Capacity

Mana Maths

Te reo Māori terms

kahapupuri
capacity
Open in Te Aka

rōrahi
volume
Open in Te Aka

miririta
millilitre
Open in Te Aka

rita
litre
Open in Te Aka

Notes & Steps

Key idea

Capacity measures how much a container can hold. The common units are millilitres (mL), litres (L), and kilolitres (kL). 1000 mL = 1 L, 1000 L = 1 kL, and 1 mL of water weighs 1 g.

Steps

1. Identify the unit you have and the unit you need.
2. To convert L → mL, multiply by 1000.
3. To convert mL → L, divide by 1000.
4. For kL, multiply or divide by 1000 again.
5. Check: does your answer make sense? A bathtub is about 150 L, not 150 mL.

Capacity benchmarks

- **1 mL**: a drop of water, a teaspoon
- **5 mL**: a standard teaspoon
- **250 mL**: a standard cup
- **330 mL**: a can of drink
- **500 mL**: a sports bottle
- **1 L**: a carton of milk
- **1.5–2 L**: a water bottle
- **5–10 L**: a bucket
- **100–200 L**: a bath
- **1 kL**: a small water tank
- **10 kL**: a swimming pool (small)

Common mistake

Confusing mL and L. A can of drink is 330 mL, not 330 L (that would fill several bathtubs). Always imagine the container.

Try these

1. Convert 2.5 L to mL.
2. Convert 1500 mL to L.
3. How many 250 mL cups in a 2 L bottle?

Notes & Steps

Example 1: L to mL

A bottle holds 1.75 L of water. Convert to mL.

$$1.75 \times 1000 = 1750 \text{ mL}$$

Example 2: mL to L

A jug contains 850 mL of juice. How many litres?

$$850 \div 1000 = 0.85 \text{ L}$$

Example 3: filling glasses

A 2 L bottle fills 250 mL glasses. How many?

$$2000 \div 250 = 8 \text{ glasses}$$

Example 4: kL conversion

A water tank holds 3.5 kL. How many litres?

$$3.5 \times 1000 = 3500 \text{ L}$$

Start Tasks

1. Convert 3 L to mL.

2. Convert 2000 mL to L.

3. Convert 2.5 L to mL.

4. Convert 750 mL to L.

5. Which is more: 3 L or 2900 mL?

6. Which is less: 1500 mL or 1.2 L?

7. Convert 1.75 L to mL.

8. Convert 420 mL to L (2 d.p.).

9. A bottle holds 2.3 L. Convert to mL.

Start Tasks

10. Convert 4 L to mL.

11. Convert 850 mL to L.

12. Convert 0.6 L to mL.

13. Convert 1250 mL to L.

14. Which is more: 2.5 L or 2600 mL?

15. Which is less: 1800 mL or 1.9 L?

16. Convert 3.4 L to mL.

17. Convert 920 mL to L (2 d.p.).

18. A jug holds 1.8 L. Write in mL.

Start Tasks

19. Convert 5.2 L to mL.

20. Convert 330 mL to L (3 d.p.).

21. Convert 0.25 L to mL.

22. Sort: 1200 mL, 0.8 L, 1.5 L (least).

23. Sort: 2.3 L, 1900 mL, 3 L (most).

24. How many mL in 0.75 L?

25. Convert 1.05 L to mL.

26. Convert 60 mL to L (3 d.p.).

27. A glass holds 0.4 L. Convert to mL.

Build Tasks

1. Order least: 1.2 L, 980 mL, 1.5 L.

2. Order most: 2.3 L, 1800 mL, 2.05 L.

3. Bottle 2.5 L. 250 mL glasses: how many?

4. Recipe uses 350 mL milk. How many from 2 L?

5. Box of 12 cans each 340 mL. Total in L?

6. 50 bottles each 4.2 L. Total in L?

7. 3 jugs each 550 mL. Total capacity in L?

8. Water tank 5 L + another 3.75 L. Total mL?

9. Container 2.4 L split into 8 cups. Each in mL?

Build Tasks

10. Order least: 3.1 L, 2950 mL, 3.05 L.

11. Order most: 4.5 L, 4300 mL, 4.2 L.

12. Tray of 24 cans each 330 mL. Total in L?

13. Bucket holds 5 L. 200 mL scoops: how many?

14. 36 drums each 25 L. Total in L?

15. Juice 3.6 L. 400 mL glasses: how many?

16. Pool 2800 L, spa 420 L. Difference in L?

17. Pond 2.8 kL. Bucket 12 L. How many buckets?

18. Rain 15 mm over 100 m² roof. Collected in L?

Build Tasks

19. Order: 600 mL, 1.2 L, 0.9 L (smallest).

20. Order: 5.1 L, 4900 mL, 5.05 L (largest).

21. Barrel 50 L split into 200 mL bottles. How many?

22. 24 bottles each 375 mL. Total in L?

23. 12 cartons each 85 mL. Total in mL?

24. Café uses 10 L milk, each coffee 80 mL. How many?

25. Express 3.248 L in mL (nearest 10 mL).

26. Express 8560 mL in L and mL.

27. Tank 12.4 L divided into 8 bottles. Each in mL?

Push Tasks

1. 25 drums each 28.4 L. Total in L?

2. 1200 bottles at 385 mL each. Total in L?

3. Tank 8.5 kL. Pool 1: 1.8 kL, Pool 2: 2.4 kL. Pool 3?

4. Factory uses 55 L syrup/day. 7 days in L?

5. Pump 2.4 kL/h. In a 40-hour week in kL?

6. 150 people each bring 23 L gear. Total in L?

7. Tank A: 18.5 kL, B: 22.3 kL. Add to reach 50 kL?

8. Reservoir 12.5 ML releases 350 L/min. Time to empty?

9. 20 tankers each 12.4 kL. Total in kL?

Push Tasks

10. 360 drums at 15.5 L each. Total in L?

11. Tank A = 16.2 kL. Remove 385 L. Remaining in kL?

12. Factory fills 500 mL bottles from 1.2 kL vat. How many?

13. 12 tanks each 850 kL. Total < 10 ML?

14. Gold vat 12.4 L. How many 250 mL samples?

15. Ship holds 25 kL. Each drum 365 L. Can it hold 68?

16. 3 containers: 3.2 kL, 4.8 kL, 2.9 kL. Total < 12 kL?

17. Vat 2.5 kL fills 50 L barrels. How many barrels?

18. Truck 18 kL + trailer 12 kL. 24 drums 950 L: overload?

Push Tasks

19. 48 bottles each 375 mL. Total in L?

20. Recipe 2.8 L: 1.2 L water, 850 mL syrup. Rest juice in mL?

21. 5 layers: each 6 drums at 24.5 L. Total in kL?

22. Pipeline limit 80 kL/h. 12 pumps 6.3 kL/h: over or under?

23. Tap 450 mL/s fills 1.35 kL tank. Time in seconds?

24. Hose 1.8 kL/h fills 14.4 kL pool. Hours?

25. 40 drums each 36.5 L. Total in kL?

26. Ship unloads 250 kL at 3.5 kL/cycle. Cycles needed?

27. Store 85 kL. Dispenses 320 L/day. Days until empty?