Kessingland CofE Primary Academy Whole School Science Map

Our curriculum follows the strands of physics, biology and chemistry

EYFS	1	2	3	4	5	6
Year A	**What makes me, me?** Biology-body parts- children name parts of the external body and their functions. They name some joints and parts of the skeleton.		**Biology- Habitats** Looking at where humans live but also other animals e.g. burrows, dens, nests etc.	**Biology- Life Cycles- eggs** Looking at which animals come from eggs. Also the life cycles of a butterfly and frog.	**Biology- Life Cycles and seasons** Looking at lifecycle of a plant. Naming parts of plants. Throughout the year looking at the differences in seasons, trees, clothing needed etc. Investigating ice melting etc.	
Year B	**What makes me, me?** Biology- senses. Children carry out investigations related to each of the 5 senses. Sight- blindfolded and complete tasks. Hearing- identify different sounds by listening to them. Touch- feely bag describe what can be felt, materials etc. Smell- smelly pots what can they smell without looking. Tate- blind crisp tasting- what can we taste.		**Biology and physics- What is out there?** Space themed. Learning about planet names, position related to the sun and facts about it. What life is like as an astronaut and having no gravity. Making rockets fly- stomp rockets. straws/ mint and coke etc.	**Biology- Where does food come from?** Looking at different foods from different parts of the world. Where food comes from and the animals we get food from. How food changes states as it is frozen or cooked.	**Chemistry and Biology- Water** Looking at where different animals live. Investigating floating and sinking.	

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Years 1	1 (Autumn)		2 (Spring)		3 (Summer)	
	Materials and states of matter: Exploring everyday materials	**Animals including humans-** Animals	**Materials and states of matter:** Uses of everyday materials	**Animals including humans-** humans	**Introducing Plants**	**Seasonal Change**
Domain of Knowledge	**Chemistry**	Biology	Chemistry	Biology	Biology	
Prior learning	*EYFS - Water, types of food*	*EYFS- Life cycles (eggs), habitats*	*EYFS- water, types of food, what is out there (space equipment)*	*EYFS- What makes me me, life cycles*	*EYFS- seasons, water, where does food come from*	*EYFS- seasons and life cycles*
Key Concepts	• To distinguish between an object and the material from which it is made • To identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock • To describe the simple physical properties of a variety of everyday materials • To compare and group together a variety of everyday materials on the basis of their simple physical properties	• To identify and name a variety of common animals including fish, amphibians, reptiles, birds and mammals • To identify and name a variety of common animals that are carnivores, herbivores and omnivores • To describe and compare the structure of a variety of common animals (fish, amphibians, reptiles, birds and mammals including pets)	• To distinguish between an object and the material from which it is made • To identify and name a variety of everyday materials, including wood, plastic, glass, metal, water, and rock • To describe the simple physical properties of a variety of everyday materials • To compare and group together a variety of everyday materials on the basis of their simple physical properties	• To identify, name, draw and label the basic parts of the human body and say which part of the body is associated with each sense	• 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 changes across 4 seasons. • To observe and describe weather associated with the seasons and how day length varies.
Key Vocabulary	**material, fabric, wood, plastic, metal, property, opaque, transparent, natural, manmade, absorbent, float, sink**	**fish, amphibian, mammal, reptile, bird, warm-blooded, cold-blooded, herbivore, omnivore, carnivore**	**material, fabric, wood, plastic, metal, property, opaque, transparent, natural, manmade, absorbent, strong, hard, soft, clay, brick, roof, slate, cotton**	**head, body, brain, pupil, ear, eye, tongue, nose, sound, taste, smell, feel, touch, arm, foot, leg, hand, knee, back, heart, lung, limb, bone, skeleton**	**tree, flower, vegetable, leaf, stem, roots, flower, seeds, branch, trunk, petal, fruit, deciduous, evergreen**	**spring, summer, autumn, winter, temperature, weather, hibernate, season**

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End Points	Children can name the different types of materials. Children can identify and classify through observation and sorting, the different types of materials. Children can describe the properties of a material. CHildren can sort materials into natural and man-made. Children can predict if an object can float or sink. Children can perform a simple test, recording their results. Children can test a material for absorbancy.	To group and sort animal families. To use observations and ideas to suggest answers to questions about the differences between animals. To group and sort animals according to their structures and features. To groups and sort carnivores, herbivores and omnivores. To be able to describe the difference between wild animals and pets.	Children can test the absorbency of a material for a given purpose Children can describe properties of everyday materials. Children can come up with a solution for the question of what material is the best for windows. Children can choose a material for a specific purpose, depending on its property. Children can sort clothes and fabrics according to their suitability for the weather.	Children can identify parts of the human body. To know that eyes allow us to see and name the basic parts of the eye. To know that ears allow us to hear and perform simple tests to describe how sound are made using vibrations. To know that a tongue allows us to taste and to describe why this is important and describe a range of flavours. To know that skin helps us to feel and describe different textures. To know that the nose helps us to smell and describe different smells.	Children can make observations about plants Children can compare similarities and differences in plants. Children can identify and describe the basic structure of a plant. Children can identify some common garden and wild plants children can identify deciduous and evergreen trees. Children can identify and describe fruit and vegetable plants CHildren can describe the differences between plants, including trees.	Children can name the 4 seasons Children can describe the changes across the 4 seasons Children can describe the weather and changes in autumn. Children can describe the weather and changes in winter. Children can describe the seasonal changes in Spring Children can observe the change in weather over a week Children can describe the seasonal changes in SUmmer. Children can describe the changes in weather Children can measure rainfall

Year 2	**1 (Autumn)**		**2 (Spring)**		**3 (Summer)**	
	Materials and states of matter: Uses of Everyday materials	**Living things and their habitats**	**Animals, including humans:** Diet and health	**Animals, including humans:** Growth	**Plants:** Growth	**Living things and their habitats:** Habitats around the world
Domain of Knowledge	**Chemistry**	**Biology**	Chemistry	Biology	Biology	
Prior Learning	*Year 1- Materials and states of matter*	*EYFS - Habitats, life cycles and seasons* *Year 1- Animals classification, Types of plants, seasons and life cycles*	*EYFS - Water, types of food, what makes me me,* *Year 1 - Parts of the body*	*EYFS - Water, types of food, what makes me me,* *Year 1 - Parts of the body*	*EYFS - Seasons and plant lifecycles* *Year 1 - Plant types and plant structure*	*EYFS - Habitats, life cycles and seasons* *Year 1- Animals classification, Types of plants, seasons and life cycles*

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Key Concepts	• To identify and compare the suitability of a variety of everyday materials, including wood, metal, plastic, glass, brick, rock, paper and cardboard for particular uses. • To find out how the shapes of solid objects made from some materials can be changed by squashing, bending, twisting and stretching.	• To explore and compare the differences between things that are living, dead, and things that have never been alive. • 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. • To identify and name a variety of plants and animals in their habitats, including microhabitats. • To 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	• To notice that animals, including humans, have offspring which grow into adults • To find out about and describe the basic needs of animals, including humans, for survival (water, food and air) • To describe the importance for humans of exercise, eating the right amounts of different types of food, and hygiene	• To know life cycles of a small range of animals • To describe the journey through life of some animals • To understand changes that happen as we grow and why	• 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 explore and compare the differences between things that are living, dead, and things that have never been alive. • 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. • To identify and name a variety of plants and animals in their habitats, including microhabitats. • To 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
Key Vocabulary	**wood, metal, plastic, fabric, brick, rock,paper, glass, pull, bend, squash, push, material, property**	**living, dead, excrete, robot, plant, animal, respiration, movement, growth, sensitivity, reproduction, nutrition, habitat, microhabitat, biotic (living creature), species, abiotic (a thing that is not living. a physical rather than a biological thing), production, farming, shops, cereal, crops, root vegetable, fruit**	**water, food, air, survival, blanched diet, healthy, fat, sugar, vitamins, minerals, exercise, portion, food groups, ingredients, exercise; hygiene; healthy; allergy;**	**Birth; Death; Growth; Reproduction; Hatch; Egg, Inheritance; Parents; Baby; Infant; Offspring, toddler, child, teenager, adult, old age, lifecycle**	**seed, plant; growth; light; water; soil; roots; bulbs; dormant; food; nutrients, lifecycle; dispersal; germination; flower; pollen, temperature;**	**habitat; animal; environment; climate; adaption, microhabitat, camouflage, Lifecycle, Tadpole; Frogspawn; Chrysalis; Caterpillar; Butterfly; Amphibian; insect**
End Points	Children know the properties of a variety of different materials. Children can explain why some materials are suitable fo specific uses. Children can compare how some objects change after	Children can classify if a thing is living, dead or never alive. Children can explain why a thing is alive, dead or never alive. Children can identify animals that live in a microhabitat. Children can describe a microhabitat.	Children can describe what an animal, including humans need to survive. CHildren can design and create a balanced plate, explaining what food groups we need. Children can describe the importance of exercise and diet.	Children can describe the lifecycle of a variety of animals. CHildren can order the stages of a human lifecycle. CHildren can identify each stage of the human lifecycle. CHildren can compare two stages of a human life cycle.	Children can describe when a plant is healthy. CHildren can set up a simple test to find out what a plant needs to be healthy. Children can describe the difference between a seed and a bulb.	Chn can compare different habitats and how they meet the animals basic needs. Children can identify some living creatures in their local habitats. Children can describe how the different habitats are suited to those animals.

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	stretching while others return to their original form. Children can compare how the shapes of objects change when they are twisted, bent, squashed or stretched; and why this is important for everyday life. Children understand how the properties of materials might make them suitable or unsuitable for a particular purpose. Children can link suitability of materials for particular purposes with the uses of everyday tools. Children understand that some materials can be melted and change their shape.	Children can describe where food comes from		CHildren can identify features inherited from a parent.	Children can describe how a bulb or seeds grows. Children can describe a plant lifecycle from seed to mature plant. Children can describe how plants need light, water and warmth to stay healthy.	

Year 3	1 (Autumn)		2 (Spring)		3 (Summer)
	Rocks	**Healthy Eating and Our Body**	**Forces and Magnets**	**Light and Shadows**	**Exploring the World of Plants**

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Domain of Knowledge	Chemistry	Biology	Physics	Physics	Biology
Prior Learning	*Year 1- Materials and states of matter* *Year 2: Materials- uses of materials*	*EYFS - All about me- body parts* *Year 1 Animals, including humans- body parts* *Year 2 - Animals, including humans - Food and exercise*	*KS1 - uses of materials*	*EYFS: seasons* *Year 1: Seasonal changes*	*EYFS - Seasons and plant lifecycles* *Year 1 - Plant types and plant structure* *Year 2: Plant growth*
Key Concepts	• To compare and group together different kinds of rocks on the basis of their appearance and simple physical properties • To describe in simple terms how fossils are formed when things that have lived are trapped within rock • To recognise that soils are made from rocks and organic matter	• To identify that animals, including humans, need the right types and amount of nutrition, and that they cannot make their own food • To identify humans and some other animals have skeletons and muscles for support, protection and movement.	• To compare how things move on different surfaces • To notice that some forces need contact between two objects, but magnetic forces can act at a distance • To observe how magnets attract or repel each other and attract some materials and not others • 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 • To describe magnets as having two poles • To predict whether two magnets will attract or repel each other, depending on which poles are facing	• 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 surfaces • To recognise that light from the sun can be dangerous and that there are ways to protect their eyes • To recognise that shadows are formed when the light from a light source is blocked by a solid object. • To find patterns in the way that the size of shadows change	• 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 from soil, and room to grow) and how they vary from plant to plant. • To investigate the way in which water is transported in plants. • To explore the part that flowers play in the life cycle of flowering plants, including pollination, see formation and seed dispersal.
Key Vocabulary	**Rock, soft, hard, porous, permeable, impermeable, igneous, metamorphic, sedimentary, fossilisation, soil, weathering, erosion.**	**protein, carbohydrates, dairy, vitamins and minerals, sugars and fats, energy, growth, support, protection, movement, technical bone names e.g. Skull, pelvis,**	**Force, fiction, magnetism, magnetic, non-magnetic, attract, repel, push, pull, poles.**	**Primary source, artificial, natural, secondary source, reflect, reflection, surface, reflector, shadow, opaque, transparent, translucent.**	**Root, stem, trunk, flower, leaf, support, pollination, seed dispersal, explosion, wind, animal, nutrients, air, water, yield, waterlogged, adaptions, reproduction.**

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		spine; technical muscle names e.g. bicep, tricep; invertebrate, vertebrate, exoskeleton, relaxed and contracted			
End Points	Children can explain that fossils are formed when things that have lived are trapped within rock Children can explain soils are made from rocks and organic matter. Children can explain how rock types limit our choices about where and how we can build. Children can investigate and explain that rocks can be permeable and impermeable and can be classified according to their properties.	Children can explain that animals, including humans, eat foods that have different properties and functions. Children can describe how skeletons and muscles are used for support, protection and movement.	Children can investigate how different surfaces affect how things move upon them due to friction. Children can explain that magnetism is a force that attracts and repels. Children can observe and describe how magnetism can act from a distance. Children can investigate and explain that all magnetic materials are made of metal, but not all metals are magnetic. Children can describe that a magnet has two poles and will attract and repel depending on which poles are facing.	Children can explain and demonstrate that darkness is the absence of light. Children can explain that light sources can be natural and artificial. Children can investigate and describe that light can be reflected from surfaces as a secondary source. Children can explain that light from the sun can be hazardous to the eye. Children can explain that shadows are formed when light from the source is blocked by an opaque object. Children can investigate and describe how shadows change throughout the day. Children can investigate and explain how shadows change according to how close to the source they are.	Children can explain and identify that plants all have roots, stems/ trunks, leaves and flowers. Children can investigate and explain that plants need air, light, water, nutrients from soil and room to grow. Children can describe how water and nutrients are taken from the soil, through the roots and up the stem/ trunk. Children can describe pollination, seed formation and seed dispersal form the life cycle of a plant. Children can sort and describe how seeds can be dispersed by explosion, wind or animal.

Year 4	**1 (Autumn)**		**2 (Spring)**		**3 (Summer)**
	States of Matter	**Electricity**	**Teeth and Digestion**	**Sound**	**Living things and their habitats**

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Domain of Knowledge	Chemistry	Physics	Biology	Physics	Biology
Prior Learning	*KS1: Everyday materials* *Year 3: Rocks and soils*	*Year 3: forces- magnetism*	*KS1: Exercise and nutrients, Body parts* *Yr 3 - The skeleton and healthy eating*	*Yr 4- States of matter- particle behaviour.*	*KS1: Living or dead, Animal types* *Yr 3 - Plant classification*
Key Concepts	• To compare and group materials together, according to whether they are solids, liquids and gases • 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) • To identify the part played by evaporation and condensation in the water cycle and associate the rate of evaporation with temperature.	• To identify common appliances that run on electricity • To construct a simple series electrical circuit, identifying and naming its basic parts, including cells, wires, bulbs, switches and buzzers • 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 • To recognise that a switch opens and closes a circuit and associate this with whether or not a lamp lights in a simple circuit • To recognise some common conductors and insulators, and associate metals with being good conductors.	• To describe the simple functions of the basic parts of the digestive system in humans • To identify the different types of teeth in humans and their simple functions • To construct and interpret a variety of food chains, identifying producers, predators and prey	• To identify how sounds are made, associating some of them with something vibrating • To recognise that vibrations from sounds travel through a medium to the ear • To find patterns between pitch of a sound and features of the object that produced it • To find patterns between the volume of a sound and the strength of the vibrations that produced it • To recognise that sounds get fainter as the distance from the sounds source increases	• To recognise that living things can be grouped in a variety of ways • To explore and use classification keys to help group, identify and name a variety of living things in their local environment • To recognise that environments can change and that this can sometimes pose dangers to living things
Key Vocabulary	**Solids, liquids, gas, temperature, changing state, degrees celsius, melt, boil, freeze, solidify, evaporation, condensation, precipitation, infiltration, water cycle, particles, vibrations, properties**	**Appliance, electricity, flow, circuit, loop, bulb, wire, battery, cell, switch, buzzer, lamp, complete, conductor, insulator.**	**Digestion, energy, teeth, mouth, saliva, chewing, grinding, oesophagus, stomach, gastric juices, small intestine, large intestine, rectum, anus, molar, incisor, canine, carnivore, herbivore, prey, predator, consumer, producer, food chain**	**Vibration, sound, particles, ear drum, medium, solid, liquid, gas, amplitude, volume, pitch, muffle, distance**	**Vertebrate, invertebrate, mammal, bird, reptile, amphibian, fish, insect, arachnid, mollusc, annelid, exoskeleton, classification, adaption, habitat, pollution, climate change**

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End Points	Children can classify materials according to their properties into solids, liquids and gases. Children can explain that Solids hold their shape. Children can describe how liquids fill the shape of a container and cannot hold their shape. They can be poured. Children can describe how gases fill all available shape and do not hold their shape. Children can investigate and explain that heat has energy, which disrupts the bond between particles causing a material to change state. Children know that water boils at 100 degrees celsius Children can investigate and explain that evaporation is affected by temperature. Children can investigate and explain that condensation occurs when a warm gas comes into contact with a colder material. CHildren can describe that the water cycle is a closed cycle of water through evaporation, condensation, precipitation, infiltration repeated.	Children know that electrical appliances are powered by mains or battery power. Children know that electricity flows around a circuit. Children can explain that a circuit must be a complete loop for the electricity to flow. Children know that a switch can complete or break a circuit loop. Children can investigate and explain how a conductor allows electricity to flow through, whereas an insulator inhibits the flow of electricity. Children know that metals are good conductors.	Children can identify the body parts involved in the digestive system e.g. mouth, oesophagus, stomach and large and small intestine. Children can identify the teeth in humans are canines, molars and incisors. Children can describe how the teeth of herbivores and carnivores are different because of the food the animal eats. Children can create a food chain shows the transference of energy from the producer to the final consumer. Children know a food chain starts with the producer e.g. plant. CHildren can describe how a consumer will obtain the energy from the producer and pass it through the food chain. Children can explain and identify the producer, predator and prey in a food chain.	Children can explain that sound is created by vibrations. Children can describe how sound travels through a medium by particles hitting together. Children can explain that amplitude changes with the strength of vibrations. CHildren know that we hear sounds when vibrations hit our eardrums and send signals to our brain. Children can explain that the larger the surface, the lower the pitch and vice versa. Children can investigate and describe how vibrations lose energy as they travel across a distance. Children know that sound travels through solids quickly because the particles are close together.	Children can classify vertebrates c as: mammal, bird, fish, amphibian or reptile. CHildren can classify invertebrates as: insect, arachnid, mollusc or annelids. CHildren know that vertebrates have a spine and invertebrates have exoskeletons. CHildren can describe how animal adaptations are influenced by their habitat. CHildren can discuss and explain how climate change and human influence have an impact on the way habitats change over time.

Year 5	1 (Autumn)	2 (Spring)	3 (Summer)

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	Properties and changes of materials	**Forces**	**Living things and their habitat:** Life Cycles	**Earth and Space**	**Animals, including humans:** Human life, cycles and changes
Domain of Knowledge	**Chemistry**	**Physics**	**Biology**	**Physics**	Biology
Prior Learning	*Yr 3- Rocks and soils* *Yr 4- Changing state, water cycle*	*Year 3: forces- magnetism*	*Yr 3- Plant- Plant parts, pollination, seed dispersal* *Yr 4- Animal classification*	*EYFS: Space* *Yr 3- Light- sources and shadows*	*KS1- Offspring,* *Yr4- Animal groups*
Key Concepts	• To 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. • To know that some materials will dissolve in liquid to form a solution, and describe how to recover a substance from a solution. • To use knowledge of solids, liquids and gases to decide how mixtures might be separated, including through filtering, sieving and evaporating. • To give reasons, based on evidence from comparative fair tests, for the particular uses of everyday materials, including metals, wood and plastic. • To demonstrate that dissolving, mixing and changes of state are reversible changes.	• To explain that unsupported objects fall towards the Earth because of the force of gravity acting between the Earth and the falling object. • To identify the effects of air resistance, water resistance and friction, that act between moving surfaces • To recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect	• To describe the differences in the life cycles of a mammal, an amphibian, an insect and a bird. • To describe the life process of reproduction in some plants and animals.	• 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 the Earth. • To describe the Sun, Earth and Moon as approximately spherical bodies. • To use the idea of the Earth's rotation to explain day and night and the apparent movement of the sun across the sky.	• To describe the changes as humans develop to old age.

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Year 6	1 (Autumn)		2 (Spring)		3 (Summer)
	Animals, including humans: Blood and transportation	**Electricity**	**Evolution and inheritance**	**Light**	**Living things and their habitats**
Domain of Knowledge	**Biology**	**Physics**	**Biology**	**Physics**	Biology
Prior Learning	*Year 3- skeletons and nutrition* *Year 4- digestion*	*Year 4: Electricity*	*Yr3- Rocks- fossils* *Yr 5- Human life cycles*	*Year 3- Electricity;* *Year 5- Earth and Space*	*Year 4- animal classification* *Year 6 Evolution and inheritance*
Key Concepts	• To identify and name the main parts of the human circulatory system, and describe the functions of the heart, blood vessels and blood. • To explain the impact of diet, exercise, drugs and lifestyle on the way their bodies function. • To describe the ways in which nutrients and water are transported within animals, including humans	• To associate the brightness of a lamp or volume of a buzzer with the number and voltage of cells used in a circuit. • To compare and give reasons for variations in how components function, including brightness of bulbs, the loudness of buzzers and the on/off positions of switches • To use recognised symbols when representing a simple circuit in a diagram	• 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, but normally offspring vary and are not identical to their parents • To identify how animals and plants are adapted to	• 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 they give out or reflect light into the eye. • 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.	• To 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. • To give reasons for classifying plants and animals based on specific characteristics

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			suit their environment in different ways and that adaption may lead to evolution	• To use the idea that light travels in straight lines to explain why shadows have the same shape as the objects that cast them.	
Key Vocabulary	**Digestion, energy, teeth, mouth, saliva, chewing, grinding, oesophagus, stomach, gastric juices, small intestine, large intestine, rectum, anus, nutrients, protein, carbohydrates, dairy, vitamins and minerals, sugars and fats, energy, growth, blood, blood vessels, arteries, veins, heart, valve, oxygenated, deoxygenated, pulse, rate, drugs, diet, exercise, stimulant, substances**	**Appliance, electricity, flow, circuit, loop, bulb, wire, battery, cell, switch, buzzer, lamp, complete, conductor, insulator, volt, voltage, brightness, loudness, component**	**Evolution, adaption, inheritance, genes, classification, extinction, competition, microorganism, Charles, Darwin, fossilisation**	**Primary source, artificial, natural, secondary source, reflect, reflection, surface, reflector, shadow, opaque, transparent, translucent, shadow, eye, retina, pupil. Cornea, optic nerve**	**Classification, Vertebrate, invertebrate, mammal, bird, reptile, amphibian, fish, insect, arachnid, mollusc, annelid, exoskeleton, adaption, habitat, microorganisms, plants, mosses, ferns, conifer, flowering plant.**
End Points	CHildren can identify and describe the key components of the heart, blood vessels and blood. Children can describe how blood carries oxygen away from the lungs and around the body and returns with carbon dioxide. Children can describe how the digestive system aids our absorption of key nutrients and water into the body. Children know the body parts involved in the digestive system e.g. mouth, oesophagus, stomach and large and small intestine. Children can investigate and explain how exercising will	CHildren know that electricity flows around a circuit. Children know that a circuit must be a complete loop for the electricity to flow. Children can identify and draw electrical component symbols. Children can investigate and describe how components in a circuit are affected by the voltage of the cells. Children know that electricity can be measured in voltage. .	Children know and can describe how fossils are evidence that living creatures have changed over time. Children can describe how inheritance occurs when parents pass on their genes to their offspring. Children can explain that evolution is the result of the adaption of heritable characteristics organism in response to its environment over time. Children have researched and know that Charles Darwin and Alfred Russel Wallace helped develop the Theory of Evolution.	Children know that light travels in straight lines from a source. Children can describe how light is reflected from an object into the eye and that is how we see the object. Children can investigate and explain how opaque objects cause shadows to form by blocking the light. Children can investigate and explain how shadows are the same shape as the object that casts them, but this shape may change size due to the distance the object is from the source.	Children have built upon Year 4 knowledge of classification (see above), plants can be classified into mosses, ferns, confiers and flowering plants. Children know that microorganisms are microscopic living organisms that are single-celled or multicellular. CHildren can investigate and describe how microorganisms can be harmful to our health. Children have researched how classification has developed over time in response to new scientific discoveries.

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	increase the pulse rate to deliver oxygen quicker around the body. Children can describe the way drugs can affect our bodies in positive and negative ways. They know that the abuse of drugs can damage our health. Children can describe how exercise and diet can affect our bodies in healthy ways.				