

<p>YEAR 10/11 Level 1 BTEC Applied Science</p>	<p>Bronze</p>	<p>Silver</p>	<p>Gold</p>	<p>Platinum</p>
	<p>Bronze - students will collect evidence through photographs, products of reactions, verbally recorded accounts, matching and circling exercises. I am assessing science understanding and not literacy.</p>	<p>Silver - students will collect evidence through photographs, products of reactions, verbally recorded accounts, matching and circling exercises.</p>	<p>Gold- students will collect evidence through photographs, products of reactions, verbally recorded accounts.</p>	<p>Gold- students will collect evidence through photographs, products of reactions, verbally recorded accounts, matching and extension exercises will be level 2/GCSE questions to extend their knowledge and understanding.</p>
<p><u>Skills and Techniques for Chemistry Investigations F/600/5941</u></p>	<p><u>Understand how chemical elements are classified</u></p> <ul style="list-style-type: none"> • Define the keywords atom, element, metal, non-metal, group and period (as related to the periodic table) • Colour in the periodic table to show where the metals, non-metals, gaseous and liquid elements are found • Complete a table of the first 10 elements to show the number of protons, electrons, and neutrons • Complete a table to show the electronic configurations of first 10 elements and identify what the group number tells you • Watch a demonstration of how Group 1 metals react with water and identify the pattern (describe the pattern based on electronic configuration - Level 2 students) • Draw diagrams to show how hydrogen, chlorine, methane and water are bonded (covalently) • Draw diagram to show how sodium chloride is bonded ionically • By investigation identify the common properties of covalent and ionic compounds <p><u>Know the main factors involved in a chemical reaction</u></p> <ul style="list-style-type: none"> • By investigation make observations of decomposition, neutralisation, reduction and oxidation reactions • Write word equations and some balanced equations for the reactions observed • By investigation make observations of concentration, temperature, catalyst, surface area and how they change the speed of a reaction, state simply why the change occurs • By investigation make observations to show how some reactions can produce or take in heat • Define exothermic and endothermic and give an example of where the reaction may be useful 			

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	<p><u>Know how to identify useful natural resources for use as potential fuels.</u></p> <ul style="list-style-type: none"> • Describe how helium, from the atmosphere, is used on Earth • Describe how iron, from iron ore, is used • Identify the 3 fossil fuels and how they were formed • Through investigation describe why natural gas makes a good fuel • Describe how fossil fuels are extracted from the Earth • Show by word equation the problem of burning fossil fuels and describe the product effects on the atmosphere (Describe the greenhouse effect and global warming) • Identify the reasons we need to recycle more metals • Identify renewable fuel resources • Complete a comparison table for the advantages and disadvantages of burning natural gas to burning ethanol made from biomass <p><u>Be able to create useful chemical products from given starting materials</u></p> <ul style="list-style-type: none"> • Create, model and paint a plastic key ring using milk (photographic evidence) • Write a risk assessment for the activity 			

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<p>Physics and Our Universe K/505/0359</p>	<p><u>Know the importance of energy stores and energy transfers</u></p> <ul style="list-style-type: none"> • Produce a list of the different energy stores and transfers • State the unit of energy • Use a diagram to show energy conservation and to calculate efficiency • Identify why a light bulb uses power, and that some are of the transfers are wasted resulting in loss of money (economic cost) <p><u>Know the application of waves and radiation</u></p> <ul style="list-style-type: none"> • Complete a table to show the penetrating power of ionising radiation • Produce a flow diagram to show the effects of ionising radiation on cells • Define radiation dose, irradiation, and contamination • Complete the table to list in order the electromagnetic waves • Give uses and dangers for each electromagnetic wave. <p><u>Be able to make measurements in electrical circuits</u></p> <ul style="list-style-type: none"> • Complete a table to show the name and symbol for the most common electrical components • Set up a series and parallel circuit (photograph evidence) • Use an ammeter and voltmeter to take readings in the circuits and state findings. • Identify faults in electrical diagrams • Describe different types of cell/battery and give an example of where they would be used. <p><u>Know the methods used to explore space</u></p> <ul style="list-style-type: none"> • List the planets in order, give two facts about each. • Define, and give an example of star, galaxy, black-hole, asteroid, comet • Describe how telescope use lenses to observe space • Describe how a thermal telescope works • Complete a table to compare an earth-based telescope (Jodrell Bank) to a space telescope (Spitzer) • Describe how space probes, drones and robots help to explore space • Identify what a CCD is, and how they help to explore space. 			