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| **Unit Overview: C5: Chemical Changes** | | | | | | | | | |
| **Half- Term:** | AUT 1 | AUT 2 | SPR 1 | SPR 2 | SUM 1 | SUM 2 | | **No of Lessons:** | **6** |
| **Key Focus for Unit:**  *What is the key knowledge being delivered?*  *What is the intent of this unit?* | | | | | | | | | |
| Students will explore the pH scale which shows the acidity and alkalinity of substances and explain how the H+ and OH- produce water. Students should recall how salts can be made from soluble and insoluble bases reacting with acids. Students will explore the difference between a weak acid and strong acid.  In this topic student should be able to recall that metals can be placed in a reactivity series based on their reactivity trends. The metals are able to be displaced based on their level of reactivity. Students should be able to predict the products of a displacement reaction using given metals as well as determine methods used to extract particular metals (aluminium and lead) from its corresponding ore. Student should be able to explain oxidation and reduction process in terms of oxygen and electron. | | | | | | | | | |
| **Key Knowledge and Big Ideas:**  *What* ***Powerful Knowledge*** *and* ***Big Ideas*** *are explored in this Unit?*  *How have these progressed from previous learning? What* ***gaps in knowledge*** *have you identified from* ***baselining*** *and how are the being closed?* | | | | | | | | | |
| Chemical Reactions- to understand how atoms are rearranged during a chemical reaction either by releasing or taking in energy. Due to the rearrangement of atoms, reactants are able to form products.  The previous link will be *The Periodic Table,* that looks at atoms being the smallest particle in an element. This unit builds to show the interaction of elements to form compounds and mixtures. Also, this topic is linked to Yr8 reactant and products as well as Yr9 Structure and bonding within compounds and molecules.  Student baselines are assessed through retrieval practice in starter questions, low stake quizzes, no-hands up questioning (both lower order to higher order questioning) and mini-whiteboard quick fire quiz. Gaps in knowledge can be identified using the previously mentioned methods and will be addressed in the lesson immediately or the next lesson, as well as throughout the term with the use of retrieval practices. | | | | | | | | | |
| **Unit Assessment:**  *How will this unit be assessed?*  *What is the frequency of assessments – baselines etc?* | | | | | | | | | |
| Formative assessment:   * 6 mark extended writing task * Assesses powerful knowledge and literacy * Feedback and response time built into lesson   Summative assessment:   * 45minutes assessment * Assesses powerful knowledge through past exam questions * Feedback and response time built into lesson   Homework KS3/4:   * Weekly Educake assignments (Yr 7 -11) * Assesses powerful knowledge and literacy | | | | | | | | | |
| **Key Skills Explored** | | | **Vocabulary Selected for DVI** | | | | **Links to Previous Unit** | | |
| 1. Deducing relative mass of substances. 2. Perform simple experimental tests to identify acids, alkali and neutral substances 3. Prepare dry sample of salt using an acid and insoluble base (Required practical) 4. Make inferences from practical activities and deduce how to improve. | | | reactivity,  displacement,  ore,  reduction,  oxidation | | | | In Autumn 2 year 8 students explored Reactants and products.  In Spring 1 year 9 students explored Structure and Bonding. | | |
| **Links to Careers/Employability** | | | **How does this unit prepare students for the next unit?** | | | | | | |
| Chemical Technician  Environmentalist  Pool Maintenance  Chemical Manufacturer | | | Students’ successful completion of these learning objectives will prepare them for the unit of Electrolysis where students will look at how to extract highly reactive elements such as aluminium from its ore. | | | | | | |

KO

Black (all)

Higher (Dark green)

Triple (Maroon / burgundy)