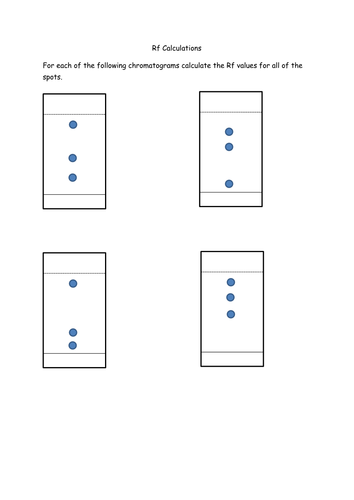


**Science: GCSE Chemical Analysis**

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| 1. Key Words | |
| Pure substance | A substance that contains a single element or compound, not mixed with any other substance |
| Formulation | A mixture that has been designed for a specific purpose |
| Melting point | The temperature at which a substance changes from a solid to a liquid |
| Boiling point | The temperature at which a substance changes from a liquid to a gas |

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| 1. Chromatography | | | |
| This is a separation technique used to separate mixtures in dyes inks, paint and DNA | | | |
| The Rf value is a measure of how far up the chromatography paper the solute moves compared to the solvent. | | | |
| Rf equations | | Distance moved by the solute  Distance moved by the solvent | |
| 1 | Baseline | | Pencil line that the solute is placed on |
| 2 | Solute | | The final position of the solute |
| 3 | Solvent front | | The final position of the solvent |
| 4 | Distance moved by the solute | | |
| 5 | Distance moved by the solvent | | |
| 1  5  4  3  2 | | | |

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| 1. Testing for Gases | | |
| Gas | Test | Positive Result |
| Hydrogen | Place a lit splint into the gas | Squeaky pop noise |
| Oxygen | Place a glowing splint into the gas | Splint will relight |
| Carbon dioxide | Bubble the gas through limewater | Limewater will change from colourless to cloudy |
| Chlorine | Place damp blue litmus paper into the gas | Litmus paper will change colour to pink and then bleach to white |



C

B

A

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| Challenge Questions | |
| 1 | Name 3 formulations |
| 2 | Calculate the Rf of solute B |
| 3 | Why might you need to test for the presence of a gas |
| 4 | Use the diagram above to explain the relationship between Rf value and the distance travelled by the solute |