

TBS Curriculum Map

Year: 9

Subject: Combined science

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Theme/Topic	B1 Cell structure and transport B2 Cell Division B3 Organisation and digestive system	B4 Organising animals and plants B5 Communicable diseases B6 Preventing and treating diseases.	C1 Atomic structure C2 The Periodic Table	C3 Structure and bonding C6 Electrolysis C7 Energy changes	P1 Conservation and dissipation of energy. P2 Energy transfer by heating.	P3 Energy resources P4 Electric circuits P5 Electricity at home
Skills	MS1b Use standard form. MS2a Use significant figures. MS2h Make order of magnitude calculations WS 4.4 Use prefixes and powers of 10. WS1.2 Use models. WS 1.3 Evaluating risks and benefits. WS 1.5 Evaluating risk in a wider societal context. AT 3 Use appropriate apparatus and techniques for observation/measurement. AT4 Safe and ethical use of living organisms. AT5 Measure rates of reaction in a variety of methods. AT6 Sampling techniques AT7 Using apparatus, techniques and magnification.	WS1.2 Use models. WS1.3 Understanding size and scale. MS 1a Expressions in decimal form MS1c Ratios, fractions and percentages. AT7 Using appropriate apparatus, techniques and magnification. WS 1.5 Evaluating risk WS3.5 Interpreting observations and data. WS1.3 Appreciating the power and limitations of science. WS1.4 Explaining everyday and technological applications of science. MS2c Frequency tables, bar charts, histograms. MS2g scatter diagrams MS4a Graphical and numeric form. MS2d Sampling techniques	WS2.2 Planning experiments WS2.3 Apply a range of techniques, apparatus AT4 Safe and ethical use of living organisms. WS1.1 Understand scientific methods/theories develop over time. WS1.6 Peer review WS1.2 Use models WS4.3 Use SI units WS4.4 Prefixes and powers. MS1b Standard form MS1d Make estimates of results of simple calculations. MS5b Visualise 2d and 3d forms.	MS5b Calculate areas of triangles, SA and volume. WS1.2 Use models. MS4a Translate graphical into numerical MS1a Use expressions in decimal form. MS1c Ratios, fractions and %. WS1.4 4 Explaining everyday and technological applications of science WS4.1 Use scientific vocab, terminology, and definitions. WS4.2 Recognise the importance of scientific quantities.	WS4.5 Interconvert units WS1.2 Use models. WS4.3 Use SI units WS4.6 Use appropriate number of sig figs. MS1a Use expressions in decimal form. MS1c Use ratios, fractions and %. MS3b Change the subject of an equation. MS3c Substitute numerical values into algebraic equations. WS4.4 Use prefix and powers of ten. AT5 Safe use of appropriate apparatus in a range of contexts.	WS4.4 4 Use prefix and powers of ten. WS1.3 Appreciating the power and limitations of science. WS1.4 Explaining everyday and technological applications of science. WS3.5 Interpret observations and other data. MS1c Ratios, fractions and %. MS2c Use frequency tables, bar charts and histograms. MS4a Translate graphical into numerical WS1.2 Use models.


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	<p>MS2d Understand the principles of sampling. MS 5c Calculating areas of triangles, SA and volumes. MS 2c Interpret frequency diagrams, bar charts, histograms. MS4a Translate graphical to numerical MS 4c Plot 2 variables MS 1a Expressions in decimal form MS5c Calculating areas, surface areas, volumes.</p>	<p>WS 1.5 Evaluating risk in a wider AT3 Use appropriate apparatus and techniques for observation/measurement. AT4 Safe and ethical use of living organisms AT5 Measurements AT6 Sampling techniques AT7 Using apparatus, techniques and magnification. WS1.6 Peer review MS5c Calculating areas, surface areas, volumes. MS4c Gradient of line WS 1.3 Evaluating risks and benefits. WS 1.5 Evaluating risk in a wider societal context.</p>	<p>AT6 Safe use of qualitative reagents and techniques.</p>	<p>WS4.3 Use SI units. WS4.4 Use prefixes and powers MS2h Make order of magnitude calculations. MS5c Calculating areas, surface areas, volumes. MS1b Standard form MS1d Make estimates of results. WS1.5 Evaluating risk AT5 Making and recording appropriate observations. MS1a Use expressions in decimal form. AT6 Safe and careful use of solids, liquids and gases. MS1d Make estimate of simple results. MS4b Understand $y=mx+c$ MS4c Plot 2 variables.</p>	<p>AT1 Use of appropriate apparatus to make and record a range of measurements accurately.</p>	<p>MS3b Change the subject of an equation. MS3c Substitute numerical values into algebraic equations. AT6 Use of appropriate apparatus to measure I, V and R. MS4c Plot 2 variables MS4d Determine the slope and intercept of a linear line. MS4e Use the slope of a tangent to measure rate. MS3b Change the subject of an equation MS3d Solve simple algebraic equations. AT7 Use circuits diagrams to construct and check series and parallel circuits. WS1.5 Evaluate risks.</p>
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				MS4d Determine slope and intercept of linear line. MS4e Find tangent to find rate of reaction.		
Knowledge	<ul style="list-style-type: none"> Compare the different sub-cellular structures of animal cells, plant cells, and bacterial cells, and including their functions. Describe the three stages of cell division. Explain the function of the different parts of the digestive system. 	<ul style="list-style-type: none"> Explain how the structure and function of the heart blood vessels is related to their functions. <p>Explain how the defence mechanisms of the body prevent or treat infection.</p> <ul style="list-style-type: none"> Explain the differences between vaccination, antibiotics, and painkillers. 	<ul style="list-style-type: none"> Explain how the periodic table links to electronic structures of elements, bar charts atoms. Explain in detail how new evidence led to the development of the periodic table. 	<p>Use experimental results to identify bonding types present. Predict, using half equations, what would happen when a given substance is electrolysed.</p> <ul style="list-style-type: none"> Use displayed formulae to show the bonds made and broken in unfamiliar reactions. <p>Complete complex bond energy calculations.</p>	<ul style="list-style-type: none"> Explain processes in terms of energy stores. Calculate specific heat capacity and apply knowledge of specific heat capacity to make predictions. Apply what you know about thermal conductivity to buildings and other situations. 	<ul style="list-style-type: none"> Describe how current energy demands are met, including how electricity is generated and variable demand is met. Apply what you know about everyday examples of static electricity. Explain the purpose of fuses, earthing, circuit breakers, and plastic casings in electrical safety, and how a circuit breaker works. <p>Explain the link between charge, potential difference, current, time, energy and power</p>

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Cultural Capital						
Curriculum overlap						