Year 7 Chemistry: Separating Mixtures Worksheet

Lower Secondary · Year 7 · Filtration, evaporation, distillation and chromatography

Name: ..... **Class:** ..... **Date:** ..... **Score:** / 42

Section A: Key words [9 marks]

mixture | solvent | solute | solution | filtrate | residue | soluble | insoluble

1 Use words from the box to complete the sentences. Each word can be used once.

(a) A substance that dissolves in a liquid is called ..... . **[1]**

(b) A substance that does not dissolve is ..... . **[1]**

(c) Salt dissolved in water makes a ..... . The salt is the ..... and the water is the ..... . **[3]**

(d) The solid left on the filter paper is the ..... and the liquid that passes through is the ..... . **[2]**

2 What is the difference between a mixture and a pure substance? **[2]**

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Section B: Choosing a method [15 marks]

3 Match each mixture to the best separation method. Choose from: filtration, evaporation, distillation, chromatography, magnet. **[5]**

Mixture	Method
Sand and water	
Salt dissolved in water (to get the salt)	
Pure water from salty water	
The colours in black ink	
Iron filings and sulfur	

4 Describe how to separate sand from a mixture of sand and water. **[3]**

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5 Describe how to get pure salt from salt solution. **[3]**

6 A pupil wants to get the salt from a mixture of salt and sand. List the steps in the correct order. **[4]**

Section C: Distillation and chromatography [14 marks]

7 Explain how simple distillation separates pure water from salty water. **[4]**

8 Why does water pass out of the condenser but the salt stay behind in the flask? **[2]**

9 Describe how to use paper chromatography to separate the colours in a black felt-tip ink. **[4]**

10 Why must the start line be drawn in pencil and not pen? **[2]**

11 A chromatogram of an unknown ink shows 3 spots. Spots from ink A show 2 spots and ink B shows 3 matching spots. Which ink is the unknown ink? Explain. **[2]**

Section D: Applying ideas [4 marks]

12 Give one example of how separating mixtures is used in real life. **[1]**

13 Salt can be obtained from sea water in hot countries by leaving it in shallow pools. Explain how this works. **[3]**