Long Term Plan
Curriculum Area: **Science**
Subject Lead: **Tom Hooley**

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	Advent Term		Lent Term	Pentecost Term
Foundation	**All about Autumn** • Autumn investigation, Sweeping leaves, floating and sinking • Go on an Autumn walk to changes in nature. • Explore the changing leaves over the season. • Look at animals that live in woodland. • Explore and discuss Autumn fruits.		**Once Upon a Time** Comparing different materials Identifying properties of different materials **Dinosaurs** • Explore prehistoric artefacts and fossils linked to dinosaurs.	**Animal Safari** •Sorting animals into categories •Finding out about animals and their babies (Monkey Puzzle) •Herbivores, Carnivores and Omnivores **On the Beach** •Different animals that live on the seashore and in rockpools. •Looking closely at what different sea animals eat •What animals live in the ocean? What do they look like and how they are adapted to living in the sea. •Sea investigations – what material would a sailor wear to keep waterproof? •Investigating seaweed. •Investigating boats – floating and sinking.
Year 1	**Everyday Materials** <u>Key question:</u> What are the properties of different materials? <u>End goal:</u>	**Seasonal Changes** <u>Key question:</u> How does the weather and environment	**Plants** **(Living things and their habitats)** <u>Key question:</u>	**Animals inc Humans** <u>Key question:</u> How can we identify and name different animals?

	Test a range of materials and identify which properties they have. Learning objectives: Know that: -Objects are made from different materials. - Common materials include; wood, plastic, rock, glass, water, metal -Materials can be classified as man-made or natural. -Materials are either solid, liquid or gas and the difference between these. -Materials can be described using key vocabulary: hard/soft; stretchy/stiff; shiny/dull; rough/smooth; bendy/not bendy; waterproof/not waterproof; absorbent/not absorbent; opaque/transparent.	change in different seasons? End goal: **Produce a weather forecast depending on the chosen season.** Learning objectives: Know that: • There are 4 seasons which occur in a cycle • The environment changes in each season and what those changes are. • Weather patterns change in each season. • Winter contains the shortest day and summer has the longest day. • Seasons occur because of how the Earth orbits the Sun, which takes 365 days.	What are the main parts of a plant and tree? End goal: **Draw a diagram showing parts of a plant** Learning objectives: Know that: -Some common plants include: daisy, white clover, poppy, nettle, ivy, bramble, dandelion and locate some in the local environment. - Some common trees include: oak, elm, maple, silver birch, sycamore, horse chestnut and crack willow and identify them in the local environment using leaves, fruit and shape to do so. - trees can be deciduous and evergreen and their meanings. - the basic parts of plants are: leaves, flower, stem, roots, petals. -trees have roots, trunk, branches and leaves. -Fruit often grows on trees and give some examples. -bulbs can be planted in the ground so new plants can grow.	End goal: **Label the basic parts of the body and identify which part of the body is associated with each sense.** Learning objectives To know that: • Animals can be grouped and sorted together in families- fish, amphibians, reptiles, birds, mammals • Fish, amphibians, reptiles, birds and mammals are vertbrates, which means they all have a skeleton. • A pet and wild animal are different. • Features of fish, mammals, amphibians, reptiles, birds. • Animals can be classified as carnivores, omnivores or herbivores. • Humans have different body parts and to name/label these. • Humans have 5 senses- smell, taste, touch, sight, hearing.

		• A thermometer is used to measure temperature in degrees Celsius. • When water falls below 0, it becomes ice. • Looking at the sun is unsafe.			
Year 2	**Animals inc Humans** Key question: What do humans need to live a healthy life? End goal: **Draw and describe the life cycle of a butterfly, chicken or frog.** Learning objectives: Know that: • Animals, including humans, have offspring which grow into adults. • Animals need water, food and air for survival. • Exercise, eating the right amounts of different types of food and hygiene are important for healthy living. • Animals are born or hatch from an egg. • Some animals need milk and care from their mothers and some fend for themselves.		**Everyday Materials** Key question: Why are different material used for different purposes? End goal: **Use scientific knowledge to design a shelter, identifying what materials are used and why.** Learning objectives: Know that: • Some properties of materials: flexible, stiff, rigid, stretchy, hard, soft, brittle, strong, weak, absorbent, heavy,	**Plants** Key question: What do plants need to grow and stay healthy? End goal: **Carry out an experiment to find out what happens to plants in different conditions** Learning objectives: Know that: -seeds and bulbs grow into plants and describe how this happens.	**Living things and their habitats** Key question: How are animals and plants suited to their habitats? End goal: **Sort different animals based on their characteristics and habitats.** Learning objectives: Know that: -there are differences between things that are living, dead and

	• The life cycle of a human includes: baby, toddler, child, teenager, adult, elderly. • The life cycle of a butterfly, chicken and frog. • A balanced diet includes: carbohydrates, protein, dairy, fruit and vegetables, fats and sugars. • A germ is a small living thing that causes disease and how to prevent the spread of germs.		light, solid, runny, smooth, rough, opaque, transparent and translucent. • Properties of materials mean that materials are suitable for different purposes. • Resistance is a force which slows down a moving object. • Different things will move differently on different surfaces. • Solid objects can be changed by squashing, bending, twisting and stretching	-plants need water, light and a suitable temperature to grown and stay healthy. -the parts of a plant have different roles- roots, leaves, stem, flowers. -when a seed germinates, it starts to grow, which is called germination. -a fair test is one where only the variables change.	things that have never been alive. -most living things live in habitats to which they are suited. -habitats provide the basic needs for the animals and plants that live there. -the arrows on a food chain show the direction energy travels. Habitats include: ocean, tropical rainforest, desert, woodland, tundra and polar ice. -minibeasts include: caterpillars, spiders, woodlice, beetles, worms, slugs, water boatmen and pond skater and know where they live. -A microhabitat is a small habitat within a larger habitat.
Year 3	**Animals inc Humans** Key question:	**Light and Shadows** Key question: How are shadows formed?	**Rocks** Key question: How are rocks formed?	**Forces and Magnets** Key question:	**Plants**

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	Why do humans have skeletons and muscles? End goal: **Label a human body with key bones and muscles.** Learning objectives: -Some animals have skeletons. These are called vertebrates. -Humans have a skeleton and muscles for movement, support and protecting organs. Major bones in the human body include the skull, ribs, spine, humerus, ulna, radius, pelvis, femur, tibia and fibula. -Parts of the human body can bend easily because the skeleton has lots of small bones and joints.	End goal: **Carry out an experiment to see how the distance of the light source away from an opaque object changes the length of the shadow**. Learning objectives: Know that: -Light is a form of energy that travels in straight lines from a light source. -Dark is the absence of light and we need light to be able to see. -The main natural light source on Earth is the Sun. -A shadow is an area of darkness made when an object blocks light. -A light source is something that produces light. -A reflector is something that reflects light. -Light can be reflected from different surfaces. -Reflective materials are light in colour, shiny and smooth. -Less reflective and non-reflective materials are dark in colour, dull and rough.	End goal: **Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties** Learning objectives: Know that: • Sedimentary, igneous and metamorphic are the three different rock types. • Sedimentary rocks form from mud, sand and particles that have been squashed together over a long time to form rock. • Igneous rocks are made from cooled magma or lava. • Metamorphic rocks are formed when existing rocks are heated by the magma under the Earth's crust or squashed by the movement of the Earth's tectonic plates. • Fossils form over millions of years and	Why do things move differently on different surfaces? End goal: **Carry out an experiment comparing different materials, to see which are magnetic and which are not. Use wood, plastic, rubber, steel, iron, aluminium, glass and rock. Record results in a table.** Learning objectives: -Forces cause objects to move, change speed or change shape. -Some forces need contact between 2 objects. -Friction is a force between two surfaces as they move across each other. -Friction slows down a moving object.	**(Living things and their habitats)** Key question: What are the functions of the different parts of a flowering plant? End goal: **Name and describe the functions of the different parts of flowering plants (roots, stem, leaves and flowers).** Learning objectives: -Water is transported in plants from the roots, through the stem to the leaves. - Plants need air, light, water, nutrients and room to grow, in order to survive. - Water is transported in plants from the roots, through the stem to the leaves. -The stages of a plant's life cycle include: germination, flower production, pollination,

	-Muscles allow us to move, breathe and digest food. -The three main types of muscle in the human body are skeletal, cardiac and smooth. -Major muscle groups in the human body include the biceps, triceps, abdominals, trapezius, gluteals, hamstrings, quadriceps, deltoids, gastrocnemius, latissimus dorsi and pectorals. -Animals cannot make their own food and need to get nutrition from the food they eat. Carnivores get their nutrition from eating other animals. Herbivores get their nutrition from plants. Omnivores get their nutrition from eating a combination of both	-A shadow is the same shape as the object that casts it because light travels in straight lines. -Shadows always appear on the opposite side of the light source. -Opaque objects cast dark shadows. -Translucent objects cast lighter, blurry shadows. -Transparent objects allow light to pass through them and do not create shadows. --Shadows change when the light source or the object moves. -The lower the light source the longer the shadow. -Light from the Sun is damaging for vision and the skin. -People can protect themselves from the Sun by using sun cream, wearing sun hats and sunglasses and by staying indoors or in the shade.	are the remains of a once-living organism, preserved as rock. • Scientists can use fossils to find out what life on Earth was like in prehistoric times. • Soils are made from tiny pieces of eroded rock, air and organic matter. • Soil is one of the world's most important natural resources supporting a wide range of food chains. Soil holds water and nutrients and provides anchorage for roots.	-Friction produces heat, which can be a problem. -Magnetism is a non-contact force. -Magnets have two poles (north and south). Opposite poles (north and south) attract each other. -Like poles (north and north, or south and south) repel each other. -Magnetic materials are attracted to Magnets. -Iron, cobalt, nickel and steel are magnetic metals. Other metals and materials such as plastic, paper, glass and wood are not magnetic	fertilisation, seed formation and seed dispersal. - Roots anchor the plant in the ground and transport water and minerals from the ground to the plant. -The stem (or trunk) support the plant above the ground. -Leaves collect energy from the Sun and make food for the plant. -Flowers make seeds to produce new plants. -Make increasingly careful observations, identifying similarities, differences and changes and making simple connections. -Pollination is the process where pollen is transferred from the male stamen to the female carpel of another flower of the same type. -Seeds can be dispersed by wind,

	plants and other animals. -Nutrition is the life process of making or finding food to eat. -Humans must eat food and drink water to gain the nutrients they need to survive. -Humans are omnivores, so they can eat both plant parts and animals. -It is important to have a balanced diet made up of the main food groups, including: proteins, carbohydrates, fruit and vegetables, dairy products and alternatives, and fats and spreads.				animals, explosion and water.
Year 4	**Animals inc Humans** Key question: How do humans digest their food?	**Sound** Key question: How are sounds made and how do they move?	**States of Matter** Key question:	**Electricity** Key question:	**Living things and their habitats** Key question:

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	End goal: **Draw a variety of food chains, identifying producers, predators and prey** Learning objectives: - An ecosystem is a community of living organisms and their environments that are interdependent. - Food chains start with a plant (producer), show what animals eat within a habitat and how energy is passed on over time. -A producer is a living thing that makes its own food for energy. Almost all producers are plants. -Producers make their own food through the process of photosynthesis. Grass and seaweed are examples of producers. -A consumer is a living thing that feeds on	End goal: **Investigate how pitch can be changed.** Learning objectives: Know that: -Sound waves travel through a medium, such as air or water, to the ear. -A sound source is something that vibrates and creates a sound, such as human vocal cords, part of a musical instrument or a piece of machinery. -Volume is a measure, in decibels, how loud or quiet sound is. -Applying more force to a sound source adds more energy and results in a louder sound. -Pitch is how high or low a sound is. Generally, the longer, looser, bigger and thicker the sound source is the lower the pitch. -Generally, the shorter, tighter, smaller and thinner	What is the difference between liquids, gases and solids? End goal: **Investigation:** What could you do to make ice melt more quickly?' Learning objectives: Know that: • Materials can be grouped according to whether they are solids, liquids or gases. • Solids stay in one place and can be held. Some solids can be squashed, bent, twisted and stretched. Examples of solids include wood, metal, plastic and clay. • Liquids move around (flow) easily and are difficult to hold. Liquids take the shape of the container in which they are held. Examples of liquids	How does electricity pass through a circuit? End goal: **Build a working circuit.** Learning objectives Know that: -Working with electrical circuits can be dangerous. -A circuit is a collection of components connected by wires through which an electric current can flow. -A circuit must be a complete loop to work and must have a source of power from a battery or cell. - A series circuit has a single path for an	How can we group living things? End goal: **Create a Classification key.** Learning objectives: • Classification is the arrangement of living and non-living things into groups or categories. Single-stage classification involves separating a large group of objects into smaller groups based on a single property. • Scientists classify living things according to shared characteristics.

	other living things. Most consumers are animals. Wolves and penguins are examples of consumers. -A predator is a consumer that hunts, kills and eats other animals for food. An animal is called prey if it is killed by a predator for food. -All the different food chains in a specific ecosystem can be linked together. These connected food chains are called a food web. -Habitats change over time, either due to natural or human influences. - The digestive system is responsible for digesting food and absorbing nutrients and water. -The mouth, oesophagus, small intestine and large intestine are organs of the digestive system.	the sound source is the higher the pitch. -Distance and direction of sound can be judged. -When energy is put into a sound source it starts to vibrate. These vibrations disturb tiny particles of air. They vibrate and collide with each other, creating sound waves. -When the sound waves enter the ear, the eardrum vibrates. These vibrations pass through small bones, called ossicles, and are turned into electrical signals in the cochlea. They travel to the brain and are interpreted as sounds. -A sound wave diagram can be drawn as a wavy line with peaks and troughs. -The distance between two peaks or troughs is called a wavelength. -The shorter the wavelength the higher the pitch of a sound. The longer the wavelength the lower the pitch of the sound.	include water, juice and milk. • Gases spread out to fill the available space and cannot be held. Air is a mixture of gases. • Some materials have properties of more than one state including: gels, powders and foams. • Heating or cooling materials can bring about a change of state. This change of state can be reversible or irreversible. • Melting is the process of a solid changing into a liquid. • Freezing is the process of a liquid changing into a solid. • Evaporation is the process of a liquid changing into a gas. • Condensation is the process of a gas changing into a liquid.	electric current to flow through. -Electrical conductivity is a measure of a material's ability to allow an electric current to pass through it. -Electrical conductors, like metals, have low resistance and allow electricity to flow through them. -Non-conductive materials, like plastics, are often known as electrical insulators they do not let electricity through, they have high resistance.	• A classification key is a set of questions that helps us identify a living thing or decide which group it belongs to. • Environments can change and this can pose a danger to living things.

	- A baby grows 20 primary teeth that start to fall out when a child is six years old. They are replaced by 32 adult teeth. -The four different types of teeth are incisors, canines, premolars and molars. -Incisors have sharp, straight edges for slicing and cutting food. -Canines are pointed for gripping and tearing chewy food such as meat. -Pre-molars and molars are wide and have cusps, for crushing and grinding up food so it is small enough to swallow. - Regular teeth brushing, limiting sugary foods and visiting the dentist are important for good oral hygiene.	-The smaller the peaks and troughs the quieter the sound. The larger the peaks and troughs the louder the sound. -Sounds are louder when more energy is put into a sound source because the vibrations and sound waves are larger. -The volume of sound is measured in decibels (dB).	• Temperature is a measure of how hot or cold something is. It is measured in degrees (°) using an instrument called a thermometer. • The three different scales temperature can be measured in are Celsius (°C), Fahrenheit (°F) and Kelvin (K). We use the Celsius scale in the UK. • When solid water (ice) is heated to 0°C, it begins to melt. This is called its melting point. When liquid water is cooled to 0°C, it begins to freeze. This called its freezing point. • When liquid water is heated to 100°C, it begins to evaporate. This is called its boiling point. When gaseous water (water vapour) is cooled to 100°C, it begins to condense.		

			This is called its condensing point. • On Earth, temperatures range from around -80°C at their lowest to around 50°C at their highest. • Materials exist as solids, liquids or gases. • A material's state on Earth depends on Earth's temperature because materials have different melting and boiling point		
Year 5	**Properties and changes of materials** Key question: How can mixtures be separated? End goal: **Draw a diagram to explain the different ways mixtures can be separated.** Learning objectives: Materials can be grouped according to	**Forces and Mechanisms** Key question: Can you identify the effects of air resistance, water resistance and friction, that act between moving surfaces? End goal: **Create a poster and explain how forces impact on objects in different ways.** Learning objectives: -Friction, air resistance and water resistance are forces	**Animals inc Humans/ Living things and their habitats** Key question: How do humans develop from birth to old age? End goal: **Draw a timeline to indicate stages in the growth.** Learning objectives: • Embryo, juvenile, adolescent and adult are stages of a mammal's life cycle.	**Earth and Space** Key question: Describe the movement of the Earth, and other planets, relative to the Sun in the solar system. End goal: **Create a leaflet to explain the Earth's rotation, day, night and the apparent movement of the sun across the sky.** Learning objectives: -The Solar System is made up of the Sun and everything that orbits around it.	

	their basic physical properties. -Properties of materials include: hardness, solubility, transparency, conductivity (electrical and thermal) and magnetism. -A material's properties dictate what it can be used for. -Thermal conductors, such as metals, are materials that allow the transfer of heat. -Thermal insulators, such as wood, glass and plastic, are materials that do not transfer heat effectively. -Dissolving is when a solute (material) becomes incorporated into a solvent (liquid) and can no longer be seen.	that oppose motion and slow down moving objects. -Gravitational force, or gravity, is a non-contact, pulling force between objects that have mass. -Gravitational force increases as the mass of an object increases. -The mass of the Earth is very large so it exerts a gravitational force large enough for its effects to be seen. -Mass is the amount of matter that an object or substance contains. -Weight is a measure of gravitational force which is different on for example Earth and the Moon. -A force meter can be used to measure an object's mass in grams (g) or kilograms (kg) and its weight in newtons (N).	• Egg, larva (tadpole), adolescent and adult are stages of an amphibian's life cycle. • Egg, larva, pupa and adult are the stages of some insects including butterflies, beetles and bees. • Egg, baby, adolescent and adult are stages of a bird's life cycle. • Producing milk to feed their young, being warm blooded, giving birth to live young, having fur or hair and breathing air with lungs are the five key characteristics of mammals. • All mammalian life cycles have the same processes of birth, growth, puberty and reproduction as well as the same stages. • The duration of each life cycle stage is different for different mammals.	-The Sun is a huge, hot ball of gas and is the only source of heat and light in the Solar System. -The Sun's force of gravity, created by its huge mass, keeps the planets in orbit. -The eight planets in our Solar System are Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune. -The Moon orbits the Earth once every 27.3 days.and also rotates on its axis once every 27.3 days. -Earth orbits around the Sun. The length of time it takes for Earth to complete a full orbit is 365.25 days, one year. -The Earth completes one rotation on its axis in 24 hours, one day. -All planets are spherical because their mass is so large that they have their own force of gravity. This force of gravity pulls all of a planet's material towards its centre, which compresses it into the most compact shape – a sphere. -As Earth orbits the Sun, it also spins on its axis. It takes Earth a day (24 hours) to complete a full spin.

	-Solubility is a measure of a material's ability to dissolve in a solvent. -A mixture is a combination of two or more substances that aren't chemically joined and can be separated back into their individual substances. -Heterogeneous mixtures consist of distinctly different substances and are easy to separate by classifying and grouping or sieving or filtering. -Substances in homogeneous mixtures are evenly distributed and you cannot see the different parts. Homogeneous substances are difficult to separate. -Reversible changes include heating, cooling, melting, dissolving and evaporating.	-Lubricants reduce the contact between two surfaces and therefore reduce frictional forces. -Liquids, such as water and oil, are used as lubricants. -Heat caused by friction can damage moving parts and stop machines from working. -Friction can be reduced through streamlining or the use of lubricants and ball bearings between surfaces or using materials with different properties. -The larger the surface area of an object the greater the resistance, air or water, it will have when it moves. This will slow it down. -A lever is a simple machine that provides a mechanical advantage to make it easier to lift a heavy load.	• The human gestation period is around 40 weeks. During this time, the organs, limbs and senses develop, and the foetus grows until it is ready to be born. • Humans go through characteristic stages as they develop towards old age. • Puberty is the transition between childhood and adulthood. • As humans age, many of the body's systems gradually decline, leading to the changes seen in older people. • Good personal hygiene (washing, wearing clean clothes and brushing teeth) can prevent disease or illness.	-During the day, the Sun appears to move through the sky. The Sun is not moving the Earth is rotating. -Earth rotates to the east or, if viewed from above the North Pole, it rotates anti-clockwise, which means the Sun rises in the east and sets in the west. -As Earth rotates, different parts of it face the Sun, which brings what we call daytime. The part facing away is in shadow, which is night time. -The tilt of the Earth's axis as it orbits the Sun changes the length of daytime and night time and creates different seasons. -When the Northern or Southern Hemisphere tilts away from the Sun, it is winter. It gets less direct sunlight, the weather is colder, the daytime is shorter and the night time is longer. -When the Northern or Southern Hemisphere tilts towards the Sun, it is summer. It gets plenty of direct sunlight, the weather is warmer, the daytime is longer and the night time is shorter. -When it is winter in the Northern Hemisphere it summer in the Southern Hemisphere.

	-Irreversible changes include burning, rusting, decaying and chemical reactions. -Sieving can be used to separate large solids from liquids and some solids from other solids. -Filtering can be used to separate small solids from liquids. -Reversible changes include heating, cooling, melting, dissolving and evaporating. -Irreversible changes include burning, rusting, decaying and chemical reactions. -Evaporating can be used to separate dissolved solids from liquids. -Reversible changes include heating, cooling, melting, dissolving and evaporating. -Irreversible changes include burning,	-A pulley is a simple machine that provides a mechanical advantage to make it easier to lift a heavy load. -Gears are toothed, interlocking wheels that can be place together to make a mechanism that provides a mechanical advantage.		-The Moon is Earth's only natural satellite. -The Moon is about 385,000km from the Earth. -The Moon is not a natural light source. We can only see it because it reflects the Sun's light. -A solar eclipse happens a few times a year when the Moon passes directly between the Earth and the Sun, blocking our view of the Sun and casting a shadow on the Earth. - -A lunar eclipse happens a few times a year when the Earth is in line between the Moon and the Sun, casting a shadow on the Moon.

	rusting, decaying and chemical reactions. -Reversible changes include heating, cooling, melting, dissolving and evaporating. -Irreversible changes include burning, rusting, decaying and chemical reactions. -Irreversible changes are usually accompanied by one or more of these signs: a gas is produced; light is produced; a smell is produced or the smell changes; the colour changes; sound is produced, or the temperature changes.			
Year 6	**Animals inc Humans** Key question: Identify and name the main parts of the human circulatory system, and describe	**Electricity** Key question: What ways can bulbs increase their brightness? End goal:	**Light** Key question: How does light travel? End goal:	**Evolution, inheritance and Classification** Key question: How are animals and plants adapted to suit their environment? End goal:

	the functions of the heart, blood vessels and blood. End goal: **Draw a diagram of the main parts of the circulatory system, including descriptions of what each part does.** Learning objectives: -The circulatory system supports the transport of oxygen, water and nutrients around the body. -The heart, blood and blood vessels make up the circulatory system. -The circulatory system moves blood around the body. -The heart is a muscular organ that pumps blood around the body through the blood vessels.	**Construct simple series circuits, to help to answer questions about what happens when different components are used, for example, switches, bulbs, buzzers and motors.** Learning objectives: -Electricity is a form of energy that makes things work. -Circuit components include cells, buzzers, switches, wires, lamps and motors. -A collection of components connected by wires in a loop is called a series circuit. -Electrical symbols represent electrical components such as a switch, buzzer or lamp. A circuit needs a power source, such as a battery or cell, with wires connected	**Draw a diagram and label how light travels.** Learning objectives: recognise that light appears to travel in straight lines 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 Learn that due to how light travels, we can see things because they give out or reflect light into the eye. To understand how we perceive colour To learn that light travels in straight lines to explain why shadows have the same shape as the objects that cast them Describe, using diagrams, how light behaves when reflected off a mirror (plane, convex or concave) and when passing through a lens (concave or convex).	**Create a PP presentation to explain how animals and plants are adapted to suit their environment.** Learning objectives: Know that: -Microorganisms are microscopic living things found in the fungus, protista and monera kingdoms. -Microorganisms and can be helpful or harmful to other living things. -Viruses are not included in the kingdoms as they are not living and need a host to survive and reproduce. -The first and widest level in the biological classification system is called a kingdom, the second a phylum, then class, order, family, genus and species. -There are five kingdoms: animals, plants, fungi, protists and monerans. -Members of each kingdom have features in common. -The fossil record and the DNA of living and extinct things provide evidence of evolution. -The first and widest level in the biological classification system is called a kingdom, the second a phylum, then class, order, family, genus and species. -The theory of evolution was developed in the 19th century by the naturalists Charles Darwin and Alfred Russel Wallace. -The theory states that: all life on Earth has evolved from simple life forms to more complex ones over time; all life on Earth has

	Blood is a substance that carries oxygen, other nutrients and hormones around the body. It also carries carbon dioxide and other waste products so they can be excreted. -Blood is made up of plasma, platelets, red blood cells and white blood cells. -Plasma is a yellowish liquid, mainly water. It carries red blood cells, white blood cells and platelets around the body. -Red blood cells carry oxygen and carbon dioxide around the body. -White blood cells fight infection and other diseases. -Platelets are small cell fragments that clump together to stop	to both the positive and negative terminals. -An electric current is the flow of electric charge around a circuit. The electric current flows from the cell through all the components and back to the cell. -When a switch is open, it creates a gap and the current cannot travel around the circuit. -When a switch is closed, it completes the circuit and allows a current to flow all the way around it. -Electric current is measured using an ammeter. -The force that pushes electric charge around a circuit, called the voltage, is measured using a voltmeter.	Describe, using scientific language, phenomena associated with refraction of light. .	common ancestors and is therefore related, and; living things with characteristics most suited to their environment are more likely to survive and reproduce. -Inheritance is when living things pass on characteristics following sexual reproduction, such as height, skin colour and eye colour. -Variation is the natural differences in characteristics between individuals of the same species. -Continuous variation contains a range of values, such as the height or mass of different individuals of the same species. -Discontinuous variation has a certain number of outcomes, such as eye colour and blood groups. -Natural selection is also known as 'survival of the fittest' because favourable traits help an organism survive and pass on their genes through reproduction. -The three different types of plant adaptations are structural, behavioural and chemical. -Structural adaptations include modified leaves, roots and trunks. -Behavioural adaptations include movement towards the Sun and regulated growth. -Chemical adaptations include the presence of stings and poisons.

	bleeding from a cut in a blood vessel. Blood vessels are tubes inside the body. -The three types of blood vessels are arteries, capillaries and veins. -Arteries carry blood from the heart to the rest of the body. -Capillaries connect arteries to veins. They allow oxygen and other nutrients to pass from the blood to the tissues, and carbon dioxide and other waste materials to pass from the tissues to the blood. -Veins carry blood from around the body back to the heart. -Resting heart rate is the number of times a heart beats per minute	-A multimeter measures both electric current and voltage.		

	when a person is at rest. -Heart rate increases during exercise because the body requires more oxygen to meet its needs. -Heart rate can be measured by recording the pulse at different points of the body. A heart rate monitor can also be used to measure the pulse.			

Our aspirational goal: We aspire for children to know more and remember more in science. Children should understand	