

Measuring mass and volume accurately

Grade 6 science (Year 7 · Class 6) · Test answers (mark scheme)

Award marks as shown. Accept correct answers in equivalent units. For explanations, award marks for each valid scientific idea rather than for exact wording.

Level: Grade 6 science (Year 7 · Class 6) · **Curriculum:** SEP measurement

Question 1 Convert units (2 marks)

- a. $3.2 \times 1000 = \mathbf{3200\ g}$.
- b. $750 \div 1000 = \mathbf{0.75\ L}$.

Marking: 1 mark for each correct value with its unit.

Question 2 Read the cylinder (3 marks)

- a. **1 mL**.
- b. **18 mL**.
- c. The **bottom** of the curved surface.

Marking: 1 mark each.

Question 3 Eye level (2 marks)

Looking from above or below makes the surface seem to sit at a different mark on the scale.

Eye level gives the true reading.

Marking: 1 mark for the idea of a shifted apparent reading, 1 mark for eye level giving the true value.

Question 4 Volume of a key (3 marks)

- a. $42 - 35 = \mathbf{7\ cm^3}$.
- b. $7\ mL \div 1000 = \mathbf{0.007\ L}$.
- c. The key has an irregular shape, so length $\times$ width $\times$ height cannot be used.

Marking: 1 mark each.

Question 5 Water in a beaker (2 marks)

- a. $187.5 - 62.5 = \mathbf{125.0\ g}$.
- b. **125.0 g**, the mass of the water only.

Marking: 1 mark each.

Question 6 Kitchen amounts (3 marks)

- a. $2000 - 650 = 1350 \text{ g} = \mathbf{1.35 \text{ kg}}$.
- b. $5000 \div 600 = 8.33$, so **8 cups**.
- c. $8 \times 600 = 4800$; $5000 - 4800 = \mathbf{200 \text{ mL}}$.

Marking: 1 mark each.

Question 7 Choosing a cylinder (2 marks)

The **10 mL cylinder**: finer divisions give a more precise reading, and a small error is a smaller fraction of 6 mL.

Marking: 1 mark for the correct choice, 1 mark for a reason based on divisions or precision.

Question 8 Floating cork (3 marks)

- a. The sinker holds the cork under the surface so that it displaces its whole volume.
- b. $\text{Cork} = (50 - 30) - (38 - 30) = 20 - 8 = \mathbf{12 \text{ cm}^3}$.

Marking: (a) 1 mark. (b) 1 mark for the method, 1 mark for the answer with unit.