to living things</p>	<p>To describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird</p> <p>To describe the life process of reproduction in some plants and animals.</p>	<p>To 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</p> <p>To give reasons for classifying plants and animals based on specific characteristics.</p>



			different sources of food.				
Living Things and their Habitats Vocabulary	Common sealife animals – shark, dolphin, stingray, seahorse, jelly fish, crab, starfish, clownfish, whale, swordfish Fish – mouth, fin, tail, gill, eye, scales		Depend, grow move, food feed, Shelter dark/light alive, dead non-living food chain offspring/ young/babies Local habitats: Pond, woodland Meadow Microhabitats: under log, on stony path, under bushes Damp/wet/dry Hot/warm/cool/ cold suitable		vertebrates, fish, amphibians, reptiles, birds, mammals, invertebrates, snails, slugs, worms, spiders, insects, environment, habitats	Mammal, Reproduction, Insect, Amphibian, Bird, Offspring	Classification, Vertebrates, Invertebrates, Microorganisms, Amphibians, Reptiles, Mammals, Insects
Rocks/Evolution and Inheritance	Understanding the world Reception Describe what they see, hear and feel whilst outside. Explore the natural world around them. ELG_ The Natural World Explore the natural world around them, making observations and drawing pictures of animals and plants;			Compare and group together different kinds of rocks based on appearance and simple physical properties. Describe in simple terms how fossils are formed when things have lived and then are trapped within rock. Compare and group together different kinds of rocks based		To recognise that living things have changed over time and that fossils provide information about living things that inhabited the Earth millions of years ago To recognise that living things produce offspring of the same kind,	



	<p>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;</p> <p>Communication and Language Reception Learn new vocabulary Engage in non-fiction books</p>			<p>on appearance and simple physical properties.</p> <p>Describe in simple terms how fossils are formed when things have lived and then are trapped within rock.</p>		<p>but normally offspring vary and are not identical to their parents</p> <p>To identify how animals and plants are adapted to suit their environment in different ways and that adaptation may lead to evolution.</p>	
<p>Rocks/ Evolution and Inheritance Vocabulary</p>	<p>Hard, Smooth, Rough</p>			<p>Organic, permeable, Impermeable, fossils, sedimentary, grains, crystals, hard/soft, texture, rocks, stone, pebble, boulder limestone, granite chalk, slate, marble ,sandstone slate, matter property formation ,soil ,sandy</p>		<p>Suited, offspring Adaptation, characteristics, Breads, environments Genes, variation, inheritance, evolution Palaeontologists, Survival, species classification</p>	
<p>Materials / States of matter</p>	<p>Understanding the world Reception Describe what they see, hear and feel whilst outside. Explore the natural world around them.</p>	<p>Distinguish between an object and the material from which it is made.</p> <p>Identify and name a variety of everyday materials including</p>	<p>Compare and group together a variety of everyday materials based on their simple properties.</p>		<p>To compare and group materials together, according to whether they are solids, liquids or</p>	<p>To compare and group together everyday materials on the basis of their properties, including their</p>	



	<p>ELG_ The Natural World Understand some important processes and changed in the natural world around them, including the seasons and changing states of matter</p> <p>Communication and Language Reception Learn new vocabulary Engage in non-fiction books</p>	<p>wood, plastic, glass, metal, water and rock.</p> <p>To describe the simple physical properties of a variety of everyday materials</p>	<p>Identify and compare the suitability of a variety of everyday materials including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses.</p> <p>Find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.</p>		<p>gases</p> <p>To 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)</p> <p>To identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.</p>	<p>hardness, solubility, transparency, conductivity (electrical and thermal), and response to magnets</p> <p>To know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution</p> <p>To use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating</p> <p>To give reasons, based on evidence from comparative and fair tests, for the particular uses of everyday materials, including metals, wood and plastic</p>	
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						<p>To demonstrate that dissolving, mixing and changes of state are reversible changes</p> <p>To 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>Materials Vocabulary</p>	<p>Sand, Playdough, Paint, Mix, Soft, Hard Soft Hot, cold, water Model the vocabulary needed to name specific features of the natural world, both natural and manmade. Dissolving, drying, evaporating, melting Engage in non-fiction books</p>	<p>Object, material, wood, plastic, water, glass, paper, metal, rock, brick, fabrics, elastic, foil, Card/cardboard, rubber, wool, clay, hard, soft, bendy, stretchy, stiff, bendy, floppy, waterproof, absorbent, rough, smooth breaks/tears, shiny, dull see through not see through properties</p>	<p>Suitable, unsuitable, Useful, object, material Property, waterproof, absorbent, opaque, transparent, translucent, wood, plastic, brick, fabric, elastic, foil, glass. metal, water, cardboard, shape, changed, stretchy, stiff, shiny, dull, squash, twisty, push, pull, twist,</p>		<p>Condensation, evaporation, precipitation, weight, states of matter, solid, liquid, gas Powder Granular Crystals Ice water Steam Water vapour</p>	<p>Hardness, solubility, transparency, conductivity, magnetic, filter, evaporation, dissolving, mixing, particle, melting, dissolving, sieving, reversible/irreversible, filtering, sieving, mix/mixture</p>	



			bend, pinch, poke, roll, squeeze				
Forces	<p>Understanding the world Reception Describe what they see, hear and feel whilst outside. Explore the natural world around them.</p> <p>ELG_ The Natural World Understand some important processes and changed in the natural world around them, including the seasons and changing states of matter</p> <p>Communication and Language Reception Learn new vocabulary Engage in non-fiction books</p>			<p>To compare how things move on different surfaces</p> <p>To notice that some forces need contact between two objects, but magnetic forces can act at a distance</p> <p>To observe how magnets attract or repel each other and attract some materials and not others</p> <p>To 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</p> <p>To describe magnets as having two poles</p> <p>To predict whether two magnets will attract or repel each other, depending on which poles are</p>		<p>To explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object</p> <p>To identify the effects of air resistance, water resistance and friction, that act between moving surfaces</p> <p>To recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.</p>	



				facing			
Forces Vocabulary	Stop, Start Air resistance,			Force, magnets (bar, ring horseshoe) Attract, repel, strength magnetic, surface, metal, iron, steel, poles, North, South, push Pull, contact, non-contact, distance, direct, properties		Water resistance, mechanisms, levers, pulleys, gears, force, transfers, gravity, resistance, air resistance, earth, friction, moving surfaces	
Electricity	<p>Understanding the world Reception Describe what they see, hear and feel whilst outside. Explore the natural world around them.</p> <p>ELG_ The Natural World Understand some important processes and changed in the natural world around them, including the seasons and changing states of matter</p> <p>Communication and Language Reception Learn new vocabulary Engage in non-fiction books</p>				<p>To identify common appliances that run on electricity</p> <p>To construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers</p> <p>To 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</p> <p>To recognise that a switch opens and closes a circuit and</p>		<p>To know the number of cells and voltage in the circuit and how it is associated with the brightness of a lamp/bulb or the volume of a buzzer.</p> <p>To know how the use of switches affects a circuit</p> <p>To know the symbols in an electrical circuit diagram</p>



					<p>associate this with whether or not a lamp lights in a simple series circuit</p> <p>To recognise some common conductors and insulators, and associate metals with being good conductors.</p>		
Electricity Vocabulary	Bright, Dark				<p>cells, wires, bulbs, lamps, switches, Buzzers, Battery, Circuit, Series, conductors, insulators, electricity, component, cell, battery, lamp, switch, mains, positive, negative, metal, open closed, appliance, device</p>		<p>Wire, crocodile clip. Buzzer, motor, insulator, conductor, bulb, light/dim, switch, electricity, appliance, device, circuit, diagram, transformer, filament, current, resistance, resistor, symbol, components, voltage, amp, cell, Battery, positive, negative, terminal, Connect, connection</p>
Light/Sound/Earth and space	<p>Understanding the world Reception Describe what they see, hear and feel whilst outside. Explore the natural world around them. ELG_ The Natural World Understand some important processes and changed in the natural world around them,</p>	<p>Seasonal changes To observe changes across the four seasons To observe and describe weather associated with the seasons and how day length varies.</p>		<p>Light To recognise that they need light in order to see things and that dark is the absence of light To notice that light is reflected from</p>	<p>Sound To identify how sounds are made, associating some of them with something vibrating To recognise that vibrations from</p>	<p>Earth and space To describe the movement of the Earth, and other planets, relative to the Sun in the solar system To describe the movement of the Moon relative to</p>	<p>Light To recognise that light appears to travel in straight lines To use the idea that light travels in straight lines to explain that objects are seen because</p>



	<p>including the seasons and changing states of matter</p> <p>Communication and Language Reception</p> <p>Learn new vocabulary Engage in non-fiction books</p>			<p>surfaces</p> <p>To recognise that light from the sun can be dangerous and that there are ways to protect their eyes</p> <p>To recognise that shadows are formed when the light from a light source is blocked by an opaque object</p> <p>To find patterns in the way that the size of shadows change.</p>	<p>sounds travel through a medium to the ear</p> <p>To find patterns between the pitch of a sound and features of the object that produced it</p> <p>To find patterns between the volume of a sound and the strength of the vibrations that produced it</p> <p>To recognise that sounds get fainter as the distance from the sound source increases.</p>	<p>the Earth</p> <p>To describe the Sun, Earth and Moon as approximately spherical bodies</p> <p>To 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>they give out or reflect light into the eye</p> <p>To 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</p> <p>To 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>Light Vocabulary</p>	<p>Bright, dark , weather, rain, snow, cloud, sunshine</p>	<p>Summer, spring, autumn, winter, sun, day, moon, night, light, dark</p> <p>Weather names</p> <p>Sunburn, frostbite, temperature, Shadows, rainbow thunder lightening</p>		<p>Light, dark</p> <p>Darkness, shadow, reflect, light source, solid, block, mirror, torch, sun, bulb, reflective surface, transparent, translucent, opaque, absence of light, bright, dull , direct, direction</p>	<p>Pitch, vibrations, medium, volume, conduct, vacuum, waves, travel, pitch, tune, high/low, loud/quiet, faint, frequency, vibrate, insulate, particles, percussion, strings, brass, woodwind</p>	<p>Sun / Moon, Mercury, Venus, Mars, Jupiter, Saturn, Uranus, Neptune Pluto, ‘dwarf’ planet, orbit, planets, spherical/ sphere, rotate, axis, asteroid, eclipse, satellite, lunar, equator,</p>	<p>Light, Light source, reflect, reflective, mirror, direction, refraction ,light spectrum, beam, lens, iris, retina, shadow, block, absorb, direct/direction, transparent, opaque, translucent</p>



						hemisphere, celestial body Night and day, heliocentric model, shadow clocks, sundials, astronomical clocks	
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Working Scientifically				
	EYFS	KS1	LKS2	UKS2
Asking Questions	<ul style="list-style-type: none"> Observing and experiencing 	Ask simple questions and recognise that they can be answered in different ways.	Ask relevant questions and use different types of scientific enquiries to answer them Set up simple practical enquiries, comparative and fair tests.	Plan different types of scientific enquiries to answer questions, including recognising and controlling variables where necessary.
Measuring and Recording		Observe closely, using simple equipment. Perform simple tests. Gather and record data to help in answering questions. Identify and classify	Make systematic and careful observations and, where appropriate, take accurate measurements using standard units. use a range of equipment, including thermometers and data loggers Record findings using simple scientific language, drawings, labelled diagrams, keys, bar charts, and tables Gather, record, classify and present data in a variety of ways to help in answering questions.	Take measurements, using a range of scientific equipment, with increasing accuracy and precision, taking repeat readings when appropriate. Record data and results of increasing complexity using scientific diagrams and labels, classification keys, tables, scatter graphs, bar and line graphs.
Conclusions		Use their observations and ideas to suggest answers to questions.	Identify differences, similarities or changes related to simple scientific ideas and processes Report on findings from enquiries, including oral and written explanations,	Identify scientific evidence that has been used to support or refute ideas or arguments. Report and present findings from enquiries, including conclusions, causal relationships and explanations of and

Eastfield Primary School – Science Progression Map



			<p>displays or presentations of results and conclusions.</p> <p>Use straightforward scientific evidence to answer questions or to support their findings.</p>	<p>degree of trust in results, in oral and written forms such as displays and other presentations</p>
Evaluating			<p>Use results to draw simple conclusions, make predictions for new values, suggest improvements and raise further questions.</p>	<p>Use test results to make predictions to set up further comparative and fair tests</p>