

From crude oil to plastics and fibres

Grade 8 science (Year 9 · Class 8) · Test

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

This test lasts 45 minutes and is worth 20 marks. Show your working in calculations and write units. In the explanation questions, use the words monomer, polymer and density correctly.

Level: Grade 8 science (Year 9 · Class 8) · **Curriculum:** MS-PS1-3

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

Question 1 Key words (2 marks)

- Define the term monomer. (1 mark)
- Name the process that turns monomers into a polymer. (1 mark)

Question 2 Raw material (2 marks)

- State the natural resource from which most plastics are made. (1 mark)
- Name the plant where it is first separated into fractions. (1 mark)

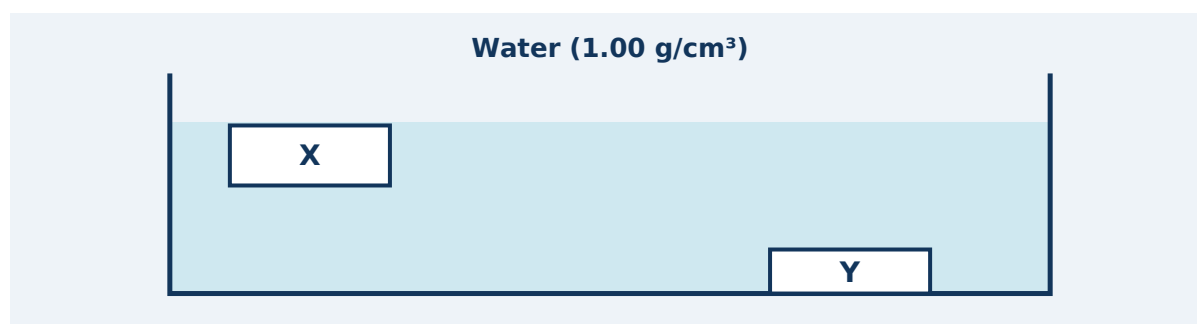
Question 3 Density (3 marks)

A piece of plastic has a mass of 18.4 g and a volume of 16.0 cm³.

- Calculate its density. (2 marks)
- State whether it floats in water of density 1.00 g/cm³. (1 mark)

Question 4 Float or sink (2 marks)

Two blocks are placed in water.



Blocks X and Y in water.

- a. State which block has the greater density. (1 mark)
- b. Explain your answer. (1 mark)

Question 5 Recycling rate (3 marks)

A town collects 640 kg of plastic and recycles 160 kg.

- a. Calculate the percentage recycled. (2 marks)
- b. Calculate the mass not recycled. (1 mark)

Question 6 Conservation of mass (2 marks)

- a. 140 g of ethene reacts completely to make polythene. State the mass of polythene formed. (1 mark)
- b. Explain your answer. (1 mark)

Question 7 Natural versus synthetic (3 marks)

- a. Explain two reasons why many natural materials have been replaced by synthetic ones. (3 marks)

Question 8 Environmental impact (3 marks)

- a. State two problems caused by plastic waste. (2 marks)
- b. Suggest one action a school could take. (1 mark)