

			<p>Enzymes as biological catalysts in chemical reactions</p> <p>Enzymes as biological catalysts in chemical reactions</p> <p>Factors that can affect enzyme activity</p> <p>Factors that can affect enzyme activity</p> <p>Factors affecting the rate of diffusion</p> <p>Arrangement and movement of molecules</p>	<p>boundaries from BTEC Applied Science exams.</p>	<p>This builds on their expertise in the lab and prepares them for the practical exam later in the year.</p> <p>In unit 1, the course moves onto the chemistry section as this has significant content compared to the physics. The Chemistry aspect looks in detail at the atomic structure covered at GCSE. It looks in more depth, including electronic orbitals, intermolecular forces and coordinate bonds. The course then moves on to the properties of these substances due to their location on the periodic table and their electron arrangements.</p>
HT2	Unit 1	<p>Topic A: Periodicity and properties of elements</p> <p>Topic B: Structure and function of cells and tissues</p> <p>Topic G: Energy content in fuels</p>	<p>Reaction of metals with acids</p> <p>Reactions of metals – displacement</p> <p>Variable oxidation states of transition metals</p> <p>Revision</p> <p>Test</p> <p>Intro to the history of the microscope</p> <p>Preparation of basic biological slides</p> <p>Electron microscopes</p> <p>Root tip squash</p> <p>Magnification calculations</p> <p>Structures in a cell</p> <p>Cells and their structures</p> <p>Cell structure</p> <p>Research into Hans Christian Gram</p> <p>Specialised cells</p> <p>Sex cells</p> <p>Root hair cells</p> <p>Structure and function of the blood</p>	<p><u>Formative Assessment:</u></p> <p>Daily, Weekly and Monthly Reviews focussing on reviewing material on Essential Knowledge. Homework tests are completed approximately every 3 lessons.</p> <p>Use of TLaC techniques in lessons to check pupil understanding of essential knowledge during each lesson.</p> <p><u>Summative Assessment:</u></p> <p>Mock exam assessment taken in the hall in exam conditions.</p>	

			<p>White blood cells Epithelial cells Pulmonary system</p> <p>Arrangement and movement of molecules •Temperature</p> <p>Arrangement and movement of molecules •Diffusion of food dye through agar •Secondary evidence</p> <p>Fuels Hazards associated with fuels Units of energy •Measuring heat energy released from a fuel</p> <p>Units of energy •Planning energy from foods practical •Energy from foods practical investigation •Energy from candle wax</p>		
HT3		<p>Topic B: Structure and function of cells and tissues</p> <p>Topic G: Energy content in fuels</p> <p>Topic H: Electrical circuits</p>	<p>Root hair cells Structure and function of the blood White blood cells Epithelial cells Pulmonary system Arteries and veins Cardiovascular and respiratory diseases Sliding filament theory ECG traces Nervous system</p>	<p>Formative Assessment: Daily, Weekly and Monthly Reviews focussing on reviewing material on Essential Knowledge. Homework tests are completed approximately every 3 lessons.</p>	

			<p>Myelin sheath The brain</p> <p>Units of energy</p> <ul style="list-style-type: none"> •Planning energy from foods practical •Energy from foods practical investigation •Energy from candle wax <p>Use of electrical symbols to design circuits</p> <ul style="list-style-type: none"> •Electrical resistance <p>Use of electrical symbols to design circuits</p> <ul style="list-style-type: none"> •Thermistor investigation 	<p>Use of TLaC techniques in lessons to check pupil understanding of essential knowledge during each lesson.</p> <p><u>Summative assessment:</u> Assessment is taken in class and covers all topics. Questions are taken from past exam papers and graded using typical grade boundaries from GCSE Chemistry exams.</p>	
HT4		<p>Topic C Waves and communication</p> <p>Topic H: Electrical circuits</p> <p>Topic F: Plants and their environment</p>	<p>Introducing transverse and longitudinal waves and measuring speed of waves</p> <p>Terms related to the understanding of superposition of waves</p> <p>Diffraction and superposition</p> <p>Industrial applications of diffraction gratings and the use of the wave equation.</p> <p>Progressive and stationary (standing) resonance</p> <p>Musical instruments and calculation of the speed of waves on a string.</p> <p>Using equations on the speed of waves and how waves produce notes from vibrating air columns.</p>	<p><u>Formative Assessment:</u> Daily, Weekly and Monthly Reviews focussing on reviewing material on Essential Knowledge. Homework tests are completed approximately every 3 lessons. Use of TLaC techniques in lessons to check pupil understanding of essential knowledge during each lesson.</p>	

			<p>Refractive index.</p> <p>Equations</p> <p>Energy usage</p> <ul style="list-style-type: none"> • Practical investigation <p>Energy usage</p> <ul style="list-style-type: none"> • Practical investigation • Revision session <p>Factors that can affect plant growth and/or distribution</p> <p>Sampling techniques</p> <p>Sampling sizes</p> <ul style="list-style-type: none"> • Statistical analysis of data 	<p>Mock exam assessment taken in the hall in exam conditions.</p>
HT5		<p>Topic C Waves and communication</p> <p>Topic F: Plants and their environment</p>	<p>Refractive index</p> <p>Total internal reflection, critical angles</p> <p>Electromagnetic waves and inverse square law for intensity</p> <p>Wave intensity, inverse square law, communication</p> <p>Communication, specification, examination technique and revision</p> <p>Use of command words, prefixes, units, symbols and equations</p> <p>Sample paper</p> <p>Sampling sizes</p> <ul style="list-style-type: none"> • Plant population investigation <p>Sample assessment material</p>	<p>Assessment is taken in class and covers all topics.</p> <p>Questions are taken from past exam papers and graded using typical grade boundaries from BTEC Applied Science exams.</p>
HT6		Revisit of all content	All	<p>Assessment is taken in class and covers all topics.</p>

				Questions are taken from past exam papers and graded using typical grade boundaries from BTEC Applied Science exams.	
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