

# Curriculum Map Year 7 Science

Topic Name	Term	Skills developed with link to NC Subject content	Reflection on previous link in the curriculum	Progress to future link in the curriculum
<b>Biology 1: Cells</b>  <b>Chemistry 1: Laboratory skills, Mixing, Dissolving and Separating</b>  <b>Physics 1: Forces</b>	<i>Autumn HT1</i>	Biology 1: Cells <ul style="list-style-type: none"> <li>What are cells and cell structure</li> <li>Using microscopes safely</li> <li>What are specialised cells and why do we need that for a multicellular organism?</li> <li>Diffusion and how cells get what they need.</li> <li>Organisation of cells, the digestive system.</li> <li>Healthy diet and food groups.</li> </ul>	Year4 : Animals including humans <ul style="list-style-type: none"> <li>Parts of the human digestive system</li> <li>types and functions of teeth</li> </ul> Year 6: Impact of healthy diet.	Yr10 GCSE Biology: <ul style="list-style-type: none"> <li>Eukaryotic and prokaryotic cell structure and function of organelles.</li> <li>Microscopy and observing cells, calculating magnification.</li> <li>Cell specialisation and differentiation.</li> <li>Diffusion, osmosis and active transport.</li> </ul>
	<i>Autumn HT2</i>	Chemistry 1: Laboratory skills, Mixing, Dissolving and Separating <ul style="list-style-type: none"> <li>Solubility and Saturation</li> <li>Separation of Salt from grit</li> <li>Chromatography</li> <li>Simple distillation</li> <li>Effect of surface area and temperature on solubility</li> </ul> Physics 1: Forces <ul style="list-style-type: none"> <li>What is a force?</li> <li>Resultant forces</li> <li>Newton's laws</li> <li>The difference between weight and mass</li> <li>Hooke's law</li> <li>Motion – speed, distance and time</li> <li><math>F=ma</math>, <math>W=mg</math> and <math>s=d/t</math> mathematical skills</li> <li>Practical skill development. Recording and analysing results</li> </ul>	Year 3: Forces and magnets <ul style="list-style-type: none"> <li>Contact forces</li> <li>Non-contact forces (magnetic)</li> </ul> Year 6: Forces <ul style="list-style-type: none"> <li>Gravity acting between Earth and the falling object.</li> <li>Effects of air resistance, water resistance and friction.</li> <li>Recognise that some mechanisms, including levers, pulleys and gears, allow a smaller force to have a greater effect.</li> </ul> Year 5: Properties and Changes of materials <ul style="list-style-type: none"> <li>Changes of state</li> <li>solids liquids and gases</li> </ul> Year 4: Changes of Matter <ul style="list-style-type: none"> <li>evaporation and condensation in the water cycle</li> </ul>	GCSE Chemistry: <ul style="list-style-type: none"> <li>Fractional Distillation</li> <li>Chemical analysis - chromatography</li> <li>rates of reaction and surface area</li> <li>making soluble salts such as copper sulfate</li> </ul> GCSE Physics: Forces <ul style="list-style-type: none"> <li>Resolving resultant forces</li> <li>Application of Newton's Laws</li> <li><math>W=mg</math> calculations</li> <li>Resolving Vectors</li> <li>Momentum and the conservation of momentum</li> </ul>
<b>Physics 2: Space</b>  <b>Chemistry 2: Acids and Alkalis</b>  <b>Biology 2: Plant and Animal Reproduction</b>	<i>Spring HT3</i>	Physics 2: Space <ul style="list-style-type: none"> <li>Planets in the solar system</li> <li>Earth seasons and axis</li> <li>Natural and artificial satellites</li> <li>Forces involved in take off</li> <li>Life on other planets</li> <li>Sun is a star</li> <li>Galaxies and the universe</li> <li><math>W=mg</math> and resultant forces recap.</li> <li>Women in space</li> </ul>	Year 5: Space <ul style="list-style-type: none"> <li>Movement of the Earth &amp; other planets relative to the sun in the solar system</li> <li>Movements of the Moon relative to Earth</li> <li>Day/night &amp; the apparent movement of the sun across the sky</li> </ul>	Yr 11 GCSE Biology: <ul style="list-style-type: none"> <li>Asexual and sexual reproduction in plants and animals.</li> <li>Hormones and the Menstrual cycle</li> </ul>
	<i>Spring HT4</i>	Chemistry 2: Acids and Alkalis <ul style="list-style-type: none"> <li>What are acids and alkalis?</li> <li>pH and indicators</li> <li>Neutralisation</li> <li>Metals and acid</li> <li>Metal carbonates and acid</li> <li>Naming salts</li> <li>making copper sulfate</li> </ul>	Year 3: Animals including humans <ul style="list-style-type: none"> <li>Life cycle of a flowering plant, seed formation and dispersal.</li> </ul> Year 5: All living things <ul style="list-style-type: none"> <li>Explore the parts that flowers play in the lifecycle of flowering plants, including pollination and seed dispersal.</li> </ul>	GCSE Chemistry: <ul style="list-style-type: none"> <li>strong and weak acids and alkalis</li> <li>reactions of acids and alkalis</li> <li>making salts using metal carbonates, metal oxides and metals with acid</li> </ul> GCSE Physics: Space Physics <ul style="list-style-type: none"> <li>Circular Motions and orbits</li> <li>The properties of the planets and other objects in the solar system</li> <li>Time (Years, Months, Days)</li> </ul>

		<p>Biology 2: Plant and Animal Reproduction</p> <ul style="list-style-type: none"> <li>• Male and female animal reproductive systems</li> <li>• Puberty</li> <li>• The menstrual cycle</li> <li>• Development of the foetus and birth</li> <li>• Parts of a flowering plant</li> <li>• Pollination and plant fertilisation</li> <li>• Seed dispersal and types of germination.</li> </ul>		
<p><b>Biology 3: Mass Transport Systems</b></p> <p><b>Chemistry 3: Particles and Physical changes</b></p> <p><b>Physics 3: Electricity</b></p>	Summer HT5	<p>Biology 3: Mass Transport Systems</p> <ul style="list-style-type: none"> <li>• Lung structure and function.</li> <li>• How do we breathe?</li> <li>• Lung diseases and what can go wrong.</li> <li>• Heart and circulatory system structure and function.</li> <li>• Heart disease and what can go wrong.</li> <li>• How to reduce the risk of heart disease.</li> </ul>	<p>Year 6: Electricity</p> <ul style="list-style-type: none"> <li>• Brightness of a lamp is linked to voltage and cells used in the circuits.</li> <li>• Components function, including the brightness of bulbs, the loudness of buzzers and the on/off position of switches.</li> </ul> <p>Year 6:</p> <ul style="list-style-type: none"> <li>• Main parts of circulatory system</li> <li>• Functions of heart, blood and blood vessels.</li> <li>• Recognise the impact that diet exercise and lifestyle have on the body.</li> </ul> <p>Year 5: Properties and Changes of materials</p> <ul style="list-style-type: none"> <li>• Changes of state</li> <li>• solids liquids and gases</li> </ul>	<p>Yr 10 GCSE Biology:</p> <ul style="list-style-type: none"> <li>• Need for mass transport, sa:vol ratios</li> <li>• Circulatory system, including heart, cardiac cycle blood and heart disease.</li> <li>• Ventilatory system. Structure of lungs and gas exchange adaptations.</li> </ul> <p>GCSE Chemistry:</p> <ul style="list-style-type: none"> <li>• atomic structure</li> <li>• phases of matter</li> <li>• quantitative calculations</li> <li>• the development of the periodic table</li> </ul> <p>GCSE Physics: Electricity</p> <ul style="list-style-type: none"> <li>• Application of static electricity</li> <li>• Construction and testing of electrical circuits</li> <li>• Application and use of diodes, thermistors and light dependent resistors</li> </ul>
	Summer HT6	<p>Chemistry 3: Particles and Physical changes</p> <ul style="list-style-type: none"> <li>• solids, liquids and gases</li> <li>• atoms, elements and compounds</li> <li>• density</li> <li>• changing state</li> <li>• cooling curves</li> <li>• the periodic table</li> <li>• concentration</li> <li>• pressure</li> <li>• conservation of mass</li> </ul> <p>Physics 3: Electricity</p> <ul style="list-style-type: none"> <li>• Atoms and their charges</li> <li>• Static charges</li> <li>• Moving charges</li> <li>• Electric circuit components</li> <li>• Measuring current and potential difference</li> <li>• The test circuit to calculate resistance</li> <li>• Electrical energy</li> <li>• <math>Q=It</math>, <math>V=IR</math> and <math>E=QV</math> mathematical skills</li> <li>• Practical circuit building and linking to theory</li> </ul>		