Year 3 Maths Knowledge Organiser

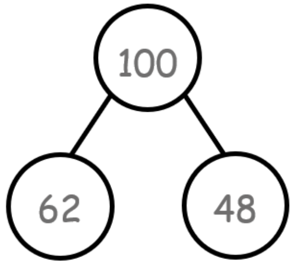
## Addition and subtraction facts

| + | 0 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **0** | 0+0 | 0+1 | 0+2 | 0+3 | 0+4 | 0+5 | 0+6 | 0+7 | 0+8 | 0+9 | 0+10 |
| **1** | 1+0 | 1+1 | 1+2 | 1+3 | 1+4 | 1+5 | 1+6 | 1+7 | 1+8 | 1+9 | 1+10 |
| **2** | 2+0 | 2+1 | 2+2 | 2+3 | 2+4 | 2+5 | 2+6 | 2+7 | 2+8 | 2+9 | 2+10 |
| **3** | 3+0 | 3+1 | 3+2 | 3+3 | 3+4 | 3+5 | 3+6 | 3+7 | 3+8 | 3+9 | 3+10 |
| **4** | 4+0 | 4+1 | 4+2 | 4+3 | 4+4 | 4+5 | 4+6 | 4+7 | 4+8 | 4+9 | 4+10 |
| **5** | 5+0 | 5+1 | 5+2 | 5+3 | 5+4 | 5+5 | 5+6 | 5+7 | 5+8 | 5+9 | 5+10 |
| **6** | 6+0 | 6+1 | 6+2 | 6+3 | 6+4 | 6+5 | 6+6 | 6+7 | 6+8 | 6+9 | 6+10 |
| **7** | 7+0 | 7+1 | 7+2 | 7+3 | 7+4 | 7+5 | 7+6 | 7+7 | 7+8 | 7+9 | 7+10 |
| **8** | 8+0 | 8+1 | 8+2 | 8+3 | 8+4 | 8+5 | 8+6 | 8+7 | 8+8 | 8+9 | 8+10 |
| **9** | 9+0 | 9+1 | 9+2 | 9+3 | 9+4 | 9+5 | 9+6 | 9+7 | 9+8 | 9+9 | 9+10 |
| **10** | 10+0 | 10+1 | 10+2 | 10+3 | 10+4 | 10+5 | 10+6 | 10+7 | 10+8 | 10+9 | 10+10 |

## Multiplication tables – the 144 facts I need to know by the end of Y4

| | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 × 1 | 1 × 2 | 1 × 3 | 1 × 4 | 1 × 5 | 1 × 6 | 1 × 7 | 1 × 8 | 1 × 9 | 1 × 10 | 1 × 11 | 1 × 12 |
| 2 × 1 | 2 × 2 | 2 × 3 | 2 × 4 | 2 × 5 | 2 × 6 | 2 × 7 | 2 × 8 | 2 × 9 | 2 × 10 | 2 × 11 | 2 × 12 |
| 3 × 1 | 3 × 2 | 3 × 3 | 3 × 4 | 3 × 5 | 3 × 6 | 3 × 7 | 3 × 8 | 3 × 9 | 3 × 10 | 3 × 11 | 3 × 12 |
| 4 × 1 | 4 × 2 | 4 × 3 | 4 × 4 | 4 × 5 | 4 × 6 | 4 × 7 | 4 × 8 | 4 × 9 | 4 × 10 | 4 × 11 | 4 × 12 |
| 5 × 1 | 5 × 2 | 5 × 3 | 5 × 4 | 5 × 5 | 5 × 6 | 5 × 7 | 5 × 8 | 5 × 9 | 5 × 10 | 5 × 11 | 5 × 12 |
| 6 × 1 | 6 × 2 | 6 × 3 | 6 × 4 | 6 × 5 | 6 × 6 | 6 × 7 | 6 × 8 | 6 × 9 | 6 × 10 | 6 × 11 | 6 × 12 |
| 7 × 1 | 7 × 2 | 7 × 3 | 7 × 4 | 7 × 5 | 7 × 6 | 7 × 7 | 7 × 8 | 7 × 9 | 7 × 10 | 7 × 11 | 7 × 12 |
| 8 × 1 | 8 × 2 | 8 × 3 | 8 × 4 | 8 × 5 | 8 × 6 | 8 × 7 | 8 × 8 | 8 × 9 | 8 × 10 | 8 × 11 | 8 × 12 |
| 9 × 1 | 9 × 2 | 9 × 3 | 9 × 4 | 9 × 5 | 9 × 6 | 9 × 7 | 9 × 8 | 9 × 9 | 9 × 10 | 9 × 11 | 9 × 12 |
| 10 × 1 | 10 × 2 | 10 × 3 | 10 × 4 | 10 × 5 | 10 × 6 | 10 × 7 | 10 × 8 | 10 × 9 | 10 × 10 | 10 × 11 | 10 × 12 |
| 11 × 1 | 11 × 2 | 11 × 3 | 11 × 4 | 11 × 5 | 11 × 6 | 11 × 7 | 11 × 8 | 11 × 9 | 11 × 10 | 11 × 11 | 11 × 12 |
| 12 × 1 | 12 × 2 | 12 × 3 | 12 × 4 | 12 × 5 | 12 × 6 | 12 × 7 | 12 × 8 | 12 × 9 | 12 × 10 | 12 × 11 | 12 × 12 |

## Using bonds to 10 and 100




62 + 48 = 110

60 2 8 40

10

Sometimes, we can see and use number bonds to help us add, rather than the formal method.

*I know that 60 + 40 = 100*

*I know that 2 + 8 = 10*

*100 + 10 = 110*

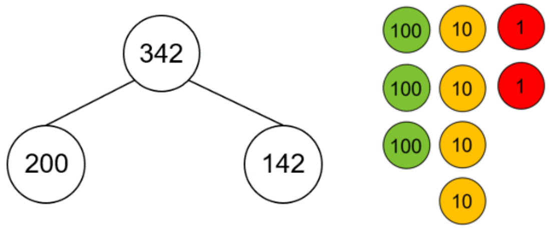
## Interpreting bar models

| 100 | | | |
|---|---|---|---|
| 25 | 25 | 25 | 25 |

100 = 25 + 25 + 25 + 25 100 = 4 x 25

100 ÷ 4 = 25 100 = 25 x 4 100 ÷ 25 = 4

## I know the place value in 3-digit numbers




| | | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| 1,000 | 2,000 | 3,000 | 4,000 | 5,000 | 6,000 | 7,000 | 8,000 | 9,000 |
| 100 | 200 | 300 | 400 | 500 | 600 | 700 | 800 | 900 |
| 10 | 20 | 30 | 40 | 50 | 60 | 70 | 80 | 90 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 |

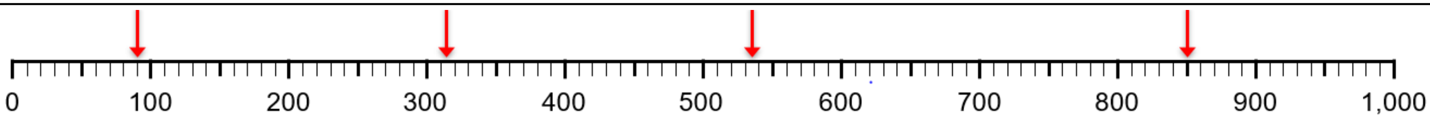
## Scaling facts by 10

If I know that 5 + 6 = 11, then I know that 5 tens + 6 tens = 11 tens so 50 + 60 = 110

If I know that 12 – 5 = 7, then I know that 12 tens – 5 tens = 7 tens so 120 – 50 = 70

If I know that 5 x 4 = 20, then I know that 5 x 4 tens = 20 tens so 5 x 20 = 200

## Counting in 2s, 5s and 10s and applying this to scales and number lines



Year 3 Maths Knowledge Organiser

## Fractions

*I can count in tenths. I know that 10 tenths = 1 whole*

| $\frac{1}{10}$ | $\frac{1}{10}$ | $\frac{1}{10}$ | $\frac{1}{10}$ | $\frac{1}{10}$ | $\frac{1}{10}$ | $\frac{1}{10}$ | $\frac{1}{10}$ | $\frac{1}{10}$ | $\frac{1}{10}$ |
|---|---|---|---|---|---|---|---|---|---|

*I can find unit fractions of an amount. I know the denominator tells me what to split my whole into.*

| 35 | | | | |
|---|---|---|---|---|
| 7 | 7 | 7 | 7 | 7 |

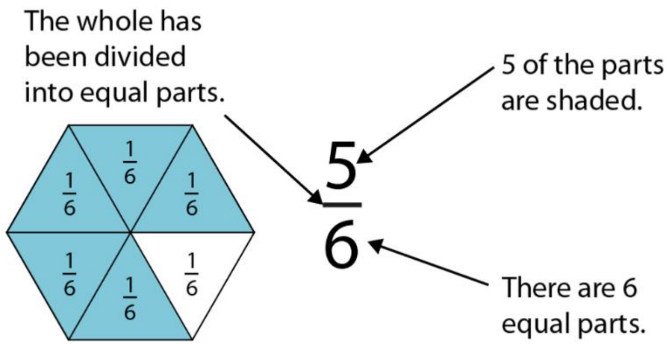
$\underbrace{7}_{\frac{1}{5}}$

$\frac{1}{5}$ of 35

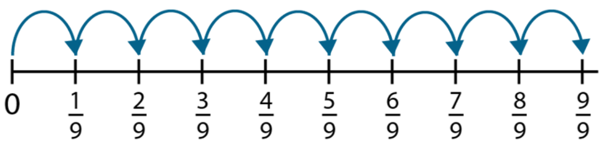
$35 \div 5 = 7$

So $\frac{1}{5}$ of 35 = 7

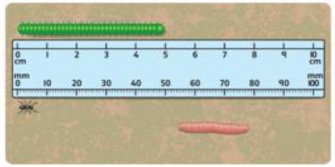
*I understand what each part of the fraction notation means.*




*I know that when the numerator and denominator are the same, the fraction has a value of one.*




## Measure –

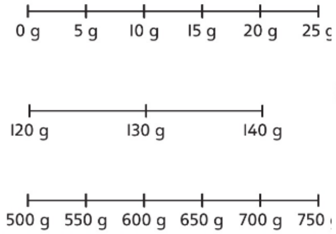


10mm = 1cm so 50mm = 5cm

Each interval is 5 g.

Each interval is 10 g.

Each interval is 50 g.





*The interval is 100ml. Therefore, the **volume** is 1l and 500ml.*

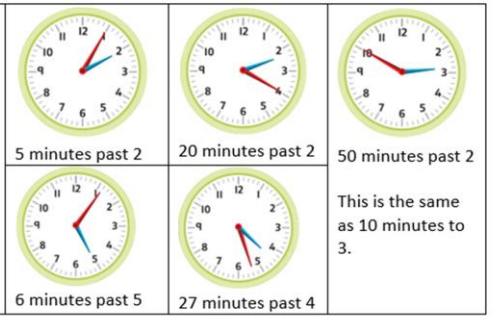
*The **capacity** of the jug is 2l.*

## Telling the time

The big hand tells me information about the minutes.

The small hand tells me information about the hour.

60 seconds = 1 minute
60 minutes = 1 hour
24 hours = 1 day



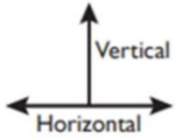

This is the same as 10 minutes to 3.

XII I II III IV V VI VII VIII IX X XI

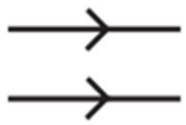
Roman numerals to 12

## Geometry

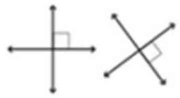
### Horizontal and vertical lines




### Parallel lines



### Perpendicular lines – they make a right angle



**Perimeter** – the total distance around a shape


The perimeter for the rectangle is 20cm

## Right angles