Planner

Measures

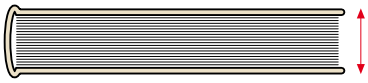
- Approximating sizes of everyday objects in metric units
- Reading scales on a variety of instruments
- Converting between different metric units
- Calculating with time using the 12- and 24-hour clocks

Keywords

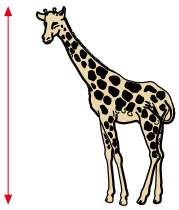
You should know

explanation 1a | explanation 1b

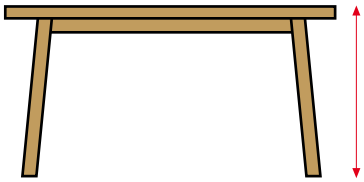
1 **a** Which units would you use to measure each of these lengths? Choose from millimetres, centimetres or metres.



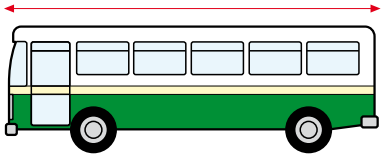
Thickness of an exercise book



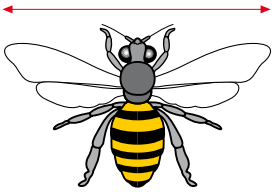
Height of a giraffe



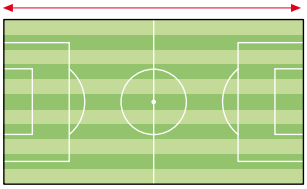
Height of a table



Length of a bus



Wingspan of a bumblebee



Length of Wembley pitch

2 Estimate the lengths of each item in question **1**.

3 Estimate the length of these items.

a A pencil

b The width of a doorway

c The height of your classroom

d A car

explanation 2a | explanation 2b | online

4 Measure the lengths of these lines giving your answers in centimetres.

a _____

b _____

c _____

d _____

e _____

f _____

5 Complete the following table.

Measurement in cm and mm	Measurement in mm	Measurement in cm
5 cm 6 mm		
	72 mm	
		4.5 cm
8 cm 2 mm		
	8 mm	
		10.7 cm

6 Copy and complete.

a 36 cm = ☐ mm **b** 24.8 cm = ☐ mm **c** 900 mm = ☐ cm

d 437 mm = ☐ cm **e** 1.6 m = ☐ cm **f** 320 cm = ☐ m

g 84 cm = ☐ m **h** 5.2 m = ☐ cm **i** 550 mm = ☐ m

j 3.2 m = ☐ cm **k** 0.8 m = ☐ cm **l** 76 cm = ☐ m

7 42 cm, 3 mm, 4.3 m, 425 mm, 0.41 m, 46 cm

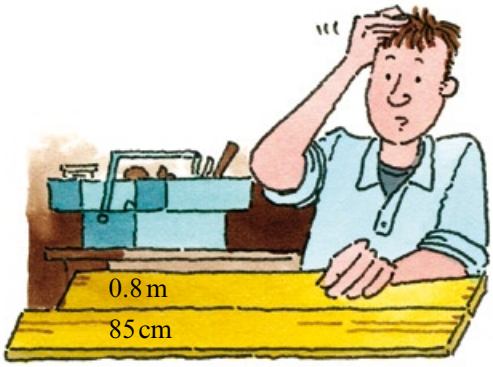
a Write all of the measurements in centimetres.

b Use your answer to part **a** to put the original lengths in order of size, starting with the smallest.

8 Write these lengths in order of size starting with the smallest.

a 125 cm, 1430 mm, 1.3 m, 0.83 m, 850 mm, 84 cm 2 mm

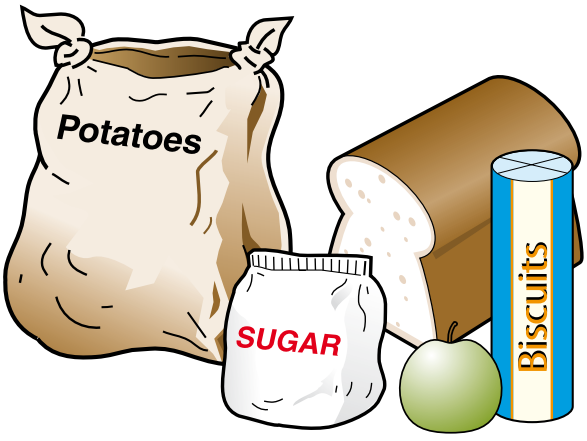
b 650 mm, 0.6 m, 68 cm, 690 mm, 0.679 m, 67 cm 8 mm



But I thought metres would be bigger?

explanation 3a explanation 3b

9 Which item matches which label?



1 kg

2.5 kg

200 g

800 g

100 g

10 Match each object to its mass.

A bag of flour	230 g
A tin of soup	750 g
A small jar of jam	2.85 kg
A packet of washing powder	400 g
A large box of cereal	1.5 kg

11 Copy and complete.

a 2000 g = ☐ kg **b** 3.5 kg = ☐ g **c** 625 g = ☐ kg

d 0.7 kg = ☐ g **e** 0.09 kg = ☐ g **f** 524 g = ☐ kg

g 5342 g = ☐ kg **h** 1.34 kg = ☐ g **i** 24 kg = ☐ g

explanation 4a | explanation 4b | online

12 Which item matches which label?

330 ml

2.5 litres

1 litres

100 ml

13 Copy and complete.

a 1800 ml = ☐ litres **b** 2.5 litres = ☐ ml **c** 125 ml = ☐ litres

d 330 ml = ☐ litres **e** 3 litres = ☐ ml **f** 55 litres = ☐ ml

g 253 ml = ☐ litres **h** 4.2 litres = ☐ ml **i** 234 ml = ☐ litres

14 Christopher does his shopping on the internet.

He has to be careful to order things in the right quantities.

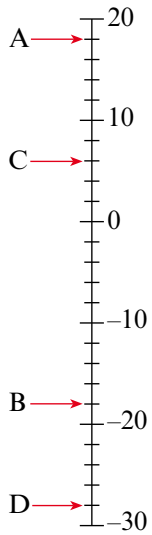
List any of the following items and quantities that don't seem to be correct.

Butter (500 g)
Cheese (400 g)
Mushrooms (50 kg)
Orange juice (1.5 ml)
Frozen peas (1.2 kg)
Washing up liquid (500 litres)
Milk (40 litres)
Potatoes (5 g)
Broccoli (300 g)
Tomato sauce (330 litres)
Carrots (2 kg)
Chocolate (100 g)

explanation 5

15 What value is shown by each arrow?

a



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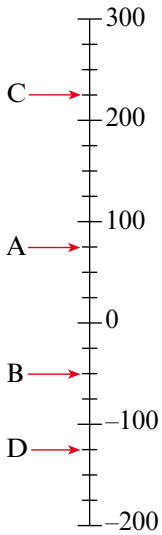

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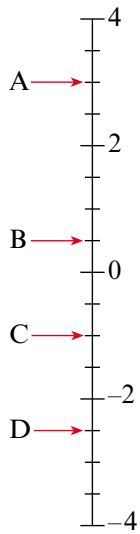
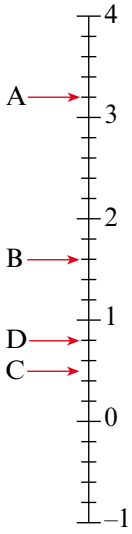
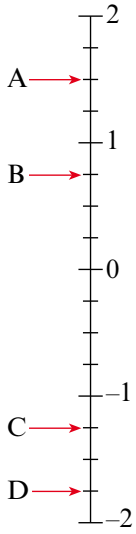


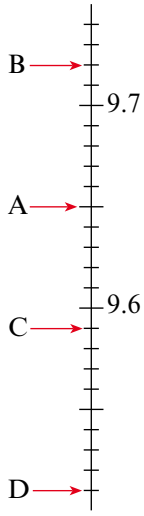
d



e



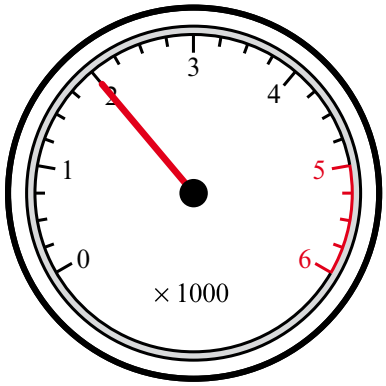
f



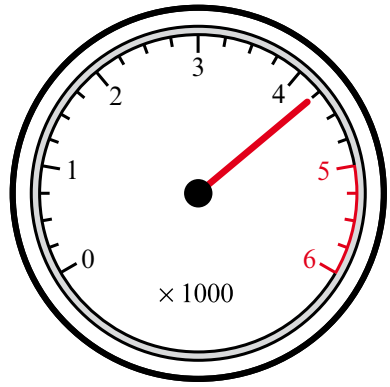
16 The engine speed of a car is measured in revolutions per minute. The value shown on these dials is multiplied by 1000 to give the engine speed.

Write down the engine speed shown on each dial.

a



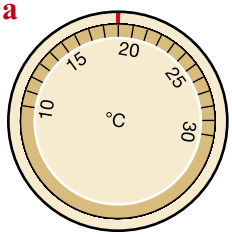
b



17 The temperature in a house is controlled by a thermostat.

Find the temperature set on each of these.

a



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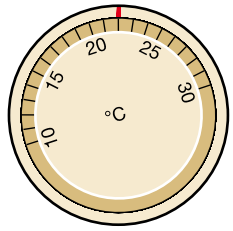
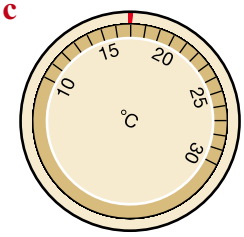
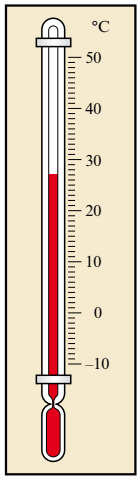


c

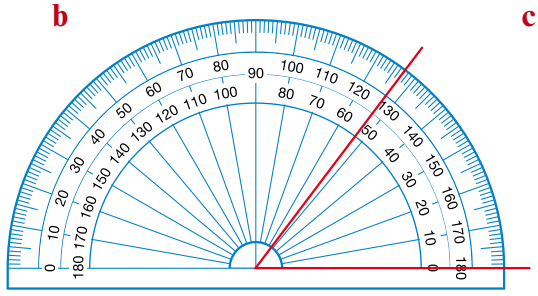


18 Read the values shown on these instruments. Remember to include the units.

a



b



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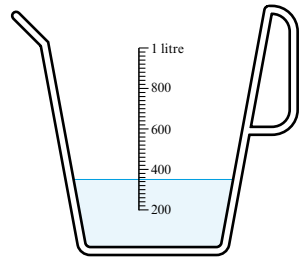

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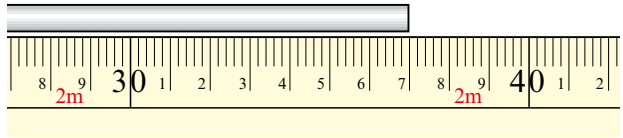

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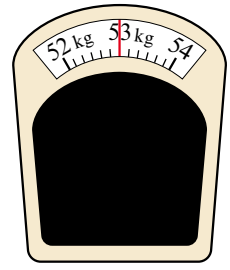

explanation 6a | explanation 6b | explanation 6c | online

19 Write the times shown by these 12-hour clocks.

a  morning

b  morning

c  morning

d  afternoon

e  afternoon

f  afternoon

g  evening

h  evening

i  evening

j  midnight

20 Write these times using the 24-hour clock.

a 7:21 a.m. **b** 3:20 p.m. **c** 10:24 p.m.

d 5:15 p.m. **e** 1:09 a.m. **f** 1:36 p.m.

g 8:25 a.m. **h** 8:45 p.m. **i** 12:03 a.m.

21 Write these times using the 12-hour clock.

a 18:05 **b** 16:22 **c** 09:20

d 11:30 **e** 23:55 **f** 10:42

g 03:45 **h** 14:35 **i** 00:15

22 At Sophie's school morning registration starts at 8:30 a.m. It lasts for 15 minutes. What time does it finish?

23 Morning break time starts at 10:45 a.m. and lasts for 20 minutes.

What time does morning break finish?

24 Raj leaves home at 7:45 to go to work. He arrives at 8:25. How long was his journey?

25 Gillian arrived at the doctor's at 1:53 p.m. Her appointment was at 2:05 p.m. How long did she have to wait?

26 Nadia started her homework at 4:40 p.m. and worked for 50 minutes. What time did she finish her homework?

27 Trevor and his friends go to the cinema.

The film they watch starts at 4:05 p.m. and lasts for 2 hours and 15 minutes.

What time does the film finish?

28 **a** Jonathon's train was due at 15:55 but was running late. It arrived at 16:12. How late was the train?

b Jonathon's train left his station at 16:18. It travelled for 50 minutes before reaching the next station. What time did it reach the next station?

29 Suzy can walk to work in 22 minutes.

She wants to arrive at 8:10 a.m. to prepare for a meeting.

What time should Suzy leave for work?

30 Yasmin is travelling from Stafford to Cambridge and has to change trains at Nuneaton. Her arrival time at Nuneaton is 07:48 and her departure time is 08:03.

How long does Yasmin have to wait at Nuneaton?