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| **Subject** | **Year 10 Chemistry Threshold Concepts – Summer Term** | * **How to support students’ learning** |
| Analysis | **Pure substance**s  •Use melting point and boiling point data to distinguish pure from impure substances.  **Formulations**  •Identify formulations given appropriate information. Students do not need to know the names of components in proprietary products.  **Chromatography** • Explain how paper chromatography separates mixtures • Suggest how chromatographic methods can be used for distinguishing pure substances from impure substances • Interpret chromatograms and determine Rf values from chromatograms • Provide answers to an appropriate number of significant figures.  **Testing for gases**  • Identify a test for Hydrogen using a burning splint held at the open end of a test tube of the gas. Hydrogen burns rapidly with a pop sound • Identify a test for Oxygen with a glowing splint inserted into a test tube ofthe gas, the splint relights • Identify a test for Carbon Dioxide using an aqueous solution of calciumhydroxide (lime water). When carbon dioxide is shaken with orbubbled through limewater the limewater turns milky (cloudy) • Identify a test for Chlorine using litmus paper. When damp litmus paper isput into chlorine gas the litmus paper is bleached and turns white  **Triple only**  **Flame tests**  **•Identify some metal ions (cations) - Lithium, sodium, potassium, calcium and copper compounds**  **Metal hydroxides**  **•Students should be able to write balanced equations for the reactions to produce the insoluble hydroxides.**  **Testing for anions**  **•Students should be able to recall the tests for carbonates, sulphates and halide ions**  **Instrumental methods**  **•Students should be able to state advantages of instrumental methods compared with the chemical tests in this specification**  **Flame emission spectroscopy**  **•Students should be able to interpret an instrumental result given appropriate data in chart or tabular form, when accompanied by a reference set in the same form, limited to flame emission spectroscopy** | Encourage your child to visit BBC bitesize to read about separating mixtures using chromatography and how to calculate Rf values [Chromatography - Purity and separating mixtures - OCR Gateway - GCSE Combined Science Revision - OCR Gateway - BBC Bitesize](https://www.bbc.co.uk/bitesize/guides/z9dfxfr/revision/4)  Encourage your child to watch this video on the tests for different gases [GCSE Chemistry - How to Test for Gases - Testing for Chlorine / Oxygen / Hydrogen / CO2 #64 - YouTube](https://www.youtube.com/watch?v=bcRGfSlMIMw)  Encourage your child to visit BBC bitesize to read about the tests used to identify ions in compounds [Testing for ions and gases - Testing for ions and gases - GCSE Chemistry (Single Science) Revision - Other - BBC Bitesize](https://www.bbc.co.uk/bitesize/guides/z8fgmnb/revision/1) |