

KDPS Science	Autumn		Spring		Summer	
Preschool	Why Am I Special?	Why Do Leaves change colours?	What can I see in Winter?	How do plants grow?	What is it like to live in India?	Who lives in the garden?
	EYFS Framework - Prerequisite skills for Science through different areas of learning; Understanding the World and Physical Development. Children explore the natural world around them, making observations and drawing pictures of animals and plants. They understand some processes and changes in the natural world around them, including the seasons and changing states of matter.					
Reception	All about me	Materials	Flight	Water-melting and growth - chicks	Growth- beans, sunflowers, butterflies etc	Floating and sinking
	EYFS Framework - Prerequisite skills for Science through different areas of learning; Understanding the World and Physical Development. Children explore the natural world around them, describing what they see, hear and feel whilst outside. They describe the effect of changing seasons on the natural world around them and recognise some environments that are different to the one in which they live in. Children talk about different factors that support their overall health and wellbeing, eg. healthy eating					
Y1	Everyday materials - link to senses	Animals - groupings	Animals - classifying	Plants and trees	Seasonal changes	Human body
	ONGOING: Working scientifically					
Y2	Materials	Uses of materials	Plants and life cycles	Living things and their habitats	Animals - regrouping	Animals - including humans
	ONGOING: Working scientifically					
Y3	Forces- including springs and magnets	Rocks and soils	Animals - including humans	Light and shadow	Plants	Scientists and inventors
	ONGOING: Working scientifically					
Y4	Sound - making sound, volume and pitch	Electricity - circuits and conductors	Living things and their habitats	States of matter- solids, liquids and gases and The water cycle	Teeth	Digestion and food chains
	ONGOING: Working scientifically					
Y5	Solar system	Forces	Materials - changing and separating	Materials continued	Living things, plants and their habitats	Animals - including humans - include indigenous to Israel.
	ONGOING: Working scientifically					
Y6	Living things and their habitats	Animals including humans	Light	Electricity	Evolution	Inheritance/variation
	ONGOING: Working scientifically					

EYFS					
Autumn		Spring		Summer	
All about me	Materials	Flight	Water-melting and growth - chicks	Growth- beans, sunflowers, butterflies etc	Floating and sinking
Purpose of Unit:	Purpose of Unit:	Purpose of Unit:	Purpose of Unit:	Purpose of Unit:	Purpose of Unit:
In this unit the children will talk about themselves and their families. They will discuss what they were like as babies, the things they couldn't do then but can do now. They will describe their own bodies and features and those of each other.	In this unit children will learn that the term 'materials' is used to describe all the different things - the 'stuff' - that makes up our world. They include metal, plastic, wood, paper, glass, rock, water, air. Provide the children with a wide variety of different objects made from a variety of materials. Encourage them to feel, describe, sort and discuss.	In this unit of work, children will explore different flying machines. They will explore features of flying machines and carry out practical activities to observe how things can fly. They will design and make models from various materials to test their ideas.	Children will begin to learn about animals and their young. They will study the life cycle of butterflies and chicks. They will observe and note changes over time and the development of some animals.	In this unit, the children will take nature walks to explore growth in their environment. They will plant seeds and observe the growth of plants over time. They will identify and name features of the plants they see and grow and not similarities. They will develop understanding of what is needed to help plants to grow well.	In this unit, the children will continue to build on their learning of materials and explore those which will float and which may sink. They will select materials based on their ability to float to design and make models.
Specific Vocabulary: hair (black, brown, dark, light, blonde, ginger, grey, white, long, short, straight, curly), eyes (blue, brown, green, grey), skin (black, brown, white), big/tall, small/short, bigger/smaller, baby, toddler, child, adult, old person, old, young, brother, sister, mother, father, aunt, uncle, grandmother, grandfather, cousin, friend, family, boy, girl, man, woman Expose children to supplementary vocabulary such as: bald, elderly, wrinkles, male, female, freckles	Specific Vocabulary: ice, water, frozen, icicle, snow, melt, wet, cold, slippery, smooth, big, bigger, biggest, smaller, smallest, hard, soft, bendy, rigid, wood, plastic, paper, card, metal, strong, weak, hot, apply heat, waterproof, soggy, not waterproof, best, change, change back Expose children to supplementary vocabulary such as: solid, liquid, gas, most suited	Specific Vocabulary: float, sink, up, down, top, bottom, surface, move, roll, drop, fly, turn, spin, fall, fast, slow, faster, slower, fastest, slowest, further, furthest, wind, air, water, blow, bounce Expose children to supplementary vocabulary such as: force, rotate, solid, liquid, gravity	Specific Vocabulary: egg, chick, bird, caterpillar, cocoon, chrysalis, butterfly, frog, spawn, tadpole, froglet, frog, grow, change, die, names of animals and their young, fur, feathers, scales, tail, wings, beak, claws, paws, hooves, swim, walk, run, jump, fly, patterns, spots, stripes Expose children to supplementary vocabulary such as: life cycle, mane, webbed feet	Specific Vocabulary: plant, tree, bush, flower, vegetable, herb, weed, animal, names of plants and animals they see, name of a contrasting environment e.g. beach, forest Expose children to supplementary vocabulary such as: environment	Specific Vocabulary: float, sink, up, down, top, bottom, surface, move, roll, drop, fly, turn, spin, fall, fast, slow, faster, slower, fastest, slowest, further, furthest, wind, air, water, blow, bounce Expose children to supplementary vocabulary such as: force, rotate, solid, gravity
EYFS Ongoing Vocabulary					

Year One					
Autumn		Spring		Summer	
Everyday materials - link to senses	Animals - groupings	Animals - classifying	Plants and trees	Seasonal changes	Human body
Purpose of Unit:	Purpose of Unit:	Purpose of Unit:	Purpose of Unit:	Purpose of Unit:	Purpose of Unit:
<p>All objects are made of one or more materials. Some objects can be made from different materials e.g. plastic, metal or wooden spoons.</p> <p>Materials can be described by their properties e.g. shiny, stretchy, rough etc.</p> <p>Some materials e.g. plastic can be in different forms with very different properties.</p>	<p>Animals vary in many ways having different structures e.g. wings, tails, ears etc. They also have different skin coverings e.g. scales, feathers, hair. These key features can be used to identify them.</p> <p>Animals eat certain things - some eat other animals, some eat plants, some eat both plants and animals.</p>	<p>Animals vary in many ways having different structures e.g. wings, tails, ears etc. They also have different skin coverings e.g. scales, feathers, hair. These key features can be used to identify them.</p> <p>Animals eat certain things - some eat other animals, some eat plants, some eat both plants and animals.</p>	<p>Locally there will be a vast array of plants which all have specific names. These can be identified by looking at the key characteristics of the plant. Plants have common parts, but they vary between the different types of plants. Some trees keep their leaves all year while other trees drop their leaves during autumn and grow them again during spring.</p>	<p>In the UK, the day length is longest at mid-summer (about 16 hours) and gets shorter each day until mid-winter (about 8 hours) before getting longer again. The weather also changes with the seasons. In the UK, it is usually colder and rainier in winter, and hotter and dryer in the summer. The change in weather causes many other changes. Some examples are: numbers of minibeasts found outside; seed and plant growth; leaves on trees; and type of clothes worn by people.</p>	<p>Humans have key parts in common, but these vary from person to person.</p> <p>Humans (and other animals) find out about the world using their senses.</p> <p>Humans have five senses – sight, touch, taste, hearing and smelling. These senses are linked to particular parts of the body.</p>
<p>Specific Vocabulary:</p> <p>object, material, wood, plastic, glass, metal, water, rock, brick, paper, fabric, elastic, foil, card/cardboard, rubber, wool, clay, hard, soft, stretchy, stiff, bendy, floppy, waterproof, absorbent, breaks/tears, rough, smooth, shiny, dull, see-through, not see-through senses, touch, see, smell, taste, hear, fingers,</p>	<p>Specific Vocabulary:</p> <p>tail, wing, claw, fin, scales, feathers, fur, beak, paws, hooves, names of animals experienced first-hand from each vertebrate group</p>	<p>Specific Vocabulary:</p> <p>tail, wing, claw, fin, scales, feathers, fur, beak, paws, hooves, names of animals experienced first-hand from each vertebrate group, backbone, coldblooded, environment, farm gills, pet, wild warm blooded</p>	<p>Specific Vocabulary:</p> <p>leaf, flower, blossom, petal, fruit, berry, root, seed, trunk, branch, stem, bark, stalk, bud, deciduous, evergreen Names of trees in the local area Names of garden and wild flowering plants in the local area</p>	<p>Specific Vocabulary:</p> <p>weather, sunny, rainy, raining, shower, windy, snowy, cloudy, hot, warm, cold, storm, thunder, lightning, hail, sleet, snow, icy, frost, puddles, rainbow, seasons, winter, summer, spring, autumn, Sun, sunrise, sunset, day length</p>	<p>Specific Vocabulary:</p> <p>head, neck, shoulder, body, eyes, ears, nose, mouth, tongue, teeth, arms, elbow, hand, fingers, leg, knee, toes, skin, hair, human, parts of the body, senses, grow, parts of the body including those within the PSHE policy, senses, touch, see, smell, taste, hear,</p>
Y1 Ongoing Vocabulary					
<p>questions, answers, equipment, results, sort, explore, observe, similar, similarities, egg timers, ruler, tape measure, metre stick, beaker, collect, measure, record, group, test, compare, describe, different, differences</p>					

Year Two					
Autumn		Spring		Summer	
Materials	Uses of materials	Plants and life cycles	Living things and their habitats	Animals - regrouping	Animals - including humans
Purpose of Unit:	Purpose of Unit:	Purpose of Unit:	Purpose of Unit:	Purpose of Unit:	Purpose of Unit:
<p>Children will learn that an object made of wood is classed as dead. Objects made of rock, metal and plastic have never been alive (again ignoring that plastics are made of fossil fuels).</p> <p>All objects are made of one or more materials that are chosen specifically because they have suitable properties for the task. For example, a water bottle is made of plastic because it is transparent allowing you to see the drink inside and waterproof so that it holds the water.</p>	<p>Children will learn that when choosing what to make an object from, the properties needed are compared with the properties of the possible materials, identified through simple tests and classifying activities. A material can be suitable for different purposes and an object can be made of different materials.</p> <p>Objects made of some materials can be changed in shape by bending, stretching, squashing and twisting. For example, clay can be shaped by squashing, stretching, rolling, pressing etc. This can be a property of the material or depend on how the material has been processed e.g. thickness.</p>	<p>Children will learn that plants may grow from either seeds or bulbs. These then germinate and grow into seedlings which then continue to grow into mature plants. These mature plants may have flowers which then develop into seeds, berries, fruits etc. Seeds and bulbs need to be planted outside at particular times of year and they will germinate and grow at different rates. Some plants are better suited to growing in full sun and some grow better in partial full shade. Plants also need different amounts of water and space to grow well and stay healthy.</p>	<p>Children will learn that all objects are either living, dead or have never been alive. Living things are plants (including seeds) and animals. Dead things include dead animals and plants and parts of plants and animals that are no longer attached e.g. leaves and twigs, shells, fur, hair and feathers</p>	<p>Children will learn that animals may differ due to their habitats, physical features and choice of diet. Children will be able to group and regroup animals based on given or self selected criteria.</p>	<p>Children will learn that animals, including humans, have offspring which grow into adults. In humans and some animals, these offspring will be young, such as babies or kittens, that grow into adults. In other animals, such as chickens or insects, there may be eggs laid that hatch to young or other stages which then grow to adults. The young of some animals do not look like their parents e.g. tadpoles. All animals, including humans, have the basic needs of feeding, drinking and breathing that must be satisfied in order to survive. To grow into healthy adults, they also need the right amounts and types of food and exercise.</p> <p>Good hygiene is also important in preventing infections and illnesses.</p>
<p>Specific Vocabulary:</p> <p>Names of materials – wood, metal, plastic, glass, brick, rock, paper, cardboard. Revision of Year 1 plus properties of materials – opaque, transparent and translucent, reflective, nonreflective, flexible, rigid, waterproof, force, absorbent, repel, nonreflective, flexible, rigid, waterproof, force, absorbent, waterproof, repel, suitability, properties, shape, push/pushing, pull/pulling, twist/twisting, squash/squashing, bend/bending, stretch/stretching</p>	<p>Specific Vocabulary:</p> <p>Properties of materials – as for Year 1 plus opaque, transparent and translucent, reflective, nonreflective, flexible, rigid, waterproof, force, absorbent, waterproof, repel, suitability, properties, shape, push/pushing, pull/pulling, twist/twisting, squash/squashing, bend/bending, stretch/stretching</p>	<p>Specific Vocabulary:</p> <p>light, shade, Sun, warm, cool, water, space, grow, healthy, bulb, germinate, shoot, seedling</p>	<p>Specific Vocabulary:</p> <p>living, dead, never been alive, suited, suitable, basic needs, food, food chain, shelter, move, feed, water, air, survive, survival, names of local habitats (e.g. pond, woodland, urban etc.), names of micro-habitats (e.g. under logs, in bushes etc.), world habitats, (rainforest, Artic, ocean, desert) dependency, survive, conditions, light, dark, sun, shade, shady, sunny, wet, warm, cool, damp, dry, hot, cold, grow, healthy, evergreen, deciduous</p>	<p>Specific Vocabulary:</p> <p>microhabitat, movement, sensitivity, reproduction, Respiration, excretion, Growth, nutrition, living, dead, never alive backbone, b bones exercise, farm, healthy,</p>	<p>Specific Vocabulary:</p> <p>Offspring, reproduction, growth, young/old stages baby, toddler, child, teenager, adult, old person, names of animals and their babies, (examples - chick/hen, baby/child/adult, caterpillar/butterfly), exercise, heartbeat (pulse) breathing, hygiene, germs, disease, food types (examples – meat, fish, vegetables, bread, rice, pasta) Carnivore, herbivore, omnivore, predator, prey, environment, producer, consumer, balanced diet, exercise, survive, survival, water food, air,</p>
Y2 Ongoing Vocabulary					

Year Three

Autumn		Spring		Summer	
Forces- including forces and magnets	Rocks and soils	Animals - including humans	Light and shadow	Plants	Scientists and inventors
<i>Purpose of Unit:</i>	<i>Purpose of Unit:</i>	<i>Purpose of Unit:</i>	<i>Purpose of Unit:</i>	<i>Purpose of Unit:</i>	<i>Purpose of Unit:</i>
<p>A force is a push or a pull. When an object moves on a surface, the texture of the surface and the object affect how it moves. It may help the object to move better or it may hinder its movement e.g. ice skater compared to walking on ice in normal shoes.</p> <p>A magnet attracts magnetic material. Iron and nickel and other materials containing these, e.g. stainless steel, are magnetic. The strongest parts of a magnet are the poles. Magnets have two poles – a north pole and a south pole. If two like poles, e.g. two north poles, are brought together they will push away from each other – repel. If two unlike poles, e.g. a north and south, are brought together they will pull together – attract.</p> <p>For some forces to act, there must be contact e.g. a hand opening a door, the wind pushing the trees. Some forces can act at a distance e.g. magnetism. The magnet does not need to touch the object that it attracts.</p>	<p>Rock is a naturally occurring material. There are different types of rock e.g. sandstone, limestone, slate etc. which have different properties. Rocks can be hard or soft. They have different sizes of grain or crystal. They may absorb water. Rocks can be different shapes and sizes (stones, pebbles, boulders). Soils are made up of pieces of ground down rock which may be mixed with plant and animal material (organic matter). The type of rock, size of rock pieces and the amount of organic matter affect the property of the soil.</p> <p>Some rocks contain fossils. Fossils were formed millions of years ago. When plants and animals died, they fell to the seabed. They became covered and squashed by other material. Over time the dissolving animal and plant matter is replaced by minerals from the water.</p>	<p>Animals, unlike plants which can make their own food, need to eat in order to get the nutrients they need. Food contains a range of different nutrients – carbohydrates (including sugars), protein, vitamins, minerals, fats, sugars, water – and fibre that are needed by the body to stay healthy. A piece of food will often provide a range of nutrients.</p> <p>Humans, and some other animals, have skeletons and muscles which help them move and provide protection and support.</p>	<p>We see objects because our eyes can sense light. Dark is the absence of light. We cannot see anything in complete darkness. Some objects, for example, the sun, light bulbs and candles are sources of light. Objects are easier to see if there is more light. Some surfaces reflect light. Objects are easier to see when there is less light if they are reflective.</p> <p>The light from the sun can damage our eyes and therefore we should not look directly at the sun and can protect our eyes by wearing sunglasses or sunhats in bright light.</p> <p>Shadows are formed on a surface when an opaque or translucent object is between a light source and the surface and blocks some of the light. The size of the shadow depends on the position of the source, object and surface.</p>	<p>Many plants, but not all, have roots, stems/trunks, leaves and flowers/blossom. The roots absorb water and nutrients from the soil and anchor the plant in place. The stem transports water and nutrients/minerals around the plant and holds the leaves and flowers up in the air to enhance photosynthesis, pollination and seed dispersal. The leaves use sunlight and water to produce the plant's food. Some plants produce flowers which enable the plant to reproduce. Pollen, which is produced by the male part of the flower, is transferred to the female part of other flowers (pollination). This forms seeds, sometimes contained in berries or fruits which are then dispersed in different ways. Different plants require different conditions for germination and growth.</p>	
Specific Vocabulary:	Specific Vocabulary:	Specific Vocabulary:	Specific Vocabulary:	Specific Vocabulary:	Specific Vocabulary:
Force, push, pull, twist, contact force, non-contact force, magnetic force, magnet, strength, bar magnet, ring magnet, button magnet, horseshoe magnet, attract, repel, magnetic material, metal, iron, steel, poles, north pole, south pole	rock, stone, pebble, boulder, grain, crystals, layers, hard, soft, texture, absorb water, soil, fossil, bone, flesh, minerals, marble, chalk, granite, brick, concrete, quartz, sandstone, slate, soil, types of soil (e.g. peaty, sandy, chalk, clay)	Nutrition, nutrients, carbohydrates, sugars, protein, vitamins, minerals, fibre, fat, water, skeleton, bones, muscles, joints, support, protect, move, skull, eye socket, lower jaw, clavicle (collar bone), scapula (shoulder blade) ribcage, ribs, vertebral column (spine), humerus, radius, ulna, pelvis, femur, patella (knee cap), tibia, fibula, ankle	light, light source, Sun, sunlight, dark, absence of light, dangerous, shadow, absence of light, block, opaque, translucent, transparent, shiny, matt, surface, reflect, mirror	photosynthesis, pollen, insect/wind pollination, male, female, seed formation, seed dispersal (wind dispersal, animal dispersal, water dispersal), air, nutrients, minerals, soil, absorb, transport + (Revision of Year 1 and 2 words)	
Y3 General Vocabulary					

Year Four					
Autumn		Spring		Summer	
Physics - Sound	Physics - Electricity	States of matter- solids, liquids and gases and The water cycle	Living things and their habitats	Teeth, digestion and food chains	Measuring - mass using scales and liquids etc
<p>Purpose of Unit: This unit is about how sounds are made and travel to reach the ear. It enables children to explore pitch and volume and to develop their understanding of how sound can be absorbed and why and when this may be desirable or necessary</p> <p>In this unit, children will learn how sounds are made and how they travel, through carrying out demonstrations of vibrations. They will encounter how sounds are made on a variety of instruments and objects, and how they can be changed in volume, through different materials, and over distance. For instance, by having the opportunity to make a string telephone. The children will explore pitch, and will use their understanding of how to produce high and low sounds. The children will work scientifically and collaboratively, for example, to investigate the best material for soundproofing, in the context of making a music studio quieter.</p>	<p>Purpose of Unit:</p> <p>In this unit about electricity, children will learn about common electrical appliances and how to construct simple series circuits. They will become familiar with the key words linked to the topic and how to apply them appropriately. Children will learn about cells, wires, bulbs and buzzers and about the different types of switches. They will be able to troubleshoot and identify whether or not a bulb will light in a simple series circuit and be able to identify a complete circuit. The children will also learn about conductors and insulators and know that metals are very good electrical conductors.</p>	<p>Purpose of Unit:</p> <p>This 'States of Matter' unit will enable children to learn about the differences between solids, liquids and gases. They will classify objects and identify their properties. The children will work scientifically and collaboratively to explore how water changes state, exploring melting, freezing, condensing. . Furthermore, they will learn about the stages of the water cycle.</p>	<p>Purpose of Unit:</p> <p>In this unit children explore a variety of ways to identify, sort, group and classify living things. They learn how animals are split into 'vertebrates' and 'invertebrates' and begin to consider the differences between living things within these classifications. They use and create classification keys to group, identify and name living things from the local habitat and beyond. This unit also introduces children to the idea that environments are subject to human-made and natural changes, and that these changes can have a significant impact on living things. Throughout the unit children work scientifically by gathering, recording and presenting information in different ways.</p>	<p>Purpose of Unit:</p> <p>This unit focuses on the digestive system in humans and animals and the functions of teeth. Children will learn more about herbivores, carnivores and omnivores in the context of teeth, digestion and the food chain. In addition, they will extend their understanding of food chains to more complex chains and food webs.</p>	<p>Purpose of Unit:</p>
<p>Specific Vocabulary:</p> <p>Sound, source, vibrate, vibration, travel, pitch (high, low), volume, faint, loud, insulation</p>	<p>Specific Vocabulary:</p> <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>Specific Vocabulary:</p> <p>Solid, liquid, gas, heating, cooling, state change, melting, freezing, melting point, boiling, boiling point, evaporation, condensation, temperature, water cycle</p>	<p>Specific Vocabulary:</p> <p>Classification, classification keys, environment, habitat, human impact, positive, negative, migrate, hibernate</p>	<p>Specific Vocabulary:</p> <p>Digestive system, digestion, mouth, teeth, saliva, oesophagus, stomach, small intestine, nutrients, large intestine, rectum, anus, teeth, incisor, canine, molar, premolars, herbivore, carnivore, omnivore, producer, predator, prey, food chain</p>	<p>Specific Vocabulary:</p>
Y4 Ongoing Vocabulary					

Year Five					
Autumn		Spring		Summer	
Solar system	Forces	Materials - changing and separating	Materials continued	Living things, plants and their habitats	Animals - including humans - include indigenous to Israel.
<p>Children will learn that the Sun is a star. It is at the centre of our solar system. There are 8 planets (can choose to name them, but not essential). These travel around the Sun in fixed orbits. Earth takes 365½ days to complete its orbit around the Sun. The Earth rotates (spins) on its axis every 24 hours. As Earth rotates half faces the Sun (day) and half is facing away from the Sun (night). As the Earth rotates, the Sun appears to move across the sky. The Moon orbits the Earth. It takes about 28 days to complete its orbit. The Sun, Earth and Moon are approximately spherical.</p>	<p>Children will learn that a force causes an object to start moving, stop moving, speed up, slow down or change direction. Gravity is a force that acts at a distance. Everything is pulled to the Earth by gravity. This causes unsupported objects to fall.</p> <p>Air resistance, water resistance and friction are contact forces that act between moving surfaces. The object may be moving through the air or water, or the air and water may be moving over a stationary object.</p> <p>A mechanism is a device that allows a small force to be increased to a larger force.</p> <p>The pay back is that it requires a greater movement. The small force moves a long distance and the resulting large force moves a small distance, e.g. a crowbar or bottle top remover. Pulleys, levers and gears are all mechanisms, also known as simple machines.</p>	<p>Children will learn that materials have different uses depending on their properties and state (liquid, solid, gas). Properties include hardness, transparency, electrical and thermal conductivity and attraction to magnets. Some materials will dissolve in a liquid and form a solution while others are insoluble and form sediment.</p> <p>Mixtures can be separated by filtering, sieving and evaporation.</p> <p>Some changes to materials such as dissolving, mixing and changes of state are reversible, but some changes such as burning wood, rusting and mixing vinegar with bicarbonate of soda result in the formation of new materials and these are not reversible.</p>	<p>Purpose of Unit: as previous term</p>	<p>Children will learn as part of their life cycle, plants and animals reproduce. Most animals reproduce sexually. This involves two parents where the sperm from the male fertilises the female egg. Animals, including humans, have offspring which grow into adults. In humans and some animals, these offspring will be born live, such as babies or kittens, and then grow into adults. In other animals, such as chickens or snakes, there may be eggs laid that hatch to young which then grow to adults. Some young undergo a further change before becoming adults e.g. caterpillars to butterflies. This is called a metamorphosis.</p> <p>Plants reproduce both sexually and asexually. Bulbs, tubers, runners and plantlets are examples of asexual plant reproduction which involves only one parent. Gardeners may force plants to reproduce asexually by taking cuttings. Sexual reproduction occurs through pollination, usually involving wind or insects.</p>	<p>When babies are young, they grow rapidly. They are very dependent on their parents. As they develop, they learn many skills. At puberty, a child's body changes and develops primary and secondary sexual characteristics. This enables the adult to reproduce.</p> <p>This needs to be taught alongside PSHE.</p>
<p>Specific Vocabulary: Sun, Moon, Earth, planets (Mercury, Jupiter, Saturn, Venus, Mars, Uranus, Neptune), spherical, Solar System, rotate, star, orbit</p>	<p>Specific Vocabulary: Force, gravity, Earth, air resistance, water resistance, friction, mechanisms, simple machines, levers, pulleys, gears</p>	<p>Specific Vocabulary: Thermal/electrical insulator/conductor, change of state, mixture, dissolve, solution, soluble, insoluble, filter, sieve, reversible/non-reversible change, burning, rusting, new material</p>	<p>Specific Vocabulary: Thermal/electrical insulator/conductor, change of state, mixture, dissolve, solution, soluble, insoluble, filter, sieve, reversible/non-reversible change, burning, rusting, new material</p>	<p>Specific Vocabulary: life cycle, reproduce, sexual, fertilises, asexual, plantlets, runners, tubers, bulbs, cuttings, tubers internal fertilisation, external fertilisation</p>	<p>Specific Vocabulary: Puberty – the vocabulary to describe sexual characteristics - mensuration, penis, breasts, testicles, sperm, egg, ovum, adam's apple, genitalia, fertilises, fertilisation, live young(birth), life cycle, reproduce, sexual, gestation period, pregnancy, live birth</p>
Y5 Ongoing Vocabulary					

Year Six					
Autumn		Spring		Summer	
Living things and their habitats	Animals including humans	Light	Electricity	Evolution	Inheritance/variation
<p>Children will learn that living things can be formally grouped according to characteristics. Plants and animals are two main groups but there are other living things that do not fit into these groups e.g. micro-organisms such as bacteria and yeast, and toadstools and mushrooms. Plants can make their own food whereas animals cannot.</p> <p>Animals can be divided into two main groups: those that have backbones (vertebrates); and those that do not (invertebrates). Vertebrates are divided into five small groups: fish; amphibians; reptiles; birds; and mammals. Each group has common characteristics. Invertebrates can be divided into groups such as insects, spiders, snails and worms. Plants can be divided broadly into two main groups: flowering plants; and non-flowering plants.</p>	<p>Children will learn that the heart pumps blood in the blood vessels around to the lungs. Oxygen goes into the blood and carbon dioxide is removed. The blood goes back to the heart and is then pumped around the body. Nutrients, water and oxygen are transported in the blood to the muscles and other parts of the body where they are needed. As they are used, they produce carbon dioxide and other waste products. Carbon dioxide is carried by the blood back to the heart and then the cycle starts again as it is transported back to the lungs to be removed from the body. This is the human circulatory system.</p> <p>Diet, exercise, drugs and lifestyle have an impact on the way our bodies function. They can affect how well our heart and lungs work, how likely we are to suffer from conditions such as diabetes, how clearly we think, and generally how fit and well we feel. Some conditions are caused by deficiencies in our diet e.g. lack of vitamins.</p>	<p>Children will learn that light appears to travel in straight lines, and we see objects when light from them goes into our eyes. The light may come directly from light sources, but for other objects some light must be reflected from the object into our eyes for the object to be seen.</p> <p>Objects that block light (are not fully transparent) will cause shadows. Because light travels in straight lines the shape of the shadow will be the same as the outline shape of the object.</p>	<p>Children will learn that adding more cells to a complete circuit will make a bulb brighter, a motor spin faster or a buzzer make a louder sound. If you use a battery with a higher voltage, the same thing happens. Adding more bulbs to a circuit will make each bulb less bright. Using more motors or buzzers, each motor will spin more slowly and each buzzer will be quieter. Turning a switch off (open) breaks a circuit so the circuit is not complete and electricity cannot flow. Any bulbs, motors or buzzers will then turn off as well.</p> <p>You can use recognised circuit symbols to draw simple circuit diagrams.</p>	<p>Children will learn that over time, these inherited characteristics become more dominant within the population. Over a very long period of time, these characteristics may be so different to how they were originally that a new species is created. This is evolution.</p> <p>Fossils give us evidence of what lived on the Earth millions of years ago and provide evidence to support the theory of evolution. More recently, scientists such as Darwin and Wallace observed how living things adapt to different environments to become distinct varieties with their own characteristics.</p>	<p>Children will learn that all living things have offspring of the same kind, as features in the offspring are inherited from the parents. Due to sexual reproduction, the offspring are not identical to their parents and vary from each other.</p> <p>Plants and animals have characteristics that make them suited (adapted) to their environment. If the environment changes rapidly, some variations of a species may not suit the new environment and will die. If the environment changes slowly, animals and plants with variations that are best suited survive in greater numbers to reproduce and pass their characteristics on to their young.</p>
Specific Vocabulary:	Specific Vocabulary:	Specific Vocabulary:	Specific Vocabulary:	Specific Vocabulary:	Specific Vocabulary:
vertebrates, fish, amphibians, reptiles, birds, mammals, invertebrates, warm-blooded, cold-blooded, insects, spiders, snails, worms, flowering, non-flowering, mosses, ferns, conifers characteristics, tetrapods, micro-organisms, bacteria, fungi, archaea, protists, arachnids, molluscs, annelids, vegetation	Heart, pulse, rate, pumps, blood, blood vessels, transported, lungs, oxygen, carbon dioxide, nutrients, water, muscles, cycle, circulatory system, diet, exercise, drugs, lifestyle water (H2O), dietary intake (carbohydrates, protein, sugar and fats - saturated and unsaturated, fruit and vegetables, dairy) diabetes	As for Year 3 - Light, plus straight lines, light rays light, light source, Sun, sunlight, dangerous, shadow, reflection, Opaque, light, dark, transparent, translucent, scatter, absence of light, block	Circuit, complete circuit, circuit diagram, circuit symbol, cell, battery, bulb, buzzer, motor, switch, voltage, watts and kilowatts	offspring, sexual reproduction, vary, characteristics, suited, adapted, environment, inherited, species, fossils, evolve, evolution	offspring, sexual reproduction, vary, characteristics, suited, adapted, environment, inherited, species, fossils, evolve, evolution
Y6 Ongoing Vocabulary					