

KS2	<b>YEAR 5</b>	<b>YEAR 6</b>
	Forces, Gravity and weight-Identifying the effects of forces in different situations.	Light- How it travels and how we see.
	Properties and Materials - Looking at the different properties of materials. Reversible and irreversible changes. Using the particle model to suggest ways of separating mixtures.	Inheritance and evolution- The fossil record and the change in animals over time. Adaptation in animals.
	Earth and space- Describe the movements of the Earth, Moon and other planets in relation to the sun.	Classification and micro-organisms- Describe how living things are classified into broad groups according to common observable characteristics and based on similarities and differences,
	Living things including animals- Describe the differences in the life cycles of different animals. Describe reproduction in plants.	Animals including humans- Name and describe the main parts of the circulatory system. Understand the impact that different lifestyles have on the body.
		Electricity – Building electrical circuits. Understand the impact that different components will have on the circuit.
KS3	<b>YEAR 7</b>	<b>YEAR 8</b>
	Electricity- Series and parallel circuits, measuring of current and potential difference. Calculation of resistance.	Interdependence and DNA- Food chains and webs. How animals are adapted to live in different environments. What DNA is and what it does. The difference between environmental and genetic variation.
	Cells and Organisms- recognising the differences between plant and animal cells. The role of diffusion in the movement of materials in and between cells. The structural adaptations of some unicellular organisms. The hierarchical organisation of multicellular organisms: from cells to tissues to organs to systems to organisms.	Chemical reactions- Chemical reactions as the rearrangement of atoms. Representing chemical reactions using formulae and using equations. Combustion, thermal decomposition, oxidation and displacement reactions. Exothermic and endothermic chemical reactions.
	Atoms and the periodic table- Using the particulate model to explain solids liquids and gases. A simple (Dalton) atomic model Differences between atoms, elements and compounds. Chemical symbols and formulae for elements and compounds	Energy stores and transfers- including the energy in food and fuel. Heating and thermal equilibrium.

	<p>Conservation of mass changes of state and chemical reactions.</p> <p>The principles underpinning the Mendeleev Periodic Table.</p> <p>The Periodic Table: periods and groups; metals and non-metals.</p> <p>How patterns in reactions can be predicted with reference to the Periodic Table.</p>	
	<p>Acids and Alkalis -Defining acids and alkalis in terms of neutralisation reactions.</p> <p>The pH scale for measuring acidity/alkalinity; and indicators.</p>	<p>Gas exchange and cellular respiration- The structure and functions of the gas exchange system in humans. The mechanism of breathing. The role of leaf stomata in gas exchange in plants.</p> <p>Aerobic and anaerobic respiration in living organisms.</p>
	<p>Forces- Balanced and unbalanced forces. Force arrows.</p> <p>Force-extension linear relation; Hooke's Law.</p> <p>Work done and energy changes on deformation. Non-contact forces. Pressure in liquids and gases. Pressure measured by ratio of force over area</p>	<p>Light and sound- Light and the electromagnetic spectrum. Reflection, refraction and dispersion of light. Sound waves, frequency of sound and how we hear.</p>
	<p>The Human body- Structure and function of the muscular skeletal system. Digestion and healthy eating.</p>	
	<p>Reproduction- Human reproduction, including conception, pregnancy and birth. The menstrual cycle. Plant reproduction.</p>	<p>Photosynthesis- The reactants and products of photosynthesis plus a written equation. How leaves are adapted for effective photosynthesis. The role of leaf stomata in gas exchange in plants.</p>
	<p>Motion- Calculation of speed, distance, time. Understanding of relative motion.</p>	<p>Space- Gravity, different on other planets and stars; gravity forces between Earth and Moon, and between Earth and Sun. Our Sun as a star, other stars in our galaxy, other galaxies. The seasons and the Earth's tilt, day length at different times of year, in different hemispheres. The light year as a unit of astronomical distance.</p>