

## 1. Length

Which units do we use to measure length?

We can use: millimetres (mm)  
centimetres (cm)  
metres (m)  
kilometres (km)

These are **metric** units.

Metric units are based on tens, hundreds, thousands and so on.

1 cm = 10 mm  
1 m = 100 cm  
1 km = 1000 m

A millimetre is very small. It is smaller than the thickness of a 1p coin.



A centimetre is longer. It is about the length of a fingernail.



There are 10 mm in 1 cm.

A metre is about half the length of a bed.



There are 100 cm in 1 m.

A kilometre is very long. It is about 2 and a half times round a running track.



There are 1000 m in 1 km.

## 4. Time

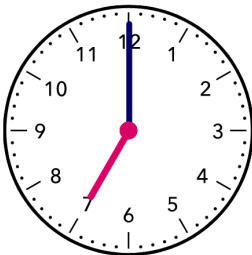
1 minute = 60 seconds

1 hour = 60 minutes

1 day = 24 hours

1 week = 7 days

1 year = 365 days



# Maths, Y7—Ratio & Measure

## 2. Mass

Mass is a measurement of how heavy an object is.

Which units do we use to measure mass?

We use kilograms (kg) and grams (g).



A bag of flour has a mass of 1 kg.



A drawing pin has a mass of 1 g.

There are 1000 g in 1 kg.

## 3. Capacity

Capacity is a measurement of how much a container can hold.

Which units do we use to measure capacity?

We use litres and millilitres (ml).

We usually write **litres** in full because l looks too much like 1.



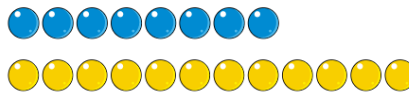
A standard carton of juice has a capacity of 1 litre.



1 ml is about the amount of liquid in 20 small drops of water.

There are 1000 ml in 1 litre.

## 5. Ratio notation



Tim had 8 blue and 12 yellow beads.

That's a ratio of

8 : 12

## 6. Sharing in a given ratio

Ebube and Precious share £240 in the ratio 3:5

How much money does each person get?  $240 \div 8 = 30$

|       |    |    |    |
|-------|----|----|----|
| Ebube | 30 | 30 | 30 |
|-------|----|----|----|

Ebube:  $3 \times 30 = \text{£}90$

|          |    |    |    |    |    |
|----------|----|----|----|----|----|
| Precious | 30 | 30 | 30 | 30 | 30 |
|----------|----|----|----|----|----|

Precious:  
 $5 \times 30 = \text{£}150$

Jason and Grace share some money in the ratio 2:5

Grace gets £250, how much money did they share?

|       |    |    |
|-------|----|----|
| Jason | 50 | 50 |
|-------|----|----|

|       |    |    |    |    |    |
|-------|----|----|----|----|----|
| Grace | 50 | 50 | 50 | 50 | 50 |
|-------|----|----|----|----|----|

Grace:  
 $\text{£}250 \div 5 = \text{£}50$

Each share is £50

$7 \times 50 = \text{£}350$

Noah and Niamh share some money in the ratio 3:4

Niamh gets £25 more than Noah, how much money did Niamh get?

|      |    |    |    |
|------|----|----|----|
| Noah | 25 | 25 | 25 |
|------|----|----|----|

|       |    |    |    |    |
|-------|----|----|----|----|
| Niamh | 25 | 25 | 25 | 25 |
|-------|----|----|----|----|

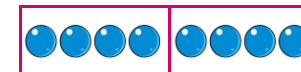
Niamh gets **one more share** than Noah

This share is worth

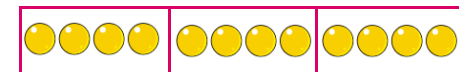
£25

So, each share is **£25**

$4 \times 25 = \text{£}100$



2 groups of 4



3 groups of 4

The ratio can be simplified to 2 : 3