SCORE

Data & Measurement
with Classified
answer book

8

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1- Large units

NOTES

Length
kilometre (km)
metre (m)
centimetre (cm)
millimetre (mm)
1000 m = 1 km
100 cm = 1 m 10
mm = 1 cm

Capacity
litre (L)
millilitre (mL)
1000 ml = 1 L

Mass
kilogram (kg)
gram (g)
1000 g = 1 kg

You have already met these prefixes:

• 'kilo' as in kilogram or kilometre (you know that:
  1 kilogram = 1000 × 1 gram and 1 kilometre = 1000 × 1 metre)

• 'centi' as in centimetre (you know that: 1 centimetre = 0.01 × 1 metre)

• 'milli' as in millilitre or millimetre (you know that:
  1 millilitre = 0.001 × 1 litre and 1 millimetre = 0.001 × 1 metre)

| Prefix	Letter	Multiply by:	Multiply by:
tera	T	1 000 000 000 000	10^{12}
giga	G	1 000 000 000	10^{9}
mega	M	1 000 000	10^{6}
kilo	k	1000	10^{3}
hecto	h	100	10^{2}
centi	c	0.01	10^{-2}
milli	m	0.001	10^{-3}
micro	μ	0.000 001	10^{-6}
nano	n	0.000 000 001	10^{-9}

The letter used for the prefix 'micro' is the Greek letter μ,
which you read as 'mew'.

Remember:

$0.01 = \frac{1}{100}$

$0.001 = \frac{1}{1000}$

1 .Here are two containers and the amounts they hold

B

A

Not drawn
accurately

750 millilitres   0.5 litre
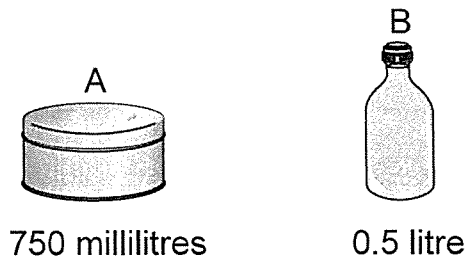
Which container holds the greater amount?

☐ A   ☐ B

How much **more** does it hold?

Give your answer in millilitres.

_____millilitres

2 .Complete the table to show what the units measure

The fi rst row is done for you.

	Length	Area	Volume	Mass
Centimetres	✓			
Litres				
Miles				
Grams				
Square metres				
Ounces				

3 Write the correct number in each space.

1 0.000 099 m = _____ μm

2 22 500 000 Hz = _____ MHz

3 0.0000000175 A = _____ nA

4 4 500 000 Ω = _____ MΩ

5 0.0775 V = _____ mV

6 40 000 000 000 000 B = _____ TB

10 25.67 μL = 0.025 67 _____

5.1 MΩ = 5100 _____

11 75 000 000 mSec= 75 _____

8 0.21 nm = 210 _____

12 4250 kW = 0.00425 _____

9 4.25 GHz = 4250 _____

13 Complete this table.

Pref ix	Letter	Multiply by:
tera		
	μ	
		1 000 000
	G	
		1 000
centi		
hecto	h	
		0.000 000 001
	m	

14 a Write these capacities in order of size, starting with the smallest.

5 centilitres   5 nanolitres 5 microlitres   5 millilitres

5 litres   5 kilolitres

smallest:

15 A store sells four items with different memory sizes.

32 GB   256 MB   2 TB   512 KB

Write the items in order of memory size, from the smallest to the largest.

16 Complete these conversions.

a 1 hectometre = [   ] metres

b 1 kilogram = 1 [   ] grams

c megatonne = [   ] **tonnes**

d 1 gigalitre = [   ] litres

17 These cards show different computer file sizes. Write the file sizes in order, starting with the smallest.

| A 42.5 MB | B   936 KB | C   6.3 TB | D   12 KB | E 1.14 GB |

18 Cards **A** to **E** show the approximate length, in metres, of some very small objects.
Match each card **A** to **E** with the correct card

A	Dust mite 0.0002 m	**i**	100 nm
B	Bacterium 0.000 002 m	**ii**	20 μm
C	Virus 0.000 000 1 m	**iii**	200 μm
D	Animal cell 0.000 02 m	**iv**	100 μm
E	Plant cell 0.000 1 m	**v**	2 μm

19 The internal storages of three games consoles are

500 000 MB   32 GB   1 TB

Write these values in order of size, starting with the smallest.

....
smallest   largest