

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 3	<p>Rock and Soils Compare and group together different types of rocks on the basis of their appearance, uses and simple physical properties including permeability. Understand that fossils are formed when living things have been trapped within rock. Recognise that soils are made from rocks and organic matter.</p>	<p>Magnets and Forces Compare how far things move on different surfaces. Notice that some forces need Direct contact but magnetic forces can act at a distance. Investigate attraction and repulsion of magnets and materials. Describe magnets as having two poles and predict attraction / repulsion depending on which poles are facing.</p>	<p>Light Recognise that dark is the absence of light. Investigate the differences between natural and artificial light. Understand that light from the sun can be dangerous and that we can protect our eyes from this. Recognise that shadows are formed when the light from a source (natural or artificial) is blocked by a solid object. Investigate and find patterns in the way that the size of shadows change. Notice that light is reflected from certain surfaces.</p>		<p>Animals including humans: Identify that animals, including humans, cannot make their own food like plants. Humans get nutrition from what they eat. Examine what a balanced diet is using food groups. Examine why humans and some animals need a skeleton and muscles for support, movement & protection. Compare endoskeletons (internal) and exoskeleton (external) - insects.</p>	<p>Plants Identify and describe the functions of different parts of flowering plants. Examine what plants need to grow and survive, whether in an artificial or natural environment. Investigate transpiration. Explore the life cycle of flowering plants: ~pollination ~seed formation ~seed dispersal</p>
Year 4	<p>States of Matter Examine three main states of matter: solids, liquids and gases Investigate how some materials change state when they are heated or cooled—and at what temperature. Develop scientific vocabulary to describe these changes. Identify these changes of state within the water cycle. Animals including Humans Explore our digestive system and describe its functions. Identify different types of teeth in humans and relate this to carnivores, herbivores and omnivores.</p>		<p>Electricity Identify different appliances that use mains / battery electricity. Construct a simple circuit: cells, wires, bulbs, switchers, buzzers. Recognise that a switch opens and closes a circuit. Add a lamp to the circuit and investigate how it can light up. Recognise that metals are good conductors.</p>	<p>Sound <i>Identify how sounds are produced with vibrations. and that they travel through a medium to the ear.</i> <i>Investigate different pitches and volumes of sound and how understand how instruments and strength of vibrations have an effect.</i> <i>Experiment with the reflection of sound: echoes</i></p>	<p>Living things and their habitats Group and sort living things in a variety of ways: invertebrates / vertebrates/ flowering / non flowering plants etc... Using our school wildlife area and environment explore and use classification keys for identification. Using the context of Grantham Canal, examine how a change in environment can pose dangers to living things. Construct a food chain identifying producers, predators and prey.</p>	
Year 5	<p>Earth and Space Know that the sun is a star and that it has 8 planets. Know the names and order of the 8 planets. Describe the movement of the Earth and other planets relative to the sun. Describe the movement of the moon relative to the earth. Know that the Earth's rotation explains day and night. Forces Investigate the force of gravity Identify the effects of air resistance, water resistance and friction. Explore mechanisms: levers, pulleys, gears</p>		<p>Properties and changes of Materials Compare and group materials on the basis of their hardness, solubility, transparency, conductivity and magnetism. Investigate how to make a solution and how mixtures may be separated by filtering, sieving, evaporating. Explore reversible and irreversible changes. Explore chemistry and inspirational chemists such as Spencer Silver (post it note glue) and Ruth Benerito (wrinkle free cotton)</p>		<p>Animals Including Humans Describe and recognise changes in growth and development in humans with particular emphasis on puberty. Living things & Habitats Know the characteristics of mammals, amphibians, insects and birds and describe the differences between their life cycles. Using our school vegetable patch and gardens observe the life cycle changes of plants and vegetables.. Understand the difference between sexual and asexual reproduction in plants and sexual reproduction in animals. Explore naturalists such as David Attenborough and Jane Goodall.</p>	
Year 6	<p>Animals Including Humans Explore our circulatory system describing the functions of heart, arteries, veins and blood. Understand that our bodies might be damaged through harmful substances. Good lifestyle choice are important for physical and mental wellbeing.</p>	<p>Light Explore the way that light behaves (it appears to travel in a straight line) and investigate the relationship between light sources, reflections and shadows.</p>	<p>Living things and their habitats: <i>Explore our classification system and that broad groups can be sub-divided.</i> <i>Through observations classify vertebrates and invertebrates.</i> <i>Give reasons for classifying plants and animals based on specific characteristics.</i></p>	<p>Evolution and inheritance: Recognise that fossils provide information about living things millions of years ago. Identify how animals and plants adapt to suit their environments. Explore Charles Darwin's ideas on evolution.</p>	<p>Electricity Construct a simple series circuit to help answer questions about what happens when different components are added - switches, bulbs, buzzers and motors. Understand how the amount of voltage used in a circuit affects the brightness of a lamp / volume of a buzzer. Use recognised symbols when representing a simple circuit in a diagram. Design and make a useful circuit that enables a light, buzzer or motor o work.</p>	