

## Forensic Learning Points in Science at Kineton High School

Key Stage 3			
Term	Year 7	Year 8	Year 9
Autumn	<p><b>Topics: 7B1 Cells to Movement, 7C1 Matter and Separation Techniques, 7P1 Electricity</b></p> <p><b>Curriculum end points:</b></p> <ul style="list-style-type: none"> <li>7B1: Describing the structure and function of cells, tissues, organs, and systems.</li> <li>7C1: Describing and explaining the properties of solids, liquids and gases and describing how to separate mixtures.</li> <li>7P1: Understanding the differences for current &amp; potential difference in series &amp; parallel circuits.</li> </ul> <p><b>Vocab:</b> Nucleus, mitochondria, cell membrane, cytoplasm, tissue, organ, system Static electricity, conductor, insulator, series, parallel Solid, liquid, gas, dissolve, filtration, evaporating, distillation, chromatography</p> <p><b>Main Assessments:</b></p> <ul style="list-style-type: none"> <li>Initial Test.</li> <li>7P1 assessed investigation write-up</li> <li>Christmas Exam</li> </ul>	<p><b>Topics: 8B1 Diet and Health, 8C1 Acids and Alkalis, 8P1 Space and (Electro)Magnetism</b></p> <p><b>Curriculum end points:</b></p> <ul style="list-style-type: none"> <li>8B1: Explaining how our digestive system works, and how diet and other lifestyle choices affect our health.</li> <li>8C1: Describing reactions between acids and alkalis, and acids and metals.</li> <li>8P1: Understanding how the wider solar system/universe is constructed. Developing understanding of the links between electricity &amp; magnetism.</li> </ul> <p><b>Vocab:</b> Enzyme, malnutrition, deficiency, drug, medicine, Weight, mass, orbit, magnetic field, electromagnetism Acid, alkali, universal indicator, neutralisation</p> <p><b>Main Assessments:</b></p> <ul style="list-style-type: none"> <li>8C1 Assessed investigation write-up</li> <li>Christmas Exam</li> </ul>	<p>Completion of NC content, focus on consolidating NC Working Scientifically skills, beginning to teach some GCSE content.</p> <p><b>Topics: 9B1 Cells and Transport, 9C1 Atoms, Elements and the Periodic Table, 9P1 Conservation &amp; dissipation of energy</b></p> <p><b>Curriculum end points:</b></p> <ul style="list-style-type: none"> <li>9B1: Describing the structure of different cell types and explaining how substances can enter and leave cells.</li> <li>9C1: Describing the structure and history of the atom and the Periodic Table.</li> <li>9P1: Developing understanding of changes between energy stores &amp; using formulae to quantify amounts of energy.</li> </ul> <p><b>Vocab:</b> Eukaryote, prokaryote, ribosomes, osmosis, active transport, concentration gradients. Kinetic, gravitational potential, efficiency, Atom, element, compound, group, period, proton, electron, neutron, isotope</p> <p><b>Main Assessments:</b></p> <ul style="list-style-type: none"> <li>Cell Biology End of Unit Test Part 1.</li> <li>Atoms, Elements and the Periodic table Unit Test</li> <li>Energy End of Unit Test part 1</li> </ul>

<p><b>Spring</b></p>	<p><b>Topics: 7B2 Reproduction, 7C2, 7P2 Forces</b></p> <p><b>Curriculum end points:</b></p> <ul style="list-style-type: none"> <li>• 7B2: Describing how animals and plants reproduce.</li> <li>• 7C2: Identify elements on the periodic table and compare the properties compounds and mixtures.</li> <li>• 7P2: Understanding the effect of un/balanced forces, especially on motion.</li> </ul> <p><b>Vocab:</b> Testes, ovaries, gamete, fertilisation, pollination, dispersal, Non/contact forces, resultant force, terminal velocity, moment Periodic table, element, compound, mixture, conservation of mass, chemical change, physical change</p> <p><b>Main Assessments:</b></p> <ul style="list-style-type: none"> <li>• 7C2 assessed investigation write-up</li> <li>• Easter Exam</li> </ul>	<p><b>Topics: 8B2 Breathing, Diffusion, and Respiration, 8C2, 8P2 Waves</b></p> <p><b>Curriculum end points:</b></p> <ul style="list-style-type: none"> <li>• 8B2: Describing the journey of oxygen from the air to our cells, and explaining its use during respiration, including when we exercise.</li> <li>• 8C2: Describing and explaining various chemical reactions involving metals and non-metals.</li> <li>• 8P2: Understanding of different types of waves including light &amp; sound, their behaviour and some common uses.</li> </ul> <p><b>Vocab:</b> Alveoli, respiration, aerobic, anaerobic, Transverse, longitudinal, oscillation, amplitude, frequency, ultrasound</p> <p><b>Main Assessments:</b></p> <ul style="list-style-type: none"> <li>• 8P2 assessed investigation write-up</li> <li>• Easter Exam</li> </ul>	<p><b>Topics: 9B2 Cell Division and Organisation, 9C2 Bonding, structure and the properties of matter, 9P2 Energy transfer by heating &amp; global energy resources</b></p> <p><b>Curriculum end points:</b></p> <ul style="list-style-type: none"> <li>• 9B2: Describing how cells divide by mitosis and the role of stem cells. Explaining the structure and function of the digestive system and mass transport systems in animals and plants.</li> <li>• 9C2: Describing and explaining the structure and properties of Ionic, covalent and metallic compounds.</li> <li>• 9P2: Describing energy transfer by heating and the issues around global non/renewable energy resources.</li> </ul> <p><b>Vocab:</b> Chromosome, mitosis, differentiate, artery, vein, capillary, xylem, phloem, transpiration Radiation, specific heat capacity, biofuel, non/renewable, Ionic, Covalent, Metallic, Electrons, Ions, Compound, Molecule</p> <p><b>Main Assessments:</b></p> <ul style="list-style-type: none"> <li>• Cell Biology End of Unit Test Part 2.</li> <li>• Bonding, structure and properties of matter Unit Test</li> <li>• Energy End of Unit Test part 2</li> </ul>
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<p><b>Summer</b></p>	<p><b>Topics: 7B3 Ecology, 7C3, 7P3 Energy &amp; pressure</b></p> <p><b>Curriculum end points:</b></p> <ul style="list-style-type: none"> <li>• 7B3: Describing how plants carry out photosynthesis and explaining the interdependence of living things within ecosystems.</li> <li>• 7C3: Describe the structure of the earth and the stages of the rock cycle.</li> <li>• 7P3: Describing different types of energy, thermal energy transfer and pressure in solids, liquids &amp; gases.</li> </ul> <p><b>Vocab:</b> Photosynthesis, producer, consumer, interdependence, Conservation of energy, conduction, convection, radiation, vacuum Tectonic plates, weathering, erosion, sedimentary rocks, igneous rocks, metamorphic rocks</p> <p><b>Main Assessments:</b></p> <ul style="list-style-type: none"> <li>• 7B3 assessed investigation write-up.</li> <li>• Summer Exam</li> </ul>	<p><b>Topics: 8B3 Genetics and Evolution, 8C3, 8P3 Energy and our homes</b></p> <p><b>Curriculum end points:</b></p> <ul style="list-style-type: none"> <li>• 8B3: Explaining the causes and effects of variation between individuals within a species.</li> <li>• 8C3: To recap and extend knowledge of atoms and the periodic table from KS3.</li> <li>• 8P3: To understand how electricity is generated, the impact on the environment together with how it can be measured and the power it can generate.</li> </ul> <p><b>Vocab:</b> Classification, gene, chromosome, biodiversity, Fossil fuel, efficiency, power, greenhouse effect, global warming, carbon footprints, sustainability, atom, element, compound, properties, interval, periodic table, electron configuration, trends, reactivity, noble gases, inert, mono-tomic, exothermic, endothermic, ion, covalent, ionic, metallic</p> <p><b>Main Assessments:</b></p> <ul style="list-style-type: none"> <li>• 8P3 assessed investigation write-up.</li> <li>• 8C3 assessed end of unit test</li> <li>• Summer Exam</li> </ul>	<p><b>Topics: 9B3 Communicable Disease, 9C3 Quantitative Chemistry, 9C4 Chemical changes (Acids and Metals) ,9P3 Electricity</b></p> <p><b>Curriculum end points:</b></p> <ul style="list-style-type: none"> <li>• 9B3: Describing the cause, symptoms, and treatment of a number of communicable diseases, and explaining how the immune system deals with pathogens.</li> <li>• 9C3: Using quantitative analysis to determine the formulae of compounds and the equations for reactions. Using quantitative methods to determine the purity of chemical samples and to monitor the yield from chemical reactions.</li> <li>• 9C4: Describe how reactivity affects extraction of metals and investigating different acid reactions.</li> <li>• 9P3: Developing understanding of electrical circuits &amp; use of formulae to calculate electrical quantities.</li> </ul> <p><b>Vocab:</b> Pathogen, toxin, bacteria, virus, protist, fungus, phagocytosis, antibody, antigen. Alternating/direct current, potential difference, resistance, charge, mole, yield, neutralisation, atom economy, reactant, product, ore, acid, alkali, base, crystallisation, filtration.</p> <p><b>Main Assessments:</b></p> <ul style="list-style-type: none"> <li>• Organisation End of Unit Test.</li> <li>• Quantitative Chemistry Unit test</li> <li>• Electricity End of Unit test parts 1 &amp; 2</li> </ul>
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