

Separation Techniques Worksheet

Name: Key
Class: _____

Date: _____

True/False Questions

1. Think carefully about the following statements. Are they true or false?
Circle your answer.

- a. In filtration, the filtrate is always a pure liquid. True False
- b. Drinking water can only be obtained from seawater by distillation. True False
- c. The fractional distillation of miscible liquids is only possible if the liquids have different boiling points. True False
- d. Metal can be sorted through the use of magnetism. True False
- e. Mixtures have fixed melting and boiling points. True False

2. Name the techniques which are suitable for separating the following mixture:

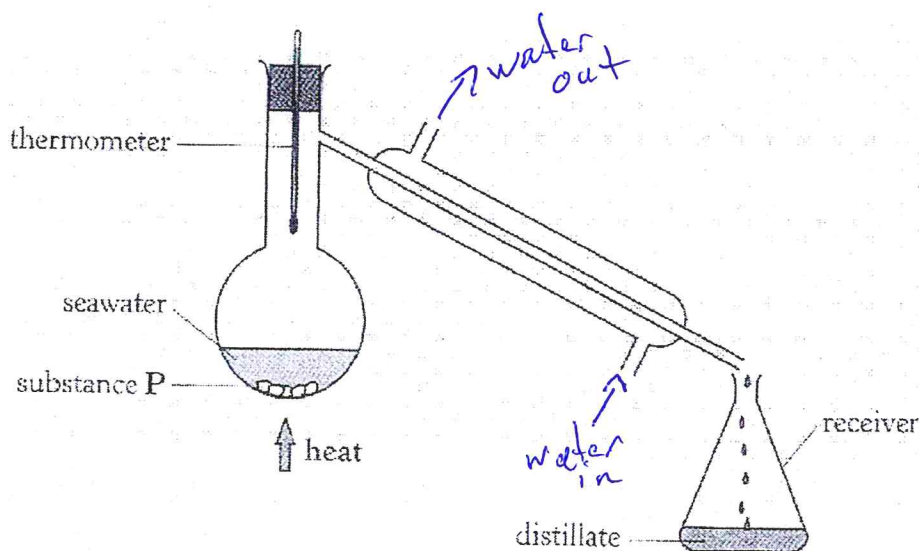
	Situation	Separation Technique
a.	To obtain drinking water from muddy water	filtration / settling
b.	To separate petrol from crude oil	distillation
c.	To remove leaves from a swimming pool	filtration / sifting
d.	To obtain pure sugar from a solution	crystallization
e.	To determine whether the colouring in a fruit juice is a single substance or a mixture of coloured substance	chromatography

3. You are asked to separate sand and sodium chloride.

Name the methods needed to carry out the procedure. Explain how you would carry out the procedure to obtain pure sand and sodium chloride back.

Pour mixture into water to dissolve the salt. Filter the mixture to collect the sand. Evaporate the water by boiling or just allowing it to evaporate and the salt will crystallize.

4. The following diagram shows a set up of simple distillation.



(a) (i) Identify substance P.

salt

(ii) What is the objective of substance P?

objective is to separate it from the solution

(b) Identify the distillate collected in the receiver.

water in the case of saltwater.

(c) Suggest how you would determine that the distillate collected is a pure substance.

test it based on the characteristics of a pure substance like alcohol or water

(d) Label the water in and water out on the diagram.

(e) State **one** possible mistake in the set up and explain the significance of the mistake.

if water in is at top, the cold water could break the glass tube since the steam is hot!