Unit Conversion Word Problems

Grade 5 – 7 math · measurement

Name: Date: Score: / 26

The step students skip

Almost every mark lost on a conversion word problem is lost the same way: the student does the arithmetic the question seems to ask for, without noticing that the two measurements are in different units.

2.4 km minus 1800 m is not 0.6 of anything. The numbers cannot be subtracted until one of them moves, and the habit worth building is to check the units **before** picking an operation.

The second habit is writing the unit on every line. It costs nothing and it makes a missing conversion visible immediately: an answer of "0.6" with no unit attached is a question that has not been finished.

How to work through one

- Read the question and check whether all the measurements are in the **same unit**.
- If they are not, **convert** before doing anything else.
- Convert to whichever unit the **answer** is asked for, where you can.
- Write the **unit** on every line, not just the last one.
- Check the **size** of your answer against the situation. A pencil is not 17 metres long.
- If the question asks "how many fit", divide; if it asks for a **total**, multiply or add.

Part A — Word problems show your working and label every answer (16 marks)

1. A fence is 12 m long. Posts are placed every 150 cm. How many gaps are there between posts?

2. A bottle holds 1.5 L. Ana drinks 350 mL at lunch and 400 mL after school. How much is left?

3. A box of 8 tins weighs 4.4 kg. The empty box weighs 400 g. What does one tin weigh?

4. A path is 2.5 km long. Sam has walked 1750 m. How much further must he walk?

5. A recipe makes 1.2 L of soup. It is served in 150 mL bowls. How many full bowls, and how much is left over?

6. A ribbon 3 m long is cut into pieces 40 cm long. How many pieces, and how much ribbon is wasted?

Part B — Two more (4 marks)

1. A runner does four laps of a 400 m track. How far has she run in kilometres?

2. A jug holds 2 L. It is filled using a 250 mL cup. How many cupfuls does it take?

Part C — Find the error (6 marks)

1. A student works out 2.4 km minus 1800 m as 0.6.

2. A student says a 175 mm pencil is 1750 cm long.

Unit Conversion Word Problems — Answer Key

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Part A — Word problems

1. **8 gaps**
   12 m = 1200 cm. 1200 ÷ 150 = 8.
2. **750 mL**
   1.5 L = 1500 mL. 1500 − 350 − 400 = 750 mL.
3. **500 g**
   4.4 kg = 4400 g. 4400 − 400 = 4000 g for the tins. 4000 ÷ 8 = 500 g.
4. **750 m**
   2.5 km = 2500 m. 2500 − 1750 = 750 m.
5. **8 bowls, no leftover**
   1.2 L = 1200 mL. 1200 ÷ 150 = 8 exactly.
6. **7 pieces, 20 cm wasted**
   3 m = 300 cm. 300 ÷ 40 = 7 remainder 20.

Part B — Two more

1. **1.6 km**
   4 × 400 = 1600 m. 1600 ÷ 1000 = 1.6 km.
2. **8 cupfuls**
   2 L = 2000 mL. 2000 ÷ 250 = 8.

Part C — Find the error

1. **600 m**
   They subtracted 1800 from 2.4 without converting. 2.4 km = 2400 m, so the answer is 600 m. The missing unit on their answer is the giveaway: 0.6 of what?
2. **17.5 cm**
   They multiplied instead of dividing. Millimetres to centimetres goes to a bigger unit, so the number must get smaller — and no pencil is 17 metres long.