KS3 SCIENCE · CHEMISTRY

Separating mixtures: exam questions

Name _____
Total: 21 marks

1 State what the word pure means in science. **[1 mark]**

2 A solid melts between 68 °C and 74 °C. Explain whether the solid is pure. **[2 marks]**

3 Salt is stirred into water until it dissolves. Name the solute, the solvent and the solution. **[3 marks]**

4 5 g of sugar dissolves in 100 g of water. State the mass of the solution and give a reason. **[2 marks]**

5 Describe what a saturated solution is. **[1 mark]**

6 A student filters a mixture of sand and water. Name the residue and the filtrate. **[2 marks]**

7 Explain why filtering does not separate salt from salt solution. **[2 marks]**

8 Describe how distillation produces pure water from salt solution. **[3 marks]**

9 Ink from a pen is tested by chromatography. Three coloured spots appear. State what this shows about the ink. **[1 mark]**

10 Describe how to separate a mixture of sand, salt and water to get the sand and crystals of salt. **[4 marks]**

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Separating mixtures: mark scheme

Total: 21 marks

1 [1 mark]

- Made of only one substance (accept: a single element or compound; nothing mixed in) **(1)**

2 [2 marks]

- It is not pure (accept: it is a mixture) **(1)**
- A pure substance melts at one fixed temperature (accept: this one melts over a range) **(1)**

3 [3 marks]

- Solute: salt **(1)**
- Solvent: water **(1)**
- Solution: salt solution (accept: salt water, salty water) **(1)**

4 [2 marks]

- 105 g **(1)**
- Mass is conserved (accept: the sugar particles are still there, mixed in with the water particles) **(1)**

5 [1 mark]

- A solution in which no more solute will dissolve (at that temperature) **(1)**

6 [2 marks]

- Residue: sand **(1)**
- Filtrate: water **(1)**

7 [2 marks]

- The salt is dissolved (accept: its particles are spread out among the water particles) **(1)**
- The particles are small enough to pass through the holes in the filter paper **(1)**

8 [3 marks]

- The solution is heated and the water evaporates (accept: boils) **(1)**
- The water vapour is cooled in the condenser and condenses **(1)**
- The salt is left behind in the flask **(1)**

9 [1 mark]

- It is a mixture of three dyes (accept: three substances, three colours) **(1)**

10 [4 marks]

- Filter the mixture **(1)**
- The sand is left in the filter paper (accept: the sand is the residue) **(1)**
- Heat the filtrate to evaporate the water **(1)**
- Crystals of salt are left behind **(1)**