

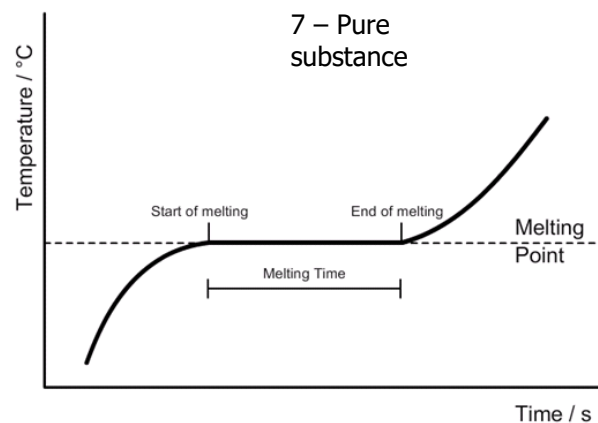
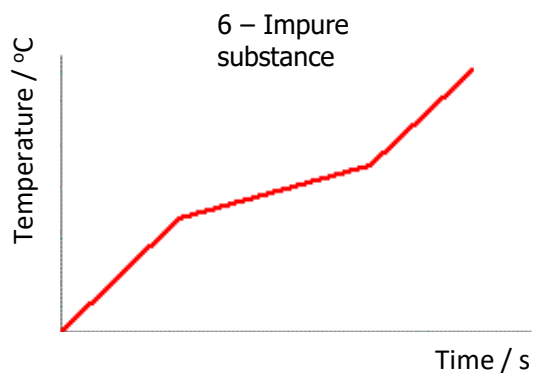
## Chemistry 8: Chemical Analysis

### Section 1: Key terms

1 Pure	A pure substance is a single <b>element</b> or <b>compound, not mixed</b> with any other substance.
2 Formulation	A <b>mixture</b> that has been designed as a useful product. Formulations are made by mixing the components in <b>carefully measured quantities</b> . Formulations include <b>fuels, cleaning agents, paints, medicines, alloys, fertilisers</b> and <b>foods</b> .
3 Melting point	The <b>temperature</b> at which a substance turns from a solid to a liquid.

### Section 2: Impure and Pure Graphs

4	Impure substances do not melt at specific temperatures.
5	Pure substances do melt at specific temperatures (a horizontal line is produced).



### Section 4: Testing for Gases

	Gas	Procedure	Positive Result
17	Hydrogen	Hold a <b>lit splint</b> at the end of a test tube producing gas.	Hydrogen burns with a <b>pop</b> noise.
18	Oxygen	Hold a <b>glowing splint</b> in a test tube of the gas.	The splint <b>relights</b> if oxygen is present.
19	Carbon dioxide	Bubble gas through a solution of <b>limewater</b> .	Carbon dioxide causes the limewater to turn <b>milky</b> .
20	Chlorine	Place <b>damp litmus paper</b> in the gas.	The litmus is <b>bleached white</b> if chlorine is present.

### Section 3: Chromatography

8 Chromatography	A method used to <b>separate mixtures</b> into their different chemicals.
9 Solvent	The chemical that <b>dissolves the sample</b> in chromatography.
10 Solvent front	The <b>maximum distance</b> the <b>solvent moves</b> up the paper.
11 Stationary phase	The <b>medium</b> (e.g. paper) through which the <b>mobile phase passes</b> in <b>chromatography</b> .
12 Mobile phase	The <b>solvent</b> (e.g. water) that carries the sample (e.g. ink) in <b>chromatography</b> .
13 R <sub>f</sub> value	A value (always less than 1) that shows how far the substance has moved compared to the solvent. Equation: $R_f = \frac{\text{distance moved by substance}}{\text{distance moved by solvent}}$

