Unit 10 · Capacity

STUDY NOTES

Key terms

Capacity: how much liquid a container can hold; often written on it.

Liter (l or L): for bottles, buckets, tanks; both short forms are right.

Milliliter (ml): a thousandth of a liter ("milli" = one thousandth); for cups, medicine.

- **1 l = 1000 ml**
- l → ml: × **1000**; ml → l: ÷ **1000**
- 3 l = **3000 ml**; 4500 ml = **4 l 500 ml**
- 2 l 50 ml = 2000 + 50 = **2050 ml**, not 2500
- 65450 ml = 65 l 450 ml = 65.45 l
- 1.5 l = 1 l 500 ml; a 1.5 l jug 10 times = 10 l + 5000 ml = **15 l**
- a small l looks like 1: "11 l" is eleven liters

A liter of water

- a box 10 cm × 10 cm × 10 cm holds exactly **1 l**; 1 l = 1000 cubic cm
- 1 l of water weighs about **1 kg** (the kilogram was first this much water, 1795)

Multiplying

1. multiply the l and the ml by the number
2. move every **1000 ml** over as 1 l

- 225 ml × 6 = 1350 ml = **1 l 350 ml**
- 12 l 350 ml × 7: 84 l 2450 ml → **86 l 450 ml**
- 1 l 500 ml × 12: 12 l 6000 ml → **18 l**
- 50 l 375 ml × 8: 400 l 3000 ml → **403 l**

Dividing by a number

1. share the **liters first**
2. change the liters left over into ml, add them to the ml
3. share the ml

- 14 l 760 ml ÷ 6: 2 l, 2 l left = 2000 ml; 2760 ÷ 6 = 460 → **2 l 460 ml**
- 1 l 500 ml ÷ 4: 0 l, 1500 ml ÷ 4 = **375 ml**
- check: 2 l 460 ml × 6 = 12 l 2760 ml = 14 l 760 ml ✓

Two kinds of dividing

	Example	Answer
amount ÷ number	14 l 760 ml ÷ 6 people	an amount: 2 l 460 ml each
amount ÷ amount	8500 ml ÷ 250 ml	a number: 34 (workers, cups, times)

- amount ÷ amount: **both in the same unit first**
- 8 l 500 ml = 8500 ml; 8500 ÷ 250 = **34**
- teapot 1 l 200 ml, cups of 150 ml: 1200 ÷ 150 = **8 cups**
- 2 l bottle, 250 ml glasses: 2000 ÷ 250 = **8 glasses**; 200 ml glasses: 10
- smaller glasses → more of them

Where it is used

- medicine: a teaspoonful = **5 ml**; measuring spoons and cups in ml
- medicine 10 ml, 3 times a day = 30 ml a day; a 150 ml bottle lasts 150 ÷ 30 = **5 days**
- ORS: one packet in **1 l** of clean water; use within 24 hours
- sold by the liter
  - milk
  - oil
  - juice

COMMON MISTAKES

✗ 2 l 50 ml = 2500 ml
✓ 2000 + 50 = 2050 ml.

✗ 8500 ml ÷ 250 ml = 34 ml
✓ a number with no unit: 34.

✗ 8 l 500 ml ÷ 250 ml divided as it is
✓ change 8 l 500 ml into 8500 ml first.

✗ 1200 ÷ 15 = 80 cups
✓ divide by 150: 8 cups.

✗ 2450 ml left in the ml column
✓ move 2000 ml over as 2 l.