

Converting units of capacity: millilitres and litres

National Curriculum attainment target

- Use, read, write and convert between standard units, converting measurements of volume from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places

Lesson objective

- Convert from smaller to larger standard units of capacity and vice versa; use decimal notation up to three decimal places

Previous related lessons

None

Prerequisites for learning

Pupils need to:

- be able to write measurements of capacity to two decimal places, e.g. 3.47 l

Vocabulary

capacity, millilitre (ml), litre (l), decimal place

Future related lesson

Unit 10, Week 3, Lesson 2

Success criteria

Pupils can:

- convert millilitres to litres and vice versa
- use decimal notation up to three decimal places



Getting Started

- Choose an activity from Measurement (volume and capacity).

**Collins
Connect**

Year 6, Unit 10,
Week 3

Teach

Resources

1 cm³ cube (per class); measuring jar (per class)



- Display: Slide 1 showing three relationships between litres and millilitres.
- Ask: **How many millilitres are equal to one thousandth of 1 litre?** (1 ml) Ask: **How do we write that using decimal notation?** (0.001 l)
- Show the fourth relationship on Slide 1.
- Discuss the difficulty in measuring out one thousandth of one litre and say: **A unit of measure that has an accurate volume of one millilitre is a cubic centimetre.**
- Place the 1 cm³ cube in the measuring jar and say: **Imagine that this 1 cm³ cube is made of ice.**
- Ask: **When the ice has melted, how much water will be in the jar?** (1 ml or $\frac{1}{1000}$ l)
- Display: Slide 2 showing suitable things to match each capacity.
- Ask pairs to discuss other suitable illustrations for each capacity.
- Display: Slide 3 showing the relationship: 4826 ml = 4 l 826 ml or 4.826 l
- Ask: **What is 4826 ml rounded to the nearest 10 ml?** (4830 ml) **What is 4.826 l rounded to the nearest $\frac{1}{100}$ of 1 litre?** (4.83 l)



- Display: Slide 4 showing the rounding of millilitres and litres.
- Continue to round 4826 ml to the nearest 100 ml and 1000 ml and 4.826 l to the nearest $\frac{1}{10}$ l and to the nearest litre, showing each line on the slide in turn.
- Ask: **How many millilitres are there in 2.5 litres?** (2500 ml) ... **in 2.25 litres?** (2250 ml)
- Write on the board: $\frac{1}{5}$ of 2.5 l
- Ask: **What is one fifth of 2.5 litres in millilitres?** (500 ml)
- Ask: **Who can come to the board and show how they found the answer?**

i 4826 ml $\approx$ 4.826 l
4826 ml $\approx$ 4830 ml
(to the nearest 10 ml) $\approx$
4.83 l (to the nearest $\frac{1}{100}$ l)
4826 ml $\approx$ 4800 ml (to the
nearest 100 ml) $\approx$ 4.8 l (to
the nearest $\frac{1}{10}$ l)
4826 ml $\approx$ 5000 ml (to the
nearest 1000 ml) $\approx$ 5 l (to
the nearest l)



- Ask: **Who used a different calculation to find the answer? Can you show your method to the class?**
- Display: Slide 5 to show how the two calculations link.
- Elicit that one calculation can be used as a check on the other calculation.
- Write on the board: $\frac{2}{3}$ of 1.8 litres and $\frac{3}{4}$ of 2000 ml
- Ask pairs to find the answer to each part in litres and to share this with the class.
- Elicit that $\frac{2}{3}$ of 1.8 l = 1.2 l and $\frac{3}{4}$ of 2000 ml = 1.5 l
- Write on the board: $\frac{2}{3}$ of 1.8 litres $\square$ $\frac{3}{4}$ of 2000 ml
- Ask: **Who can complete the statement using the correct equality sign? (<) How do you know that you have used the correct sign?** Elicit the following: smaller amount < larger amount and larger amount > smaller amount.

Individualised Learning

Refer to Activity 1 from the Learning activities on page 412.

Pupil Book 6C – Page 44: Converting units of capacity
Progress Guide 6 – Support, Year 6, Unit 10, Week 3, Lesson 1:
 Decision tree litres

Plenary

- Recall the relationship between the millilitre and the litre (1000 ml $\approx$ 1 l)
- Write on the board: 6284 ml
- Ask: **What is this capacity in litres?** (6.284 l)
- Write on the board: 6284 ml = 6.284 l
- Ask: **What is 6.284 litres rounded to the nearest tenth of one litre?** (6.3 l) **What is that in millilitres?** (6300 ml)
- Repeat as above with additional examples that involve converting between millilitres and litres using decimals up to three places.
- Write on the board: $\frac{1}{3}$ of 1.5 litres $\square$ $\frac{2}{5}$ of 2000 ml.
- Ask pairs to find the answer to each part in litres and to share this with the class. Take feedback. (0.5 l and 0.8 l)
- Ask: **Who can complete the statement using the correct equality sign?** ($\frac{1}{3}$ of 1.5 litres < $\frac{2}{5}$ of 2000 ml)



Homework Guide 6

Year 6, Unit 10, Week 3, Lesson 1:
 Converting capacities