

Medium Term Plan - Whole School - 2020/2021
 These are the key ideas the children are required to know.

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 3	<p>Light</p> <ul style="list-style-type: none"> • There must be light for us to see. Without light it is dark. • We need light to see things, even shiny things. • Shiny materials reflect beams better than non-shiny materials. • Beams of light bounce off some materials (reflection). • Transparent materials let light through them and opaque materials don't let light through. • Light comes from a source. 	<p>Forces (magnets)</p> <ul style="list-style-type: none"> • Magnets exert attractive and repulsive forces on each other. • Magnets exert non-contact forces, which work through some materials. • Magnets exert attractive forces on some materials. • Magnetic forces are affected by: magnetic strength, object mass, distance from object, object mass. 	<p>Rocks and soils</p> <ul style="list-style-type: none"> • Compare and group together different kinds of rocks on the basis of their appearance and simple physical properties. • Describe in simple terms how fossils are formed when things that have lived are trapped within rock. • Recognise that soils are made from rocks and organic matter. 	<p>Plants</p> <ul style="list-style-type: none"> • Seeds and bulbs need the right conditions to germinate. They contain a food store for the first stages of growth (ie until the plant is able to produce its own food.) • Plants make their own food in their leaves to provide them with energy, grow, repair and reproduction. • Leaves absorb sunlight and carbon dioxide through leaves. • Plants have roots to provide support and to draw moisture from the soil, through stems to take water to the rest of the plant. • The plant makes its food from water and carbon dioxide, using sunlight as energy, in the green parts of the plants. • Flowering plants have evolved specific parts to carry out pollination, fertilisation and seed growth. • Seed dispersal improves chances of enough seeds germinating and growing to mature plants. 	<p>Keeping healthy Skeletons</p> <ul style="list-style-type: none"> • Identify that animals, including humans, need the right types and amounts of nutrient, and they cannot make their own food; they get nutrient from what they eat. • Movable joints connect bones. • Muscles are connected to bones and move them when they contract. • Many animals have skeletons to support their bodies and protect vital organs. 	<p>STEM - supplementary maths focus - blow boxes</p>

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 4	<p>Sound</p> <ul style="list-style-type: none"> • Sound travel can be blocked. • Sound travels from its source in all directions and we hear it when it travels to our ears. • Sound is produced when an object vibrates. 	<p>Properties of materials</p> <ul style="list-style-type: none"> • Solids, liquids and gases are described by observable properties. • Materials can be divided into solids, liquids and gases. • Heating causes solids to melt into liquids and liquids to evaporate to gases. • Cooling causes gases to condense to liquids and liquids to freeze to solids. • The temperature at which given substances change state are always the same. 	<p>Electricity</p> <ul style="list-style-type: none"> • More batteries will push the electricity round the circuit faster. • Electricity sources <i>push</i> electricity round a circuit. • A source of electricity (mains or battery) is needed for electrical devices to work. • Devices work harder when more electricity goes through them. • Some materials allow electricity to flow easily and these are called conductors. Materials that don't allow electricity to flow easily are called insulators. • A complete circuit is needed for electricity to flow and devices to work. 	<p>STEM - to help embed the learning from the electricity unit.</p>	<p>Variation and evolution</p> <ul style="list-style-type: none"> • Environmental change affects different habitats differently. • Different organisms are affected differently by environmental change. • Different food chains occur in different habitats. • Living things can be divided into groups based upon their characteristics. • Human activity significantly affects the environment. 	<p>Animals (Digestion)</p> <ul style="list-style-type: none"> • Food is broken down by the teeth and further in the stomach and intestines where nutrients go into the blood. The blood takes nutrients around the body. • Nutrients produced by plants move to primary consumers then to secondary consumers through food chains. • Different animals are adapted to eat different foods. • Animals have teeth to help them eat. • Different types of teeth do different jobs.

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 5	<p>Properties of materials</p> <ul style="list-style-type: none"> • All matter (including gases) has mass. • Sometimes mixed substances react to make a new substance. These changes are usually irreversible. • Heating can sometimes cause materials to change permanently. When this happens, a new substance is made. These changes are not reversible. 	<p>Forces</p> <ul style="list-style-type: none"> • Air resistance and water resistance are forces against motion caused by objects having to move air and water out of the way. • Some objects require large forces to make them move; gears, pulley and levers can reduce the force needed to make things move. • Friction is a force against motion caused by two surfaces rubbing against each other. 	STEM - wind turbine project	<p>Space</p> <ul style="list-style-type: none"> • Objects like planets, moons and stars spin. • Smaller mass objects like planets orbit large mass objects like stars. • Objects with larger masses exert bigger gravitational forces. • Stars, planets and moons have so much mass they attract other things, including each other, due to a force called gravity. Gravity works over a distance. • Stars produce vast amounts of heat and light. All other objects are lumps of rock, metal or ice and can be seen because they reflect the light of stars. 	<p>Variation and evolution</p> <ul style="list-style-type: none"> • Environmental change can affect how well an organism is suited to its environment. • Organisms best suited to their environment are more likely to survive long enough to reproduce. • Competition exists for resources and mates. • Life cycles have evolved to help organisms survive to adulthood. • Different types of organism have different life cycles. 	<p>Animals</p> <ul style="list-style-type: none"> • The heart pumps blood around the body. • Oxygen is breathed into the lungs where it is absorbed by the blood. • Different animals mature at different rates and live to different ages. • Muscles need oxygen to release the energy from food to do work. • Oxygen is taken into the blood in the lungs. • The heart pumps blood through blood vessels to the muscles. • The muscles take the oxygen and nutrients from the blood.

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Year 6	<p>Light</p> <ul style="list-style-type: none"> Animals see objects when light is reflected off that object and enters their eyes. Animals see light sources when light travels from the source into their eyes. Light reflects off all objects (unless they are black). Non-shiny surfaces scatter the light so we do not see a single beam. Light travels in straight lines. 	<p>Electricity</p> <ul style="list-style-type: none"> Batteries are a store of energy. This energy pushes electricity round the circuit. When the battery's energy is gone, it stops pushing. Voltage measures the push. The greater the current flowing through a device the harder it works. Current is how much electricity is flowing round a circuit. When current flows through wires heat is released. The greater the current, the more heat is released. 	<p>Variation and evolution</p> <ul style="list-style-type: none"> Some organisms reproduce sexually where offspring inherit information from both parents. Some organisms reproduce asexually by making a copy of a single parent. Organisms best adapted to reproduce are more likely to do so. Organisms reproduce and offspring have similar characteristics to parents. Variation exists within a population (between offspring and parents) Over time the characteristics that are most suited to the environment become increasingly common. 	<p>STEM - to help embed the learning from the electricity, sound or light unit.</p>	<p>Sound</p> <ul style="list-style-type: none"> Bigger vibrations produce louder sounds and smaller vibrations produce quieter sounds. Changing the way an object vibrates changes its sound. Changing the shape, size and material of an object will change the sound it produces. Faster vibrations (higher frequencies) produce higher pitched sounds. Sound spreads out as it travels. Sound moves through all materials by making them vibrate. 	<p>Living things</p> <p>Animals</p> <ul style="list-style-type: none"> Drugs Diet Exercise Life style Classification

