

Lesson 55 MEASURES

Relationship between capacity and volume (litres and cm^3)

CURRICULUM ALIGNMENT

MEA.MSR.4a

determine and calculate units of measurement in fractional and/or decimal form to solve practical problems.

INTERACTIVES

Shape Measurer · display

Unit Converter · challenge, display, explore

WHAT THIS LESSON TEACHES

1 litre equals 1000 cm^3 or 1000 ml so the same space can be measured in different units.

→ A milk carton holds 1 litre which is 1000 cm^3 .

→ A 10 cm cube holds 1000 cm^3 or 1 litre.

MODEL THIS ON THE BOARD

CHANGING 3000 CM^3 INTO LITRES

- 1 Begin with the volume of 3000 cm^3
- 2 Divide by 1000 because 1000 cm^3 fill one litre
- 3 The answer is 3 litres

ANSWER KEY

a) 3 l

b) 1500 ml

c) 0.75 l

Q1: 5 litres

Q2: 1,500 ml

Q3: 0.75 litres

Q4: 1 litre

Q5: 2,000 ml

Q6: 4,000 cm^3 a) Always : By definition, 1 litre fills exactly 1000 cm^3 .

b) Never : 750 ml is less than 1000 ml, so the carton holds less.

c) Always : Divide 3000 by 1000 to get exactly 3 litres.

d) Never : $10 \times 10 \times 10 = 1000 \text{ cm}^3$, which is 1 litre.

EXTENSION SHEET · STRETCH ANSWERS

S1: 12 litres

S2: 3 litres

S3: 780 cm^3

S4: 3 litres

S5: 500 cm^3