

Subject	Science		
Interpretation of National Curriculum into Year group Endpoints			
Year	Term 1	Term 2	Term 3
7	<p>Students will describe and explain the concepts of:</p> <p><b>Speed</b> quantitative relationship between average speed, distance and time (speed = distance ÷ time), the representation of a journey on a distance-time graph and relative motion</p> <p><b>Gravity</b> non-contact gravity forces (gravity force, weight = mass x gravitational field strength) acting at a distance on Earth and in space and gravity forces between Earth and Moon, and between Earth and Sun</p> <p><b>Voltage &amp; Resistance</b> potential difference (V), resistance (Ohms) as the ratio of potential difference to current and differences in resistance between conducting and insulating components</p> <p><b>Current</b> electric current (measured in Amperes) in series and parallel circuits, current as flow of charge and static electricity</p> <p><b>Energy Costs</b> fuels and energy resources, generating electricity and calculation of fuel uses and costs in the domestic context</p> <p><b>Energy Transfer</b> processes that involve energy transfer: changing motion, dropping an object, completing an electrical circuit, stretching a spring, metabolism of food, burning fuels and energy as a quantity that can be quantified and calculated</p> <p><b>Sound</b> frequencies of sound waves(Hz), echoes, reflection and absorption of sound , the speed of sound, sound produced by vibrations of objects, in loud speakers, auditory range of humans and animals</p>	<p>Students will describe and explain the concepts of:</p> <p><b>Light</b> the properties of light waves, the transmission of light through materials, the use of ray model to explain the behaviour of light and describing colours and the different frequencies of light</p> <p><b>Particle Model</b> the differences in arrangements of particles explaining changes of state, shape and density, and the properties of the different states of matter (solid, liquid and gas)</p> <p><b>Separating Mixtures</b> the concept of a pure substance and a mixtures and simple techniques for separating mixtures: filtration, evaporation, distillation and chromatography</p> <p><b>Metals &amp; Non-Metals</b> the properties of metals and non-metals, the chemical properties of metal and non-metal oxides with respect to acidity and reactions of acids with metals to produce a salt plus hydrogen and properties of ceramics, polymers and composites</p> <p><b>Acids &amp; Alkalis</b> defining acids and alkalis in terms of neutralisation reactions and using the pH scale and indicators for measuring acidity/alkalinity</p> <p><b>Earth Structure</b> the composition and structure of the Earth and the rock cycle and the formation of igneous, sedimentary and metamorphic rocks</p> <p><b>Universe</b> stars in our galaxy and other galaxies, the seasons and the Earth's tilt, day length at different times of year, in different hemispheres and the light year as a unit of astronomical distance</p>	<p>Students will describe and explain the concepts of:</p> <p><b>Movement</b> the structure and functions of the human skeleton, the function of muscles and the interaction between skeleton and muscles</p> <p><b>Cells</b> cells as the fundamental unit of living organisms, the role of diffusion in the movement of materials in and between cells and the hierarchical organisation of multicellular organisms</p> <p><b>Interdependence</b> the interdependence of organisms in an ecosystem, the importance of plant reproduction through insect pollination in human food security and how organisms affect, and are affected by, their environment</p> <p><b>Plant Reproduction</b> reproduction in plants, including flower structure, wind and insect pollination, fertilisation, seed and fruit formation and dispersal</p> <p><b>Variation</b> differences between species and the variation between individuals within a species being continuous or discontinuous</p> <p><b>Human Reproduction</b> reproduction in humans including the structure and function of the male and female reproductive systems, menstrual cycle gametes, fertilisation, gestation, birth, and the effect of maternal lifestyle on the foetus through the placenta</p>