

Choosing a method to separate mixtures

Grade 6 science (Year 7 · Class 6) · Test

Name: _____ Date: _____ Class: _____ Mark: ____ / 20

This test covers the main ways of separating mixtures and how to choose between them. Read each question carefully, name methods precisely, and show your working in calculations. You have 45 minutes and the total is 20 marks.

Level: Grade 6 science (Year 7 · Class 6) · **Curriculum:** MS-PS1-2

Time: 45 minutes · 8 questions · Total: 20 marks · Calculator allowed

Question 1 Choosing methods (2 marks)

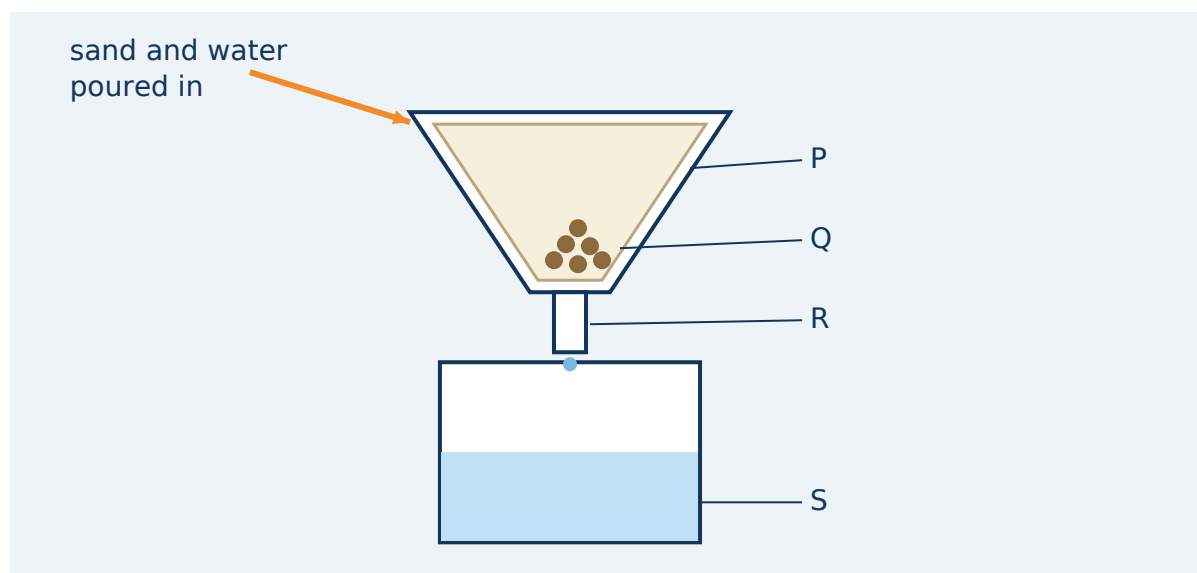
- State the method to separate steel pins from sawdust. (1 mark)
- State the method to obtain salt from sea water. (1 mark)

Question 2 Sand and salt (3 marks)

A mixture of sand and salt is stirred in water.

- State why the sand does not dissolve but the salt does. (1 mark)
- Name the method to collect the sand. (1 mark)
- Name the method to collect the salt. (1 mark)

Question 3 Filtration diagram (3 marks)



Filtration set-up.

- a. Name part P. (1 mark)
- b. Name the liquid collected in the beaker, S. (1 mark)
- c. State what is in the residue, Q, when sand and water are filtered. (1 mark)

Question 4 A bag of compost (3 marks)

A gardener's 2.5 kg bag of compost contains 4 % small stones by mass.

- a. Calculate the mass of stones in grams. (1 mark)
- b. Calculate the mass of compost without stones. (1 mark)
- c. After sieving, 2380 g of compost is collected. Calculate the percentage recovered. (1 mark)

Question 5 Dissolved salt (2 marks)

Explain why filtering cannot separate salt from salt water. (2 marks)

Question 6 Magnetic separation (3 marks)

Explain how a magnet can separate steel cans from aluminium cans, and say why it cannot separate aluminium cans from plastic bottles. (3 marks)

Question 7 Finishing evaporation (2 marks)

Explain why you stop heating when only a little water remains. (2 marks)

Question 8 Correct the statement (2 marks)

A student writes: "Filtering muddy water makes it pure."

Correct the statement. (2 marks)