



The **Sutton** Academy

# Science Subject Overview

## Subject Overview

Year 7	Topics Covered	Syllabus Key Words
Term 1	<p>On rotation: Cells Reproduction Growth</p> <p>Particles Particle behaviour Mixtures &amp; Solutions</p> <p>Links to additional information: <a href="https://www.samlearning.com/">https://www.samlearning.com/</a> <a href="http://www.bbc.co.uk/schools/gcsebitesize/science/">http://www.bbc.co.uk/schools/gcsebitesize/science/</a></p>	<p>Unicells (also the same as unicellular/single celled), organisms, reproduction, excretion, respiration, movement, nutrition, sensitivity, micro-organisms, cell wall, cell membrane, nucleus, flagellum, protein coat, slime capsule.</p> <p>Atoms, attraction, compressed, density, gases, liquids, matter, molecules, matter, molecules, neutrons, nucleus, particle theory, particles protons, solids, volume</p>
Term 2	<p>On rotation: Forces Magnets Static electricity</p> <p>Nutrition Respiration Movement Sensitivity</p> <p>Links to additional information: <a href="https://www.samlearning.com/">https://www.samlearning.com/</a> <a href="http://www.bbc.co.uk/schools/gcsebitesize/science/">http://www.bbc.co.uk/schools/gcsebitesize/science/</a></p>	<p>Air resistance, balanced forces, contact force, drag, force, forcemeter, friction, gravitational field, gravity, interact, lubrication, mass, Newton (N), unbalanced forces, upthrust, weight</p> <p>Absorbed, absorption, assimilation, balanced diet, breaking down, carbohydrates, chlorophyll, chloroplasts, digestion, enzymes, excreted, faeces, glucose, gut, malnutrition, minerals, photosynthesis, protein, stomata, villi</p>
Term 3	<p>On Rotation: Solar system Earth, Sun, Moon Astronomy</p> <p>Making things happen Changing materials</p> <p>Links to additional information: <a href="https://www.samlearning.com/">https://www.samlearning.com/</a> <a href="http://www.bbc.co.uk/schools/gcsebitesize/science/">http://www.bbc.co.uk/schools/gcsebitesize/science/</a></p>	<p>Asteroids, comets, ellipse, exoplanets, gravity, mass, minor planets, orbit, planet, Solar System, star, telescopes.</p> <p>Bunsen burner, chemical reactions, collar, endothermic, evidence, exothermic, heat proof mat, limewater, temperature, thermometer, litmus</p>

Year 8	Topics Covered	Syllabus Key Words
Term 1	<p>On rotation: Circulation Health</p> <p>Elements Chemical reactions Acids &amp; Alkalis</p> <p>Links to additional information: <a href="https://www.samlearning.com/">https://www.samlearning.com/</a> <a href="http://www.bbc.co.uk/schools/gcsebitesize/science/">http://www.bbc.co.uk/schools/gcsebitesize/science/</a></p>	<p>Arteries, blood vessels, clot, capillaries, haemoglobin, heart, plasma, valves, veins, white blood vessels, red blood cells, platelets.</p> <p>Atom, atomic number, compound, conductors, elements, Periodic Table, metals, non-metals, symbols</p>
Term 2	<p>On rotation: Ecology Ecosystems Humans &amp; the environment</p> <p>Sound How sound travels Light Bending light</p> <p>Links to additional information: <a href="https://www.samlearning.com/">https://www.samlearning.com/</a> <a href="http://www.bbc.co.uk/schools/gcsebitesize/science/">http://www.bbc.co.uk/schools/gcsebitesize/science/</a></p>	<p>Abiotic factors, adapted, biotic factors, data logger, diurnal, nocturnal, environment, hibernate, migrating, sensors, probes.</p> <p>Amplitude, frequency, hertz, larynx, loudness, pitch, vibration, vocal</p>
Term 3	<p>On rotation: Energy resources Heat Energy changes</p> <p>Using Chemistry Rocks &amp; weathering Chemistry &amp; the environment</p> <p>Links to additional information: <a href="https://www.samlearning.com/">https://www.samlearning.com/</a> <a href="http://www.bbc.co.uk/schools/gcsebitesize/science/">http://www.bbc.co.uk/schools/gcsebitesize/science/</a></p>	<p>Energy resources, food, fossil fuels, non-renewable fuels, nuclear fuels, photosynthesis, renewable energy, solar cells, Absorber, conduction, convection, convection current, emitter, evaporation, infra-red.</p> <p>Acid rain, biological weathering, chemical weathering, physical weathering, deposition, erosion, rock cycle, metamorphic rock, igneous rock, sedimentary rock</p>

Year 9	Topics Covered	Syllabus Key Words																		
Term 1	<p>2 on rotation from:</p> <table border="0" data-bbox="336 309 992 629"> <tr> <td>Size matters</td> <td>Motion</td> </tr> <tr> <td>Variety &amp; classification</td> <td>Levers</td> </tr> <tr> <td>Variation</td> <td>Pressure &amp; Density</td> </tr> <tr> <td>Nature</td> <td>Current</td> </tr> <tr> <td></td> <td>Voltage &amp; Resistance</td> </tr> <tr> <td>Patterns in Elements</td> <td></td> </tr> <tr> <td>Compounds</td> <td></td> </tr> <tr> <td>Reactions</td> <td></td> </tr> <tr> <td>Resources</td> <td></td> </tr> </table> <p>Links to additional information:</p> <p><a href="https://www.samlearning.com/">https://www.samlearning.com/</a>  <a href="http://www.bbc.co.uk/schools/gcsebitesize/science/">http://www.bbc.co.uk/schools/gcsebitesize/science/</a></p>	Size matters	Motion	Variety & classification	Levers	Variation	Pressure & Density	Nature	Current		Voltage & Resistance	Patterns in Elements		Compounds		Reactions		Resources		<p>Surface area, volume, surface are to volume ratio, brain size, intelligence</p> <p>Carbon Monoxide, combustion, corrosion, fuels, hydrocarbons, incomplete combustion, oxidation, oxides, redox, reduces, reduction</p> <p>Anticlockwise/clockwise moment, effort, engineer, fulcrum, levers, load, machine, moment, newton metres (Nm), Pivot, Principle of Moments, turning effect.</p>
Size matters	Motion																			
Variety & classification	Levers																			
Variation	Pressure & Density																			
Nature	Current																			
	Voltage & Resistance																			
Patterns in Elements																				
Compounds																				
Reactions																				
Resources																				
Term 2	<p>1 on rotation from:</p> <table border="0" data-bbox="336 918 992 1238"> <tr> <td>Size matters</td> <td>Motion</td> </tr> <tr> <td>Variety &amp; classification</td> <td>Levers</td> </tr> <tr> <td>Variation</td> <td>Pressure &amp; Density</td> </tr> <tr> <td>Nature</td> <td>Current</td> </tr> <tr> <td></td> <td>Voltage &amp; Resistance</td> </tr> <tr> <td>Patterns in Elements</td> <td></td> </tr> <tr> <td>Compounds</td> <td>Compulsory unit:</td> </tr> <tr> <td>Reactions</td> <td>Revision Unit</td> </tr> <tr> <td>Resources</td> <td></td> </tr> </table> <p>Links to additional information:</p> <p><a href="https://www.samlearning.com/">https://www.samlearning.com/</a>  <a href="http://www.bbc.co.uk/schools/gcsebitesize/science/">http://www.bbc.co.uk/schools/gcsebitesize/science/</a></p>	Size matters	Motion	Variety & classification	Levers	Variation	Pressure & Density	Nature	Current		Voltage & Resistance	Patterns in Elements		Compounds	Compulsory unit:	Reactions	Revision Unit	Resources		<p>Surface area, volume, surface are to volume ratio, brain size, intelligence</p> <p>Carbon Monoxide, combustion, corrosion, fuels, hydrocarbons, incomplete combustion, oxidation, oxides, redox, reduces, reduction</p> <p>Anticlockwise/clockwise moment, effort, engineer, fulcrum, levers, load, machine, moment, newton metres (Nm), Pivot, Principle of Moments, turning effect.</p>
Size matters	Motion																			
Variety & classification	Levers																			
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Nature	Current																			
	Voltage & Resistance																			
Patterns in Elements																				
Compounds	Compulsory unit:																			
Reactions	Revision Unit																			
Resources																				
Term 3	<p>Differentiation, Key Stage target catch-up and Key Stage four transition.</p> <p>Links to additional information:</p> <p><a href="https://www.samlearning.com/">https://www.samlearning.com/</a>  <a href="http://www.bbc.co.uk/schools/gcsebitesize/science/">http://www.bbc.co.uk/schools/gcsebitesize/science/</a></p>																			

Year 10	Topics Covered	Syllabus Key Words
Term 1	<p>Keeping healthy, nerves and hormones, the use of drugs and abuse.</p> <p>Fundamental ideas in chemistry, Limestone and building materials</p> <p>Transfer of heat energy, Energy and efficiency</p> <p>Links to additional information:</p> <p><a href="http://tsac11/course/view.php?id=1086">http://tsac11/course/view.php?id=1086</a></p> <p><a href="http://tsac11/course/view.php?id=1089">http://tsac11/course/view.php?id=1089</a></p> <p><a href="http://tsac11/course/view.php?id=1090">http://tsac11/course/view.php?id=1090</a></p> <p><a href="https://www.samlearning.com/">https://www.samlearning.com/</a></p> <p><a href="http://www.bbc.co.uk/schools/gcsebitesize/science/">http://www.bbc.co.uk/schools/gcsebitesize/science/</a></p>	<p>Interval</p> <p>Precision</p> <p>Prediction</p> <p>Range</p> <p>Repeatable</p> <p>Reproducible</p> <p>Resolution</p> <p>Sketch graph</p> <p>True value</p> <p>Uncertainty</p> <p>Validity</p> <p>Valid conclusion</p> <p>Variables</p> <p>Categoric</p> <p>Continuous</p>
Term 2	<p>Interdependence and variation, energy in Biomass and food chains and waste materials in plants and animals</p> <p>Metals and their uses, Crude Oil and fossil fuels</p> <p>Usefulness of electrical appliances, methods we use to generate electricity.</p> <p>Links to additional information:</p> <p><a href="http://tsac11/course/view.php?id=1086">http://tsac11/course/view.php?id=1086</a></p> <p><a href="http://tsac11/course/view.php?id=1089">http://tsac11/course/view.php?id=1089</a></p> <p><a href="http://tsac11/course/view.php?id=1090">http://tsac11/course/view.php?id=1090</a></p> <p><a href="https://www.samlearning.com/">https://www.samlearning.com/</a></p> <p><a href="http://www.bbc.co.uk/schools/gcsebitesize/science/">http://www.bbc.co.uk/schools/gcsebitesize/science/</a></p>	<p>Control</p> <p>Dependent</p> <p>Independent</p> <p>Accuracy</p> <p>Calibration</p> <p>Data</p> <p>Errors</p> <p>Measurement error</p> <p>Anomalies</p> <p>Random error</p> <p>Systematic error</p> <p>Zero error</p> <p>Evidence</p> <p>Fair test</p> <p>Hypothesis</p>
Term 3	<p>Genetic variation and its control, evolution.</p> <p>Other useful substances from crude oil, Plant Oils and their uses, changes in the Earth's atmosphere &amp; waves.</p> <p>Links to additional information:</p> <p><a href="http://tsac11/course/view.php?id=1086">http://tsac11/course/view.php?id=1086</a></p> <p><a href="http://tsac11/course/view.php?id=1089">http://tsac11/course/view.php?id=1089</a></p> <p><a href="http://tsac11/course/view.php?id=1090">http://tsac11/course/view.php?id=1090</a></p> <p><a href="https://www.samlearning.com/">https://www.samlearning.com/</a></p> <p><a href="http://www.bbc.co.uk/schools/gcsebitesize/science/">http://www.bbc.co.uk/schools/gcsebitesize/science/</a></p>	
Course/ Examination Board Details AQA GCSE Core Science ( B1, C1, P1)		

Year 10	Topics Covered	Syllabus Key Words
Term 1	Keeping healthy, nerves and hormones, the use of drugs and abuse.  Links to additional information: <a href="http://tsac11/course/view.php?id=1086">http://tsac11/course/view.php?id=1086</a> <a href="http://tsac11/course/view.php?id=1092">http://tsac11/course/view.php?id=1092</a> <a href="http://tsac11/course/view.php?id=1123">http://tsac11/course/view.php?id=1123</a>  <a href="https://www.samlearning.com/">https://www.samlearning.com/</a> <a href="http://www.bbc.co.uk/schools/gcsebitesize/science/">http://www.bbc.co.uk/schools/gcsebitesize/science/</a>	Interval Precision Prediction Range Repeatable Reproducible Resolution Sketch graph True value Uncertainty Validity
Term 2	Interdependence and variation, energy in Biomass and food chains, waste materials in plants and animals. Genetic variation and its control, evolution.  Links to additional information: <a href="http://tsac11/course/view.php?id=1086">http://tsac11/course/view.php?id=1086</a> <a href="http://tsac11/course/view.php?id=1092">http://tsac11/course/view.php?id=1092</a> <a href="http://tsac11/course/view.php?id=1123">http://tsac11/course/view.php?id=1123</a>  <a href="https://www.samlearning.com/">https://www.samlearning.com/</a> <a href="http://www.bbc.co.uk/schools/gcsebitesize/science/">http://www.bbc.co.uk/schools/gcsebitesize/science/</a>	Valid conclusion Variables Categorical Continuous Control Dependent Independent Accuracy Calibration Data Errors Measurement error Anomalies Random error Systematic error Zero error Evidence Fair test Hypothesis

Term 3	Cells and simple cell transport, tissues. Environment, proteins.  Links to additional information: <a href="http://tsac11/course/view.php?id=1086">http://tsac11/course/view.php?id=1086</a> <a href="http://tsac11/course/view.php?id=1092">http://tsac11/course/view.php?id=1092</a> <a href="http://tsac11/course/view.php?id=1123">http://tsac11/course/view.php?id=1123</a>  <a href="https://www.samlearning.com/">https://www.samlearning.com/</a> <a href="http://www.bbc.co.uk/schools/gcsebitesize/science/">http://www.bbc.co.uk/schools/gcsebitesize/science/</a>	
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Course/ Examination Board Details: AQA GCSE Biology ( B1, B2, B3)

Year 10	Topics Covered	Syllabus Key Words
Term 1	Fundamental ideas in chemistry, Limestone and building materials, metals and their uses,  Links to additional information:  <a href="http://tsac11/course/view.php?id=1089">http://tsac11/course/view.php?id=1089</a> <a href="http://tsac11/course/view.php?id=1088">http://tsac11/course/view.php?id=1088</a> <a href="http://tsac11/course/view.php?id=1124">http://tsac11/course/view.php?id=1124</a>  <a href="https://www.samlearning.com/">https://www.samlearning.com/</a> <a href="http://www.bbc.co.uk/schools/gcsebitesize/science/">http://www.bbc.co.uk/schools/gcsebitesize/science/</a>	Interval Precision Prediction Range Repeatable Reproducible Resolution Sketch graph True value Uncertainty Validity Valid conclusion Variables Categorical Continuous
Term 2	Crude Oil and fossil fuels, other useful substances from crude oil, Plant Oils and their uses.  Links to additional information:  <a href="http://tsac11/course/view.php?id=1089">http://tsac11/course/view.php?id=1089</a> <a href="http://tsac11/course/view.php?id=1088">http://tsac11/course/view.php?id=1088</a> <a href="http://tsac11/course/view.php?id=1124">http://tsac11/course/view.php?id=1124</a>  <a href="https://www.samlearning.com/">https://www.samlearning.com/</a> <a href="http://www.bbc.co.uk/schools/gcsebitesize/science/">http://www.bbc.co.uk/schools/gcsebitesize/science/</a>	Control Dependent Independent Accuracy Calibration Data Errors Measurement error Anomalies Random error Systematic error Zero error Evidence
Term 3	Structure and bonding, how structure influences the properties and uses of substances, atomic structure,  Links to additional information:  <a href="http://tsac11/course/view.php?id=1089">http://tsac11/course/view.php?id=1089</a> <a href="http://tsac11/course/view.php?id=1088">http://tsac11/course/view.php?id=1088</a> <a href="http://tsac11/course/view.php?id=1124">http://tsac11/course/view.php?id=1124</a>  <a href="https://www.samlearning.com/">https://www.samlearning.com/</a> <a href="http://www.bbc.co.uk/schools/gcsebitesize/science/">http://www.bbc.co.uk/schools/gcsebitesize/science/</a>	Fair test Hypothesis
Course/ Examination Board Details: AQA GCSE Chemistry (C1, C2, C3)		

Year 10	Topics Covered	Syllabus Key Words
Term 1	<p>Transfer of heat energy, Energy and efficiency, usefulness of electrical appliances.</p> <p>Links to additional information:</p> <p><a href="http://tsac11/course/view.php?id=1090">http://tsac11/course/view.php?id=1090</a>  <a href="http://tsac11/course/view.php?id=1087">http://tsac11/course/view.php?id=1087</a>  <a href="http://tsac11/course/view.php?id=1125">http://tsac11/course/view.php?id=1125</a></p> <p><a href="https://www.samlearning.com/">https://www.samlearning.com/</a>  <a href="http://www.bbc.co.uk/schools/gcsebitesize/science/">http://www.bbc.co.uk/schools/gcsebitesize/science/</a></p>	Interval Precision Prediction Range Repeatable Reproducible Resolution Sketch graph True value Uncertainty Validity Valid conclusion Variables Categoric Continuous Control Dependent Independent Accuracy Calibration Data Errors Measurement error Anomalies Random error Systematic error Zero error Evidence Fair test Hypothesis
Term 2	<p>Methods we use to generate electricity. Waves.</p> <p>Links to additional information:</p> <p><a href="http://tsac11/course/view.php?id=1090">http://tsac11/course/view.php?id=1090</a>  <a href="http://tsac11/course/view.php?id=1087">http://tsac11/course/view.php?id=1087</a>  <a href="http://tsac11/course/view.php?id=1125">http://tsac11/course/view.php?id=1125</a></p> <p><a href="https://www.samlearning.com/">https://www.samlearning.com/</a>  <a href="http://www.bbc.co.uk/schools/gcsebitesize/science/">http://www.bbc.co.uk/schools/gcsebitesize/science/</a></p>	
Term 3	<p>Forces and their effects, Kinetic energy of objects.</p> <p>Links to additional information:</p> <p><a href="http://tsac11/course/view.php?id=1090">http://tsac11/course/view.php?id=1090</a>  <a href="http://tsac11/course/view.php?id=1087">http://tsac11/course/view.php?id=1087</a>  <a href="http://tsac11/course/view.php?id=1125">http://tsac11/course/view.php?id=1125</a></p> <p><a href="https://www.samlearning.com/">https://www.samlearning.com/</a>  <a href="http://www.bbc.co.uk/schools/gcsebitesize/science/">http://www.bbc.co.uk/schools/gcsebitesize/science/</a></p>	
Course/ Examination Board Details: AQA GCSE Physics (P1, P2, P3)		



Year 10	Topics Covered	Syllabus Key Words
Term 1	Portfolio: Standard procedures, suitability tests, work based report.  Links to additional information:  <a href="https://www.samlearning.com/">https://www.samlearning.com/</a> <a href="http://www.bbc.co.uk/schools/gcsebitesize/science/">http://www.bbc.co.uk/schools/gcsebitesize/science/</a>	length metre (m); kilometre (km); centimetre (cm); millimetre (mm) mass kilogram (kg); gram (g); milligram (mg) time second (s); millisecond (ms) temperature degree Celsius (°C); kelvin (K)
Term 2	On rotation: Science in Society: sport and fitness, monitoring and protecting the environment, health care and protecting the public  Links to additional information:  <a href="https://www.samlearning.com/">https://www.samlearning.com/</a> <a href="http://www.bbc.co.uk/schools/gcsebitesize/science/">http://www.bbc.co.uk/schools/gcsebitesize/science/</a>	current ampere (A); milliamperere (mA) voltage volt (V); millivolt (mV) area cm <sup>2</sup> ; m <sup>2</sup> volume cm <sup>3</sup> ; dm <sup>3</sup> ; m <sup>3</sup> ; litre (l); millilitre (ml) density kg/m <sup>3</sup> ; g/cm <sup>3</sup> force newton (N) speed m/s; km/h energy joule (J); kilojoule (kJ); megajoule (MJ)
Term 3	Science and materials: Stage and screen, sports equipment, chemical products, agriculture  Links to additional information:  <a href="https://www.samlearning.com/">https://www.samlearning.com/</a> <a href="http://www.bbc.co.uk/schools/gcsebitesize/science/">http://www.bbc.co.uk/schools/gcsebitesize/science/</a>	power watt (W); kilowatt (kW); megawatt (MW) frequency hertz (Hz); kilohertz (kHz) gravitational field strength N/kg radioactivity becquerel (Bq) acceleration m/s <sup>2</sup> ; km/h <sup>2</sup> specific heat capacity J/kg°C; J/g°C
Course/ Examination Board Details: OCR Additional Applied Science		

Year 10	Topics Covered	Syllabus Key Words
Term 1	<p>Application of Chemical substances, application of physical science, health applications of life sciences.</p> <p>Links to additional information:</p> <p><a href="http://tsac11/course/view.php?id=1121">http://tsac11/course/view.php?id=1121</a>  <a href="http://tsac11/course/view.php?id=1120">http://tsac11/course/view.php?id=1120</a>  <a href="http://tsac11/course/category.php?id=471">http://tsac11/course/category.php?id=471</a></p> <p><a href="https://www.samlearning.com/">https://www.samlearning.com/</a>  <a href="http://www.bbc.co.uk/schools/gcsebitesize/science/">http://www.bbc.co.uk/schools/gcsebitesize/science/</a></p>	Interval Precision Prediction Range Repeatable Reproducible Resolution Sketch graph True value Uncertainty Validity Valid conclusion Variables
Term 2	<p>Application of Chemical substances, application of physical science, health applications of life sciences.</p> <p>Links to additional information:</p> <p><a href="http://tsac11/course/view.php?id=1121">http://tsac11/course/view.php?id=1121</a>  <a href="http://tsac11/course/view.php?id=1120">http://tsac11/course/view.php?id=1120</a>  <a href="http://tsac11/course/category.php?id=471">http://tsac11/course/category.php?id=471</a></p> <p><a href="https://www.samlearning.com/">https://www.samlearning.com/</a>  <a href="http://www.bbc.co.uk/schools/gcsebitesize/science/">http://www.bbc.co.uk/schools/gcsebitesize/science/</a></p>	Categoric Continuous Control Dependent Independent Accuracy Calibration Data Errors Measurement error Anomalies Random error Systematic error Zero error
Term 3	<p>Application of Chemical substances, application of physical science, health applications of life sciences.</p> <p>Links to additional information:</p> <p><a href="http://tsac11/course/view.php?id=1121">http://tsac11/course/view.php?id=1121</a>  <a href="http://tsac11/course/view.php?id=1120">http://tsac11/course/view.php?id=1120</a>  <a href="http://tsac11/course/category.php?id=471">http://tsac11/course/category.php?id=471</a></p> <p><a href="https://www.samlearning.com/">https://www.samlearning.com/</a>  <a href="http://www.bbc.co.uk/schools/gcsebitesize/science/">http://www.bbc.co.uk/schools/gcsebitesize/science/</a></p>	Evidence Fair test Hypothesis
Course/ Examination Board Details: Person/Edexcel BTEC Applications in Science		

Year 11	Topics Covered	Syllabus Key Words
Term 1	Respiration, cell division and inheritance, speciation Exothermic and endothermic reactions, acids, bases and salts, electrolysis. Radioactive decay Nuclear fission and fusion  Links to additional information:  <a href="http://tsac11/course/category.php?id=88">http://tsac11/course/category.php?id=88</a>  <a href="https://www.samlearning.com/">https://www.samlearning.com/</a> <a href="http://www.bbc.co.uk/schools/gcsebitesize/science/">http://www.bbc.co.uk/schools/gcsebitesize/science/</a>	Interval Precision Prediction Range Repeatable Reproducible Resolution Sketch graph True value Uncertainty Validity Valid conclusion Variables Categorical
Term 2	Movement of molecules in and out of cells, transport systems in plants and animals. The Periodic table, water, calculating and explaining energy changes. Medical applications of physics, using physics to make things work.  Links to additional information:  <a href="http://tsac11/course/category.php?id=88">http://tsac11/course/category.php?id=88</a>  <a href="https://www.samlearning.com/">https://www.samlearning.com/</a> <a href="http://www.bbc.co.uk/schools/gcsebitesize/science/">http://www.bbc.co.uk/schools/gcsebitesize/science/</a>	Continuous Control Dependent Independent Accuracy Calibration Data Errors Measurement error Anomalies Random error Systematic error Zero error Evidence Fair test Hypothesis
Term 3	Homeostasis, humans and their environment, Analysis and quantitative chemistry, production of ammonia, alcohols, carboxylic acids and esters Keeping things moving.  Links to additional information:  <a href="http://tsac11/course/category.php?id=88">http://tsac11/course/category.php?id=88</a>  <a href="https://www.samlearning.com/">https://www.samlearning.com/</a> <a href="http://www.bbc.co.uk/schools/gcsebitesize/science/">http://www.bbc.co.uk/schools/gcsebitesize/science/</a>	
Course/ Examination Board Details: AQA GCSE Physics (B3, C3, P3)		

Year 11	Topics Covered	Syllabus Key Words
Term 1	Cells and simple cell transport, tissues, organs and organ systems, Structure and bonding, how structure influences the properties and uses of substances, atomic structure, Forces and their effects Kinetic energy of objects  Links to additional information:  <a href="http://tsac11/course/category.php?id=88">http://tsac11/course/category.php?id=88</a>  <a href="https://www.samlearning.com/">https://www.samlearning.com/</a> <a href="http://www.bbc.co.uk/schools/gcsebitesize/science/">http://www.bbc.co.uk/schools/gcsebitesize/science/</a>	Interval Precision Prediction Range Repeatable Reproducible Resolution Sketch graph True value Uncertainty Validity Valid conclusion Variables Categorical Continuous Control
Term 2	photosynthesis, organisms and their environment, Proteins Analysis and quantitative chemistry, rates of reaction. Current in electrical circuits Mains electricity  Links to additional information:  <a href="http://tsac11/course/category.php?id=88">http://tsac11/course/category.php?id=88</a>  <a href="https://www.samlearning.com/">https://www.samlearning.com/</a> <a href="http://www.bbc.co.uk/schools/gcsebitesize/science/">http://www.bbc.co.uk/schools/gcsebitesize/science/</a>	Dependent Independent Accuracy Calibration Data Errors Measurement error Anomalies Random error Systematic error Zero error Evidence Fair test Hypothesis
Term 3	Respiration, cell division and inheritance, speciation Exothermic and endothermic reactions, acids, bases and salts, electrolysis. Radioactive decay Nuclear fission and fusion  Links to additional information:  <a href="http://tsac11/course/category.php?id=88">http://tsac11/course/category.php?id=88</a>  <a href="https://www.samlearning.com/">https://www.samlearning.com/</a> <a href="http://www.bbc.co.uk/schools/gcsebitesize/science/">http://www.bbc.co.uk/schools/gcsebitesize/science/</a>	
Course/ Examination Board Details: AQA Additional Science (B2, C2, P2)		

Year 11	Topics Covered	Syllabus Key Words
Term 1	Energy and our Universe Chemistry and our Earth Biology and our environment  Links to additional information:  <a href="http://tsac11/course/view.php?id=1134">http://tsac11/course/view.php?id=1134</a> <a href="http://tsac11/course/view.php?id=1155">http://tsac11/course/view.php?id=1155</a> <a href="http://tsac11/course/view.php?id=1151">http://tsac11/course/view.php?id=1151</a>  <a href="https://www.samlearning.com/">https://www.samlearning.com/</a> <a href="http://www.bbc.co.uk/schools/gcsebitesize/science/">http://www.bbc.co.uk/schools/gcsebitesize/science/</a>	Interval Precision Prediction Range Repeatable Reproducible Resolution Sketch graph True value Uncertainty Validity Valid conclusion Variables Categorical Continuous Control
Term 2	Energy and our Universe Chemistry and our Earth Biology and our environment  Links to additional information:  <a href="http://tsac11/course/view.php?id=1134">http://tsac11/course/view.php?id=1134</a> <a href="http://tsac11/course/view.php?id=1155">http://tsac11/course/view.php?id=1155</a> <a href="http://tsac11/course/view.php?id=1151">http://tsac11/course/view.php?id=1151</a>  <a href="https://www.samlearning.com/">https://www.samlearning.com/</a> <a href="http://www.bbc.co.uk/schools/gcsebitesize/science/">http://www.bbc.co.uk/schools/gcsebitesize/science/</a>	Dependent Independent Accuracy Calibration Data Errors Measurement error Anomalies Random error Systematic error Zero error Evidence Fair test Hypothesis
Term 3	Scientific skills Principles of Science  Links to additional information:  <a href="http://tsac11/course/view.php?id=1134">http://tsac11/course/view.php?id=1134</a> <a href="http://tsac11/course/view.php?id=1155">http://tsac11/course/view.php?id=1155</a> <a href="http://tsac11/course/view.php?id=1151">http://tsac11/course/view.php?id=1151</a> <a href="http://tsac11/course/view.php?id=1154">http://tsac11/course/view.php?id=1154</a>  <a href="https://www.samlearning.com/">https://www.samlearning.com/</a> <a href="http://www.bbc.co.uk/schools/gcsebitesize/science/">http://www.bbc.co.uk/schools/gcsebitesize/science/</a>	
Course/ Examination Board Details: Pearson/Edexcel BTEC Applications of Science		

Year 11	Topics Covered	Syllabus Key Words
Term 1	Portfolio: Standard procedures, suitability tests, work based report.  Links to additional information:  <a href="https://www.samlearning.com/">https://www.samlearning.com/</a> <a href="http://www.bbc.co.uk/schools/gcsebitesize/science/">http://www.bbc.co.uk/schools/gcsebitesize/science/</a>	length metre (m); kilometre (km); centimetre (cm); millimetre (mm) mass kilogram (kg); gram (g); milligram (mg) time second (s); millisecond (ms) temperature degree Celsius (°C); kelvin (K)
Term 2	On rotation: Science in Society: sport and fitness, monitoring and protecting the environment, health care and protecting the public  Links to additional information:  <a href="https://www.samlearning.com/">https://www.samlearning.com/</a> <a href="http://www.bbc.co.uk/schools/gcsebitesize/science/">http://www.bbc.co.uk/schools/gcsebitesize/science/</a>	current ampere (A); milliamperere (mA) voltage volt (V); millivolt (mV) area cm <sup>2</sup> ; m <sup>2</sup> volume cm <sup>3</sup> ; dm <sup>3</sup> ; m <sup>3</sup> ; litre (l); millilitre (ml) density kg/m <sup>3</sup> ; g/cm <sup>3</sup> force newton (N) speed m/s; km/h energy joule (J); kilojoule (kJ); megajoule (MJ)
Term 3	Science and materials: Stage and screen, sports equipment, chemical products, agriculture  Links to additional information:  <a href="https://www.samlearning.com/">https://www.samlearning.com/</a> <a href="http://www.bbc.co.uk/schools/gcsebitesize/science/">http://www.bbc.co.uk/schools/gcsebitesize/science/</a>	power watt (W); kilowatt (kW); megawatt (MW) frequency hertz (Hz); kilohertz (kHz) gravitational field strength N/kg radioactivity becquerel (Bq) acceleration m/s <sup>2</sup> ; km/h <sup>2</sup> specific heat capacity J/kg°C; J/g°C
Course/ Examination Board Details: OCR Additional Applied Science		

Year 12	Topics Covered	Syllabus Key Words
Term 1	Disease and lifestyle Digestion, carbohydrate and proteins Osmosis and active transport Variation Meiosis DNA and Genetic diversity Nature of carbohydrates  Links to additional information:  <a href="http://www.khanacademy.org/science/biology">http://www.khanacademy.org/science/biology</a>	Zero errors Validity True value Systematic errors Reliability Raw data Random errors distribution Random Protocol tests chance Probability
Term 2	Lung structure and function Heart structure and function Mitosis and cell cycle Tissues and organs Circulation and exchange  Links to additional information:  <a href="http://www.khanacademy.org/science/biology">http://www.khanacademy.org/science/biology</a>	Precision group control Placebo valid statistical reliable hypothesis hypothesis Null
Term 3	Immunology Classification Reproductive behaviours Natural selection Deforestation  Links to additional information:  <a href="http://www.khanacademy.org/science/biology">http://www.khanacademy.org/science/biology</a>	Independent variable Hypothesis independent variable dependent variable test Fair Evidence errors reliable accuracy trial blind Double variable Dependent Correlation variable Control group Control Causal link Calibration data

		Anomalous value true Accuracy
Course/ Examination Board Details: AQA A Level Biology		



Year 12	Topics Covered	Syllabus Key Words
Term 1	Atomic structure Amount of substance Equilibria Energetics Redox reactions  Links to additional information:  <a href="http://www.khanacademy.org/science/chemistry">http://www.khanacademy.org/science/chemistry</a>	Zero errors Validity True value Systematic errors Reliability Raw data Random errors distribution Random Protocol tests chance
Term 2	Bonding Periodicity Group 7 Group 2 Extraction of metals  Links to additional information:  <a href="http://www.khanacademy.org/science/chemistry">http://www.khanacademy.org/science/chemistry</a>	Probability Precision group control Placebo valid statistical reliable hypothesis hypothesis Null Independent
Term 3	Introduction to organic chemistry Alkanes Haloalkanes Alkenes Alcohol Analytical techniques  Links to additional information:  <a href="http://www.khanacademy.org/science/chemistry">http://www.khanacademy.org/science/chemistry</a>	variable Hypothesis independent variable dependent variable test Fair Evidence errors reliable accuracy trial blind Double variable Dependent Correlation variable Control group Control Causal link

		Calibration data Anomalous value true Accuracy
Course/ Examination Board Details: AQA A Level Chemistry		

Year 12	Topics Covered	Syllabus Key Words
Term 1	Matter and radiation Quarks and leptons Forces in equilibria Acceleration and projectile motion  Links to additional information: <a href="http://www.khanacademy.org/science/physics">http://www.khanacademy.org/science/physics</a>	Zero errors Validity True value Systematic errors Reliability Raw data Random errors distribution Random Protocol tests
Term 2	Quantum phenomena Resistivity IV Kirchoff Pot Div Motion and force Work, Power and energy Materials  Links to additional information: <a href="http://www.khanacademy.org/science/physics">http://www.khanacademy.org/science/physics</a>	chance Probability Precision group control Placebo valid statistical reliable hypothesis hypothesis Null Independent variable
Term 3	CRO AC Waves Optics HSW  Links to additional information: <a href="http://www.khanacademy.org/science/physics">http://www.khanacademy.org/science/physics</a>	Hypothesis independent variable dependent variable variable test Fair Evidence errors reliable accuracy trial blind Double variable Dependent Correlation variable Control group Control Causal link

		Calibration data Anomalous value true Accuracy
Course/ Examination Board Details: AQA A Level Physics		

Year 12	Topics Covered	Syllabus Key Words
Term 1	Fundamentals of Science  Links to additional information:  See assignment brief <a href="http://tsac11/course/category.php?id=432">http://tsac11/course/category.php?id=432</a>	Zero errors Validity True value Systematic errors Reliability Raw data
Term 2	Working in the Science industry  Links to additional information:  See assignment brief <a href="http://tsac11/course/category.php?id=432">http://tsac11/course/category.php?id=432</a>	Random errors distribution Random Protocol tests chance
Term 3	Scientific Practical Techniques  Links to additional information:  See assignment brief <a href="http://tsac11/course/category.php?id=432">http://tsac11/course/category.php?id=432</a>	Probability Precision group control Placebo valid statistical reliable hypothesis hypothesis Null Independent variable Hypothesis independent variable dependent variable variable test Fair Evidence errors reliable accuracy trial blind Double variable Dependent Correlation variable Control group Control Causal link

		Calibration data Anomalous value true Accuracy
Course/ Examination Board Details: Pearson/Edexcel BTEC Applied Science		

Year 13	Topics Covered	Syllabus Key Words
Term 1	Genetic variation and inheritance Population dynamics Response to stimuli Coordination Muscle contraction  Links to additional information:  <a href="http://www.khanacademy.org/science/biology">http://www.khanacademy.org/science/biology</a>	Zero errors Validity True value Systematic errors Reliability Raw data Random errors distribution Random Protocol tests
Term 2	ATP Photosynthesis Aerobic and anaerobic respiration Homeostasis and feedback mechanisms  Links to additional information:  <a href="http://www.khanacademy.org/science/biology">http://www.khanacademy.org/science/biology</a>	chance Probability Precision group control Placebo valid statistical reliable hypothesis
Term 3	Energy transfer Nutrient cycles Succession Genetic control of protein structure Control of gene expression DNA technology  Links to additional information:  <a href="http://www.khanacademy.org/science/biology">http://www.khanacademy.org/science/biology</a>	hypothesis Null Independent variable Hypothesis independent variable dependent variable test Fair Evidence errors reliable accuracy trial blind Double variable Dependent Correlation variable Control group Control Causal link

		Calibration data Anomalous value true Accuracy
Course/ Examination Board Details: AQA A Level Biology		



Year 13	Topics Covered	Syllabus Key Words
Term 1	Kinetics Equilibria Acids, bases and buffers Nomenclature and isomerism Thermodynamics Periodicity  Links to additional information:  <a href="http://www.khanacademy.org/science/chemistry">http://www.khanacademy.org/science/chemistry</a>	Zero errors Validity True value Systematic errors Reliability Raw data Random errors distribution Random Protocol tests
Term 2	Compounds containing carbon Aromatic chemistry Amines Amino Acids Redox equilibria Transition metals  Links to additional information:  <a href="http://www.khanacademy.org/science/chemistry">http://www.khanacademy.org/science/chemistry</a>	chance Probability Precision group control Placebo valid statistical reliable hypothesis hypothesis
Term 3	Polymerisation Organic synthesis and analysis Structure determination Reactions of inorganic compounds  Links to additional information:  <a href="http://www.khanacademy.org/science/chemistry">http://www.khanacademy.org/science/chemistry</a>	Null Independent variable Hypothesis independent variable dependent variable test Fair Evidence errors reliable accuracy trial blind Double variable Dependent Correlation variable Control group Control Causal link

		Calibration data Anomalous value true Accuracy
Course/ Examination Board Details: AQA A Level Chemistry		

Year 13	Topics Covered	Syllabus Key Words
Term 1	Nuclear physics, thermal physics Medical Physics  Links to additional information:  <a href="http://www.khanacademy.org/science/physics">http://www.khanacademy.org/science/physics</a>	Zero errors Validity True value Systematic errors Reliability Raw data Random errors distribution Random
Term 2	Nuclear physics, thermal physics Medical Physics  Links to additional information:  <a href="http://www.khanacademy.org/science/physics">http://www.khanacademy.org/science/physics</a>	Protocol tests chance Probability Precision group control Placebo
Term 3	Nuclear physics, thermal physics Medical Physics  Links to additional information:  <a href="http://www.khanacademy.org/science/physics">http://www.khanacademy.org/science/physics</a>	valid statistical reliable hypothesis hypothesis Null Independent variable Hypothesis independent variable dependent variable test Fair Evidence errors reliable accuracy trial blind Double variable Dependent Correlation variable Control group Control Causal link

		Calibration data Anomalous value true Accuracy
Course/ Examination Board Details: AQA A Level Physics		

Year 13	Topics Covered	Syllabus Key Words
Term 1	Physiology of Human Body Systems  Links to additional information:  See assignment brief <a href="http://tsac11/course/category.php?id=432">http://tsac11/course/category.php?id=432</a>  <a href="http://www.khanacademy.org/science/biology">http://www.khanacademy.org/science/biology</a>	Zero errors Validity True value Systematic errors Reliability Raw data Random errors distribution Random Protocol
Term 2	Physiology of Human regulation  Links to additional information:  See assignment brief <a href="http://tsac11/course/category.php?id=432">http://tsac11/course/category.php?id=432</a>  <a href="http://www.khanacademy.org/science/biology">http://www.khanacademy.org/science/biology</a>	tests chance Probability Precision group control Placebo valid statistical reliable
Term 3	Microbiology  Links to additional information:  See assignment brief <a href="http://tsac11/course/category.php?id=432">http://tsac11/course/category.php?id=432</a>  <a href="http://www.khanacademy.org/science/biology">http://www.khanacademy.org/science/biology</a>	hypothesis hypothesis Null Independent variable Hypothesis independent variable dependent variable test Fair Evidence errors reliable accuracy trial blind Double variable Dependent Correlation variable Control group Control Causal link

		Calibration data Anomalous value true Accuracy
Course/ Examination Board Details: Pearson/Edexcel BTEC Applied Science		