

# Curriculum Content Map

Subject: Combined Science

Year group: 10

	Term 1				Term 2			Term 3			
Month	September	October	November	December	January	February	March	April	May	June	July
Virtue	Friendliness & Civility	Justice & Truthfulness	Courage	Generosity	Gratitude	Good Speech	Good Temper & Humour	Self-Mastery		Compassion	Good Sense
Skill	Listening	Leadership	Problem-Solving	Creativity	Staying Positive	Speaking	Staying Positive	Aiming High		Speaking	Teamwork
Curriculum Content	B1 Cell Structure and Transport C1 Atomic Structure P1 conservation and dissipation of energy.	B1 Cell Structure and Transport B3 Organisation and the digestive system C1 Atomic Structure (cont.) C3 Structure and bonding P1 conservation and dissipation of energy (cont.) P2 energy transfer and heating	B3 Organisation and the digestive system (cont.) C3 Structure and bonding (cont.) P3 Energy resources	B2 Cell division C2 The periodic table P4 Electric circuits	B4 Organising animals and plants part 1 and 2 C2 The periodic table (cont.) C4 Chemical calculations C5 chemical changes P4 Electric circuits (cont.) P5 Electricity in the home	B5 communicable diseases C5 Chemical changes (cont.) P6 Molecules and matter	B5 Communicable diseases B6 preventing and treating diseases C6 Electrolysis P7 Radioactivity Part 1	B7 Non-communicable diseases C7 Energy changes P8 Forces in balance	B8 Photosynthesis B9 Respiration C7 Energy changes (cont.) C8 Rates and equilibrium P8 Forces in balance (cont.) P9 Motion P10 forces and motion	B9 Respiration C8 Rates and equilibrium P10 forces and motion	B10 The Nervous System C8 Rates and equilibrium C9 Crude oil and fuels P10 Forces and motion P11 wave properties
National Curriculum area	Cell biology Transport systems Atomic structure and periodic table Energy	Cell biology Transport systems Atomic structure and periodic table Structure, bonding and properties Energy	Cell biology Transport systems Structure, bonding and properties Energy	Cell biology Atomic structure and periodic table Electricity	Cell biology Transport systems Atomic structure and periodic table Chemical analysis Chemical changes Electricity	Health, disease, and the development of medicines Chemical changes Structure of Matter	Health, disease, and the development of medicines Chemical changes Chemical and allied industries Atomic structure	Health, disease, and the development of medicines Energy changes Forces Forces and motion	Photosynthesis Energy changes Rate and extent of chemical change Forces Forces and motion	Cell biology Rate and extent of chemical change Forces and motion	Coordination and control Chemical and allied industries Earth and atmospheric science Wave motion

Link to Virtue	<p>B1 Students will work with friendliness and civility within groups to investigate cell types, cell specialisation and transport.</p> <p>C1 Students will demonstrate friendliness and civility while completing practical work in separating mixtures and while completing group work while learning about the different elements</p>	<p>B3 Students will work in groups of 4 to research tissues in each of the organs and will decide which is the most important organ and justify why they think that.</p> <p>C3 students will understand that transfer of electrons results in ions being formed and will investigate whether an element losing electrons is just.</p>	<p>B3 Students will carry out enzyme reactions and demonstrate the virtue of courage by challenging the data collected and therefore describe the trends seen in enzyme catalysed reactions.</p> <p>C3 Students will have courage to produce models of different types of bonding.</p>	<p>B2 students will look at cell division and the use of stem cells in research with a link to how individuals can be selfless and generously donate tissue to biological studies.</p> <p>C2 students will appreciate how scientists are generous when sharing their data to ensure that a sensible conclusion can be drawn.</p>	<p>B4 Students will demonstrate gratitude for the diverse variety of organisms throughout the world and how they contribute to our daily lives.</p> <p>C5 Students will demonstrate how chemist are grateful for the resources that we have, and it is right that we should only use the resources that we need and therefore we need to calculate the amounts of starting materials so that we are not wasteful.</p>	<p>B5 Students will learn about a wide range of communicable diseases and use good speech and vocabulary to describe how the diseases are transmitted and treated.</p> <p>C5 Students will demonstrate how chemist are grateful for the resources that we have, and it is right that we should only use the resources that we need and therefore we need to calculate the amounts of starting materials so that we are not wasteful.</p>	<p>B6 Students will need to demonstrate good temper and good humour when investigating how diseases can be prevented especially with STIs as this is generally a topic that they find difficult to discuss.</p> <p>C7 Electrolysis can be a challenging topic, combining many principles from KS3. Students will need to demonstrate good temper and good humour when working with each other in practical sessions.</p>	<p>B7 students will demonstrate self-mastery by relating the information that they have learnt in B5 and 6 to the terms cause and correlation. They will use these terms in a range of situations. Students will use keywords and scientific terminology to demonstrate self-mastery in the topic of energy changes. Students will be able to draw diagrams to represent energy changes to show their understanding.</p>	<p>B8 and B9 Photosynthesis and respiration are the two main biological pathways that provide the energy required for all living organisms. Only through mastery of these processes has life been able to be sustained on the earth. Rate and equilibrium is a challenging topic and students will need to show perseverance in order to develop self-mastery in this topic.</p>	<p>B9 Students will appreciate that respiration is one of the two main biological pathways that provide the energy required for all living organisms. Only through mastery of these processes has life been able to be sustained on the earth. C8 Students will understand how we can have compassion for the earth by considering the amounts of reactants used and how we can use different conditions to ensure better yields of products from reactions thereby being more compassionate of our earth.</p>	<p>B10 Students will develop and understanding of how senses are used within the body. Students will be carrying out investigations on living subjects and will have to use good sense to prevent injury or distress.</p> <p>C8 Students will understand how we can have compassion for the earth by considering the amounts of reactants used and how we can use different conditions to ensure better yields of products from reactions thereby being more compassionate of our earth.</p>
Link to Skill	<p>Students will need to <u>listen</u> to each other and be able to explain another students' opinion. Students will also need to be <u>listen</u> to the teacher to pull out consistency underlying themes or use of previous skills.</p>	<p>Students will <u>lead</u> their learning to ensure they are secure in building on previous knowledge.</p>	<p>Students will need to use their <u>problem-solving</u> skills to be able to draw conclusions from data.</p>	<p>Students will use <u>creative</u> writing and techniques to produce posters with links to stem cells and the periodic table. Students will be creating circuits in physics</p>	<p>Students will understand the problems associated with using Earth's resources and will find <u>positive</u> solutions to these problems.</p>	<p>Students will be using key terminology and <u>good speech</u> when describing how diseases are transmitted and treated. They will describe the problems and solutions linked to obtaining and using Earth's resources using good speech.</p>	<p>Students will be <u>staying positive</u> when investigating different communicable diseases and describing the types of treatments that can be used to ensure that patients get a <u>positive</u> outcome.</p>	<p>Students will be aiming high when they look at the typically challenging energy changes topic and will aim high by producing energy change diagrams. Students will aim high to prevent illness in themselves by educating themselves about non-communicable diseases, some of which are preventable. Students will be aiming high when carrying out practical activities to collect valid</p>	<p>Students will be <u>aiming high</u> when carrying out investigations relating to photosynthesis and respiration in biology and aiming to collect valid data. Students will be challenged by the content in the rate and equilibrium topic and will need to <u>aim high</u> to understand the content to perform well in the end of year exams. Students in physics will be <u>aiming high</u> by applying knowledge of distance time graphs and velocity time graphs and momentum</p>	<p>In biology students will use their <u>speaking skills</u>, with the correct terminology to describe the process of aerobic respiration. Students will be describing how we can manipulate equilibria in industry using their <u>speaking skills</u>. Students in physics will be demonstrating <u>speaking skills</u> by applying knowledge of distance time graphs and velocity time graphs and momentum and describing them to their peers.</p>	<p>In biology, chemistry and physics students will be carrying out practical activities while working in <u>teams</u>.</p>

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Sequencing



<p><u>Builds from KS3</u> Biology 8.2 Cells 5.2 Separating mixtures 5.3 Elements 5.4 Periodic table 5.1 Particle model 3.3 Work 3.4 Heating and cooling 3.1 Energy costs 3.4 Energy transfer</p>	<p><u>Builds from KS3</u> 8.2 Cells 8.4 Digestion 5.3 Elements 5.4 Periodic table 5.1 Particle model 3.4 Heating and cooling 3.1 Energy costs 3.4 Energy transfer</p>	<p><u>Builds from KS3</u> 8.4 Digestion 5.3 Elements 5.4 Periodic table 5.1 Particle model 3.1 Energy costs 3.4 Energy transfer</p>	<p><u>Builds from KS3</u> 10.4 Inheritance 8.2 Cells 5.3 Elements 5.4 Periodic table 5.1 Particle model 2.1 Potential difference and resistance 2.2 Current 2.4 Electromagnets</p>	<p><u>Builds from KS3</u> 8.1 Movement 8.2 Cells 9.2 Plant Reproduction 10.2 Human reproduction 8.3 Breathing 8.4 Digestion 9.4 Photosynthesis 5.3 Elements 5.4 Periodic table 5.1 Particle model 6.1 Acids and alkalis 6.2 Metals and non-metals 3.1 Energy costs 3.4 Energy transfer 2.1 Potential difference and resistance 2.2 Current 2.4 Electromagnets</p>	<p><u>Builds from KS3</u> 10.3 Evolution 10.4 inheritance 6.1 Acids and alkalis 6.2 Metals and non-metals 5.1 Particle model</p>	<p><u>Builds from KS3</u> 10.3 Evolution 10.4 inheritance 6.1 Acids and alkalis 6.2 Metals and non-metals 4.3 wave effects 4.4 wave properties</p>	<p><u>Builds from KS3</u> 8.3 Breathing 8.4 Digestion 6.3 Types of reaction 6.4 Chemical energy 1.1 Speed 1.2 Gravity 1.3 Contact forces 1.4 Pressure</p>	<p><u>Builds from KS3</u> 9.3 Respiration 9.4 Photosynthesis 6.3 Types of reaction 6.4 Chemical energy 1.1 Speed 1.2 Gravity 1.3 Contact forces 1.4 Pressure</p>	<p><u>Builds from KS3</u> 9.3 Respiration 9.3 Respiration 6.3 Types of reaction 6.4 Chemical energy 1.1 Speed 1.2 Gravity 1.3 Contact forces 1.4 Pressure</p>	<p><u>Builds from KS3</u> 8.2 Cells 8.3.3 Drugs 8.3.4 Alcohol 7.1 Earth structure 7.3 Climate 1.1 Speed 1.2 Gravity 1.3 Contact forces 1.4 Pressure 4.3 Wave effects 4.4 Wave properties</p>
<p><u>Further Develops in year 11</u> B3 Human reproduction B2 cell division B4 genetics and reproduction C2 The periodic table C3 Structure and bonding C4 chemical calculations C9 Chemical analysis P2 Energy transfer by heating P3 Energy resources</p>	<p><u>Further Develops in year 11</u> B12 Reproduction</p>	<p><u>Further Develops in year 11</u> B11 Hormonal control C11 The earth's atmosphere</p>	<p><u>Further Develops in year 11</u> B12 Reproduction B13 Variation and evolution B14 Genetics and evolution C11 The earth's atmosphere P13 Electromagnetism</p>	<p><u>Further Develops in year 11</u> B10 Human nervous system B11 Hormonal communication C11 The earth's atmosphere</p>	<p><u>Further Develops in year 11</u> B14 Genetics and evolution C11 The earth's atmosphere</p>	<p><u>Further Develops in year 11</u> B14 Genetics and evolution C12 The earth's resources</p>	<p><u>Further Develops in year 11</u> B12 Reproduction B13 Variation and evolution</p>	<p><u>Further Develops in year 11</u> B16 Organising an ecosystem</p>	<p><u>Further Develops in year 11</u> B16 Organising an ecosystem</p>	<p><u>Further Develops in year 11</u> B11 Hormonal communication C11 The earth's atmosphere C12 The earth's resources P12 Electromagnetic Waves</p>



