












**CC1 States of Matter****CC1a States of matter**







Step	Learning outcome	Had a look	Nearly there	Nailed it!
 2 <sup>nd</sup>	Name the three states of matter, and the physical changes that occur between them.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 5 <sup>th</sup>	Describe the arrangements and movement of particles in the different states of matter.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 6 <sup>th</sup>	Use information to predict the state of a substance.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 5 <sup>th</sup>	Describe the relative energies of particles in the different states of matter.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 7 <sup>th</sup>	Explain why the movement and arrangement of particles change during changes of state.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 7 <sup>th</sup>	Explain why the energy of particles changes during changes of state.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## CC2 Methods of Separating and Purifying Substances







## CC2a Mixtures

Step	Learning outcome	Had a look	Nearly there	Nailed it!
 5 <sup>th</sup>	Describe the differences between a pure substance and a mixture.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 5 <sup>th</sup>	Use melting point information to decide whether a substance is pure or is a mixture.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 6 <sup>th</sup>	Describe what happens to atoms at a pure substance's melting point.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 6 <sup>th</sup>	Interpret a heating curve to identify a melting point.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 7 <sup>th</sup>	Explain why the temperature does not change as a pure substance melts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>







## CC2b Filtration and crystallisation

Step	Learning outcome	Had a look	Nearly there	Nailed it!
 4 <sup>th</sup>	State some mixtures that can be separated by filtration.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 4 <sup>th</sup>	State some mixtures that can be separated by crystallisation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 6 <sup>th</sup>	Draw and interpret diagrams showing how filtration and crystallisation are done.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 6 <sup>th</sup>	Explain the formation of crystals during crystallisation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 5 <sup>th</sup>	Explain how mixtures are separated by filtration.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 5 <sup>th</sup>	Explain ways of reducing risk when separating mixtures by filtration and crystallisation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>






## CC2c Paper chromatography

Step	Learning outcome	Had a look	Nearly there	Nailed it!
 5 <sup>th</sup>	Describe how some mixtures can be separated by chromatography.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 5 <sup>th</sup>	Identify pure substances and mixtures on chromatograms.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 5 <sup>th</sup>	Identify substances that are identical on chromatograms.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 6 <sup>th</sup>	Draw and interpret diagrams showing how chromatography is done.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 6 <sup>th</sup>	Explain how substances can be separated by chromatography.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 6 <sup>th</sup>	Calculate $R_f$ values and use them to identify substances.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## CC2d Distillation

Step	Learning outcome	Had a look	Nearly there	Nailed it!
 5 <sup>th</sup>	Describe how to carry out, and explain what happens in, simple distillation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 7 <sup>th</sup>	Distinguish between simple distillation and fractional distillation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 7 <sup>th</sup>	Identify when fractional distillation should be used to separate a mixture.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 7 <sup>th</sup>	Describe how to carry out fractional distillation.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 9 <sup>th</sup>	Explain how the products of fractional distillation are linked to the boiling points of the components.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 9 <sup>th</sup>	Explain what precautions are needed to reduce risk in a distillation experiment.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

## CC2e Drinking water

Step	Learning outcome	Had a look	Nearly there	Nailed it!
 5 <sup>th</sup>	Explain why water used in chemical analysis must not contain dissolved salts.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 5 <sup>th</sup>	Describe how fresh water can be produced from seawater.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 5 <sup>th</sup>	Describe the steps needed to make fresh water suitable for drinking.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 5 <sup>th</sup>	Suggest how to purify water when you know what it contains.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
 8 <sup>th</sup>	Evaluate the hazards and control the risks present when purifying water.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>