|  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Unit Overview: Elements and Compounds** | | | | | | | | | |
| **Half- Term:** | AUT 1 | AUT 2 | SPR 1 | SPR 2 | SUM 1 | SUM 2 | | **No of Lessons:** |  |
| **Key Focus for Unit:**  *What is the key knowledge being delivered?*  *What is the intent of this unit?* | | | | | | | | | |
| In the unit Element and Compound, students build on the knowledge of the Periodic table that was covered in year 7. Student will take a deeper look at elements being chemically combined to make compounds. They explore the nomenclature (naming) of these compounds and how the properties of individual elements differ from those within a compound. Also, the physical interaction (mixture) between elements and/or compounds and their ability to be easily separated will be explored with the use of practical activities involving various separation techniques (example: chromatography and filtration). | | | | | | | | | |
| **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?* | | | | | | | | | |
| BIG IDEA: ATOMS  The Big Idea that this topic links to is that atoms make up everything and, in all reactions, atoms are rearranged but never created or destroyed.  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.  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   Homework KS5:   * Past paper questions * Wider reading and research | | | | | | | | | |
| **Key Skills Explored** | | | **Vocabulary Selected for DVI** | | | | **Links to Previous and future Unit** | | |
| * Carry out scientific investigations involving the separation of mixtures. * Make predictions based on prior scientific knowledge * Correctly name and identify chemical compounds | | | Element  Compound  Mixture  Formulae  Filtration  Chromatography | | | | * Yr7: Particle theory * Yr7: The periodic table * Yr7: Atomic structure * KS2: Physical properties of substances * KS2: Solutions and mixtures * KS2: Separating mixtures | | |
| **Links to Careers/Employability** | | | **How does this unit prepare students for the next unit?** | | | | | | |
| Pharmacology  Chemical engineer  Hazardous waste chemist  Geochemist | | | Yr8- Reactant and Product: Students will have to develop their knowledge of building word equations using the chemical formula they have previously explored naming and writing when doing the topic Elements and Compounds.  Yr8- Matter and Energy: Using the equations from the Topic Reactant and Product, along with their skills to write and name chemical formulae from the topic Elements and Compounds, students will be prepared to do simple calculations using the mass of elements found on the periodic table. | | | | | | |

KO

Black (all)

Higher (Dark green)

Triple (Maroon / burgundy)