



Year 7 – Science – Curriculum grid



Science	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Year 7	<p>Baseline - Safety</p> <p>8.1 – Movement (Organisms)</p> <ul style="list-style-type: none"> -Levels of organisation - Cell, tissue, organs, organ system, organism -Parts of the skeleton and functions. -Joints - Where they are found, structure and functions. -Names of muscles. -Antagonistic muscles - creating movement. <p>Investigation: Dissecting chicken wings to observe muscle, joint and bone structure.</p> <p>L1/L2 – Teeth</p> <ul style="list-style-type: none"> -Number of teeth -Milk and permanent -Types of teeth -Functions -Dental hygiene -Digestive system <p>8.2 – Cells (Organisms)</p> <ul style="list-style-type: none"> -Observing cells using a microscope. -Plant and animal cell components. -Similarities and differences between plant and animal cells. -Types of specialised cells. -Movement of substances in and out of cells. 	<p>1.1 – Speed (Forces)</p> <ul style="list-style-type: none"> -Introduction to forces. Unit of forces (Newton) - Balanced and unbalanced - force diagrams -Links between speed and journey times -Calculate speed from distance – time graphs <p>Investigation: Making, testing and measuring the distance of bottle rockets.</p> <p>1.2 – Gravity (Forces)</p> <ul style="list-style-type: none"> -What is gravity? -Value of gravity on Earth and on the moon. -Differences between mass and weight. -Objects staying in orbit. <p>Investigation: Creating and testing parachutes with different variables.</p>	<p>9.1 – Interdependence (Ecosystems)</p> <ul style="list-style-type: none"> -Food chains/webs transfer of energy. -Factors that affect population of species and toxic materials. -Importance of pollinators. -Differences of ecosystems, community, habitat, environment and niche. -Resources animals and plants compete for. <p>9.2 – Plant reproduction (Ecosystems)</p> <ul style="list-style-type: none"> -Locate the plant’s reproductive system. -Link the structures of the flower to their functions. -Methods of pollination. -Process of fertilisation and germination. -Types of seed dispersal. -Seeds adaptations to their method of dispersal. <p>Investigation: Germinating seeds with different variables. Dissecting a lily into parts.</p>	<p>5.1 – Particle model (Matter)</p> <ul style="list-style-type: none"> -The particle models. -Properties of different materials - arrangement and movement of particles. -Properties of solids, liquids and gases. -States of substances in relation to its melting and boiling points. -Changes of state linking to energy of the particles. -Boiling points and measuring boiling points. -Differences between boiling and evaporation. -Using particles models to explain diffusion -Gas pressure and the exerting forces. -Inside particles - atoms, elements and compounds. <p>Investigation: Melting, freezing and boiling of a range of substances.</p> <p>5.2 – Separating mixtures (Matter)</p> <ul style="list-style-type: none"> -Properties of pure substances. -Common substance mixtures -How solutions dissolve using the particle model. -Solubility and the mass of the solute in 100g of water. -Why filtration works to separate a mixture. -Using evaporation and distillation to separate a mixture. -How chromatography separates substances. 	<p>7.1 – Earth Structure (Earth)</p> <ul style="list-style-type: none"> -Name three rocks layers of Earth. -Comparing the layers of the Earth. -Sedimentary rock formation and properties. -Igneous and metamorphic rock formation and their properties. -Process of the rock cycle. -Properties of ceramics. -Substance properties based on how it is formed. <p>Investigation: Recreating the rock cycle using starburst.</p> <p>7.2 – Universe (Earth)</p> <ul style="list-style-type: none"> -Objects visible in the night sky. -Structure of the Universe. -Describing the model of the solar system. -Why do we see objects in the solar system? -Explain why places on the Earth experience different daylight hours and seasons. -Naming phases of the moon and why we see them. -Appearance of the moon and planets. 	<p>2.1 – Potential difference and resistance (Electromagnets)</p> <ul style="list-style-type: none"> -Draw circuit diagrams and make circuits. -Measure the potential difference of a circuit. -Make circuits and link to component resistance. -Make a range of series and parallel circuits. <p>Investigation: Creating a range of electrical circuits using: bulbs, wires, batteries and motors.</p> <p>2.2 – Current (Electromagnets)</p> <ul style="list-style-type: none"> -Know that is meant by current. -Difference in current between series and parallel circuits. -Properties of an electric field. -Charged object interactions. <p>Investigation: Creating and testing static electricity in a range of variables.</p>

	<p>-Uni-Cellular organisms - amoeba and euglena structures.</p> <p>Investigation: Preparing and observing cells with a microscope.</p> <ul style="list-style-type: none">-Onion cells-Cheek cells			<p>Investigation: Filtering a range of different soil types. Chromatography of chocolate coatings.</p>		
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