

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

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