

TBS Curriculum Map

Year: 10

Subject: Combined science

	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
Theme/Topic	B7 Non-communicable diseases B8 Photosynthesis B9 Respiration	C4 Chemical calculations C5 Chemical changes	P6 Molecules and matter P7 Radioactivity	P8 Forces in balance P9 Motion	B10 The human nervous system. B11 Hormone control	C8 Rates and equilibrium C9 Crude oil and fuels
Skills	<p>WS1.4 Explaining everyday and technological applications of science.</p> <p>WS1.3 Evaluating risks and benefits.</p> <p>MS2c Frequency tables, bar charts, histograms.</p> <p>AT4 Safe and ethical use of living organisms.</p> <p>MS 2g scatter diagrams</p> <p>MS 4a Translate graphical to numerical</p> <p>WS1.5 Evaluating risk in a wider societal context.</p> <p>MS2d Understand the principles of sampling</p> <p>AT7 Using apparatus, techniques and magnification.</p> <p>MS3d solve algebraic equations</p>	<p>WS1.2 Use models</p> <p>AT1 Use appropriate apparatus to make and record a range of measurements.</p> <p>AT2 Safe use of appropriate heating devices.</p> <p>AT6 Safe and careful use of solids, liquids and gases.</p> <p>WS3.4 Represent distributions of results and make estimates of uncertainty.</p> <p>WS4.1 Use scientific vocab, terminology and definitions.</p>	<p>MS1a Use expressions in decimal form.</p> <p>MS1b Use expressions in standard form</p> <p>MS1c Use ratios, fractions and %.</p> <p>MS3b Change the subject of an equation.</p> <p>MS3c Substitute numerical values into algebraic equations.</p> <p>WS1.2 Use models</p> <p>MS3d Solve algebraic equations</p> <p>MS4a Translate info between graphical to numeric form.</p> <p>AT5 Safe use of appropriate apparatus in a range</p>	<p>MS3b Change the subject of an equation.</p> <p>MS3c Substitute numerical values into algebraic equations</p> <p>MS3a Use symbols</p> <p>WS1.2 Use a variety of models to solve problems and make predictions.</p> <p>MS4a Translate info between graphical to numeric form.</p> <p>MS5a Use angular measures in degrees.</p> <p>MS5b Visualise and represent 2D and 3D forms.</p> <p>WS4.5 Interconvert units</p>	<p>MS2c Frequency tables, bar charts, histograms.</p> <p>MS4a Translate graphical to numerical</p> <p>WS1.2 Use models.</p> <p>WS1.4 Explaining everyday and technological applications of science.</p> <p>WS1.5 Evaluating risk</p> <p>WS1.3 3 Evaluating risks and benefits.</p> <p>MS4a Translate graphical to numerical</p> <p>WS1.1 Using scientific theories and explanations to develop hypotheses</p>	<p>WS1.1 Using scientific theories and explanations to develop hypotheses</p> <p>WS1.2 Use models</p> <p>AT5 Making and recording appropriate observations during chemical reactions.</p> <p>WS4.1 Use scientific vocab, terminology and definitions.</p> <p>MS5b Visualise and represent 2D and 3D forms.</p> <p>AT2 Use safe and appropriate heating devices and techniques.</p> <p>AT6 Safe use and handling of solids, liquids and gases.</p>

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	<p>MS 1a Expressions in decimal form MS1c Ratios, fractions % MS4a Graphical and numeric form. MS4c Gradient of line MS 3a Use symbols MS 3d solving algebraic expressions. AT8 Use appropriate techniques and qualitative reagents AT1 Record a range of measurement. AT3 Use appropriate apparatus and techniques for observation/measurement AT4 Safe and ethical use of living organisms.</p>	<p>WS4.2 Importance of scientific quantities WS4.3 Use SI units WS4.5 Interconvert units WS4.6 Use appropriate number of sig figs. MS1a Use expressions in decimal form MS1b Use expressions in standard form. MS2a Use appropriate number of sig figs. MS3a Use symbols MS3b Change the subject of the equation. MS1c Use ratios, fractions and %. MS3c Substitute values into algebraic equations. WS4.2 Recognise the importance of scientific quantities. AT3 Use appropriate apparatus and</p>	<p>of contexts to measure energy changes/transfers. WS3.5 Interpret observations and other data. WS4.4 Use prefixes and powers of ten. WS4.1 Use scientific vocab, terminology and definitions. WS1.1 Understand how scientific methods and theories develop over time. WS1.6 Importance of peer review. WS1.2 Use a variety of models to solve problems and make predictions. WS1.4 Explaining everyday and technological applications of science. WS1.5 Evaluate risks WS4.1 Use scientific vocab, terminology and definitions. WS4.4 Use prefixes and powers of ten.</p>	<p>MS1c Use ratios, fractions and %. WS3.5 Interpret observations and other data. MS3c Substitute numerical values into algebraic equations. WS4.3 Use SI units WS4.4 Use prefixes and powers of ten. WS4.6 Use appropriate number of sig figs. WS1.2 Use a variety of models to solve problems and make predictions. MS2f Understand mean, median and mode. MS4b USE $y=mx+c$ MS4c Plot 2 variables. MS4d Determine the slope and intercept a linear line. MS4f Understand the area between a curve and the x axis. MS1d Make estimates.</p>		<p>WS2.2 Plan experiments or device procedures.</p>
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		<p> techniques to conduct and monitor chemical reactions. AT8 Use appropriate qualitative reagents and techniques to identify unknown samples. MS2h Make order of magnitude calculations. </p>		<p> WS3.3 Mathematical and statistical analysis. AT1 Use of appropriate apparatus to make and record a range of measurements accurately. AT2 Use of appropriate apparatus to measure and observe the effects of forces. WS3.7 Evaluate data for accuracy, precision, repeatability. MS1c Use ratios, fractions and %. MS2h Make order of magnitude calculations WS1.5 Evaluate risk AT3 Use of appropriate apparatus and techniques for measuring motion. MS3d Solve algebraic equations. </p>		
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Knowledge	<p>Explain how vaccination protects against disease</p> <p>Explain some methods of prevention of some non-communicable diseases.</p> <ul style="list-style-type: none"> State the symbol equation for photosynthesis. Explain how a leaf is adapted for photosynthesis. <p>Explain the factors that affect photosynthesis</p> <ul style="list-style-type: none"> State the word and symbol equations for aerobic and anaerobic respiration. Explain the effects exercise has on respiration. <p>Compare anaerobic respiration and aerobic respiration.</p>	<p>Show how reacting masses relate to balanced symbol equations, converting masses to moles and calculating molar ratios present in the equation. Explain the underlying scientific concepts that dictate how metals and their compounds react with acids.</p>	<ul style="list-style-type: none"> Use explanations of why a gas exerts a pressure to further explain the relationship between pressure and volume, and temperature Describe what alpha, beta, and gamma radiation are, and their different properties and how to balance equations for nuclear decay. <p>Use ideas about half-life to solve problems</p>	<ul style="list-style-type: none"> Calculate resultant forces. <p>Describe why some objects are stable and others topple.</p> <ul style="list-style-type: none"> Plot and interpret a distance-time graph and a speed-time graph. Make calculations of velocity. 	<p>Explain how a reflex action is coordinated</p> <ul style="list-style-type: none"> Explain some of the functions of the hormones of the endocrine system. 	<ul style="list-style-type: none"> Explain how collision theory can be used to explain the effect of temperature, surface area, pressure, and concentration on rate of reaction. Describe how fractional distillation takes place. Describe how cracking takes place and why it is an important industrial process
Cultural Capital						
Curriculum overlap			C1 Atomic structure.			