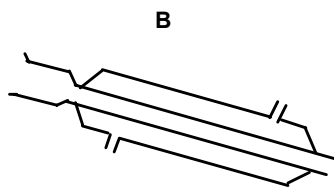
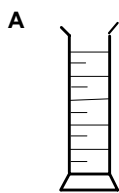


C1 Introduction and Safety

Name Date

1 Name the apparatus A and B and draw diagrams of both a filter funnel and an evaporating basin.



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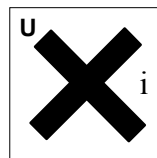
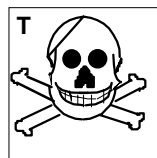
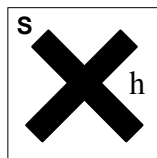
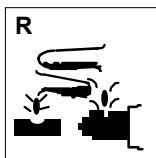
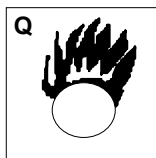
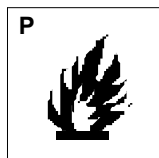
filter funnel

evaporating basin

- Complete the following sentences. Use the words in brackets below.
- A substance can cause death if swallowed, breathed in or absorbed through the skin.
 - A substance is similar to a toxic substance but less dangerous.
 - A substance attacks and destroys living tissues, including eyes and skin.
 - An substance is not corrosive but can cause reddening or blistering of the skin.
 - An substance provides oxygen which allows other materials to burn more fiercely.
 - A highly substance easily catches fire.

(flammable corrosive harmful toxic irritant oxidising)

Look at the following hazard warning symbols P, Q, R, S, T and U.



8 Complete the following sentences using the letters P, Q, R, S, T and U

The symbol which is used to warn about

- a corrosive substance is
 - a highly flammable substance is
 - a toxic substance is
 - an oxidising substance is
 - a substance which is harmful is
 - a substance which is an irritant is
- 9 A hazard symbol (from those shown above) suitable for
- concentrated sulphuric acid is
 - petrol is
- 10 Two important safety factors which should be observed when a student heats a test tube of zinc and dilute sulphuric acid are
-
 -

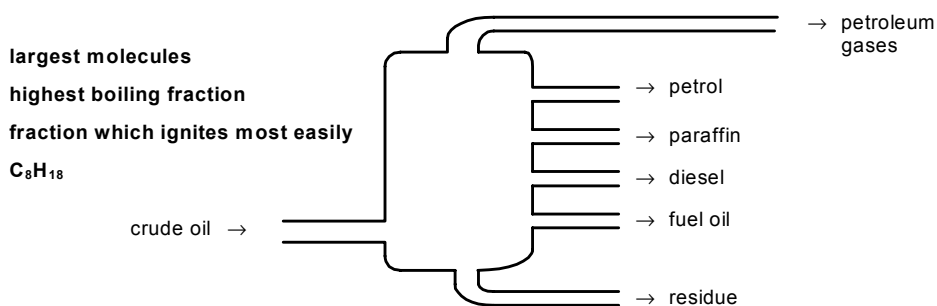
M3 Fractionation of Oil

Name Date

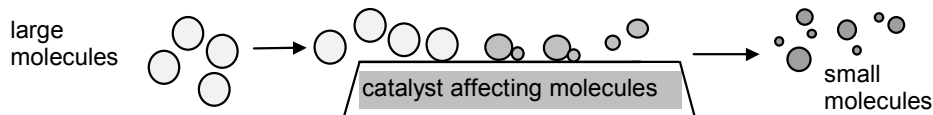
- Complete the following sentences. Use the words in the brackets below.
- Oil refineries separate crude oil into a series of fractions by evaporating the oil and allowing it to condense at different temperatures. This process is called distillation.
 - The separation produces fractions, each of which contains molecules with a similar number of atoms.
 - The hydrocarbon molecules in crude oil vary in
 - The larger the molecules present, the the boiling point of the hydrocarbon.
 - The larger the molecules present, the volatile the hydrocarbon.
 - The larger the molecules present, the less easily the oil
 - The larger the present, the less easily the hydrocarbon ignites.

(size less higher flows molecules carbon fractional)

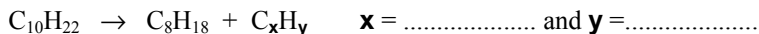
- Look at the following diagram of a fractionating column.



- Label the diagram to show where the items listed in bold print leave the fractionating column.
- Complete 9 and 10. The diagram may help you.



- Large molecule hydrocarbons are less useful than small molecule hydrocarbons. Hence some large molecules are broken down to produce smaller, more useful molecules in a process known as Some of these smaller molecules are useful as fuels and others can be used to make plastics or polymers.
- A catalyst is a substance which up the rate of a chemical reaction and is chemically at the end of the reaction.
- What are the values of **x** and **y** in the following equation?



- Complete the table.

	plastic	name of small molecules used to make the plastic	use
12	poly(ethene)		
13	poly(chloroethene) or PVC		

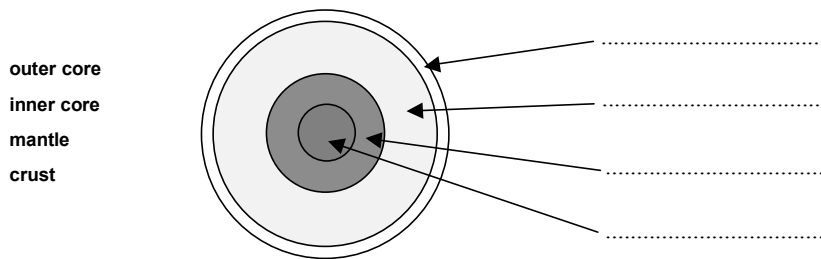
M38 Tectonics

Name **Date**

- Complete the following sentences. Use the words in brackets below.
- 1 The Earth's core is made of nickel and another element called
- 2 The outer part of the core is
- 3 The inner part of the core is
- 4 The crust is relatively
- 5 The mantle is extremely

(**solid liquid iron thin viscous**)

- Look at the following diagram of a section through the Earth.



- 6 Label the above diagram using the words in bold.
- Complete the following sentences. Use the words in brackets below.
- 7 At the surface of the Earth younger sedimentary rocks usually lie on top of rocks.
- 8 Sedimentary rock layers are often found tilted, folded, fractured (faulted) and sometimes even turned upside down. This shows that the Earth's crust is and has been subjected to very large forces.
- 9 Large scale movements of the Earth's crust can cause mountain ranges to very slowly over millions of years. These replace older mountain ranges worn down by weathering and erosion.
- 10 The edges of land masses (continents) which are separated by thousands of kilometres of oceans have which fit quite closely and which have similar patterns of rocks and fossils.
- 11 The Earth's is cracked into a number of large pieces (tectonic plates) which are constantly moving.
- 12 The plates move at relative speeds of a few centimetres per as a result of convection currents within the Earth's mantle.
- 13 The plates are driven by heat released by natural processes.
- 14 At one time it was believed that the major features of the Earth's surface were the result of the of the crust as the Earth cooled down following its formation.

(**radioactive form shapes year crust shrinking unstable older**)

- 15 What can be deduced about the density of the Earth's core from the following data?
 Density of crust 3000 kg/m³ Density of mantle 4500 kg/m³ Average density of Earth 5500 kg/m³

- 16 Give three pieces of evidence which suggest that South America and Africa were once joined together.
 (i) (ii) (iii)