

# Division Knowledge Organiser

Maths

## mathematical symbols

÷

divide, shared into groups of

=

is equal to

## dividing by 10

When you divide by 10, the number becomes 10 times smaller.

$$253 \div 10 = 25.3$$

We move the digit one place to the right.  
2 hundreds  $\div 10 = 2$  tens (20)

H	T	O	t
2	5	3	.
	2	5	3

The 5 tens become 5 ones and we move the 3 ones into the tenths column (after the decimal point).

## dividing by 100 and 1000

$$7500 \div 100 = 75$$

When dividing by 100, digits move two places to the right.

Th	H	T	O
7	5	0	0
		7	5

$$2100 \div 1000 = 2.1$$

When dividing by 1000, digits move three places to the right.

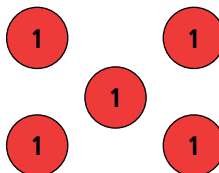
Th	H	T	O	.	t
2	1	0	0	.	
			2	.	1

## dividing by 1

When you divide by 1, the answer remains the same.

$$5 \div 1 = 5$$

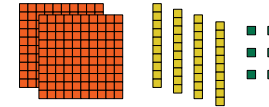
$$5 \text{ divided by } 1 = 5$$



## halving

Halving is the same as dividing by 2.

use apparatus



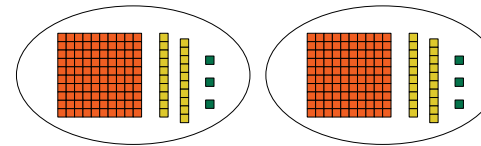
bar model

123	123
246	

halve 246

$$246 \div 2$$

divide into 2 equal groups



partition it

halve 246 = 123

$$\text{halve } 200 = 100$$

$$\text{halve } 40 = 20$$

$$\text{halve } 6 = 3$$

## factors

Factors are the numbers multiplied together to get a given number.

**Factors of 12**

$$3 \times 4 = 12$$

$$2 \times 6 = 12$$

$$1 \times 12 = 12$$

1, 2, 3, 4, 6 and 12 are all factors of 12.

Factors also tell us which numbers that can be divided exactly into a given number.

$$12 \div 4 = 3$$

$$12 \div 3 = 4$$

$$12 \div 6 = 2$$

$$12 \div 2 = 6$$

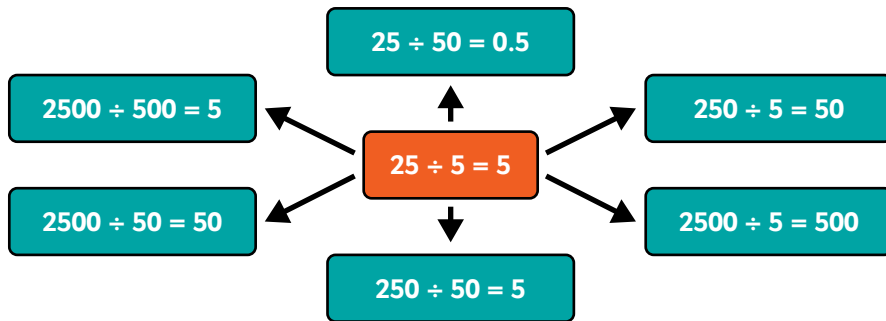
$$12 \div 1 = 12$$

$$12 \div 12 = 1$$

### mental methods

Can I work it out in my head, with apparatus or with jottings?

### related facts



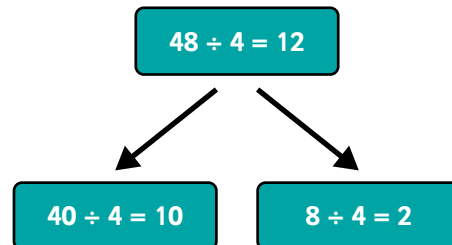
### partition it

$$48 \div 4 = 12$$

$$40 \div 4 = 10$$

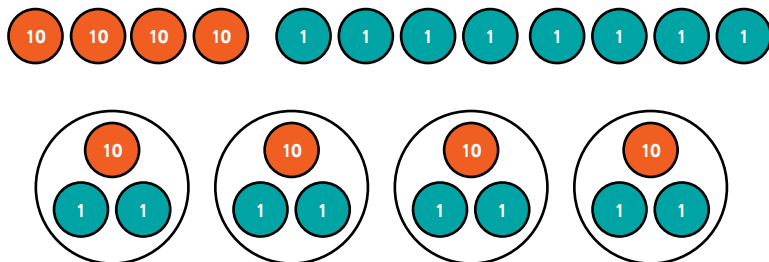
$$8 \div 4 = 2$$

### part-whole model



### use apparatus

$$48 \div 4 = 12$$



### use your times tables knowledge

How many nines are in 81?

$$81 \div 9 = 9$$

- 1 x 9 = 9
- 2 x 9 = 18
- 3 x 9 = 27
- 4 x 9 = 36
- 5 x 9 = 45
- 6 x 9 = 54
- 7 x 9 = 63
- 8 x 9 = 72
- 9 x 9 = 81
- 10 x 9 = 90
- 11 x 9 = 99
- 12 x 9 = 108

How many sixes are in 48?

$$48 \div 6 = 8$$

- 1 x 6 = 6
- 2 x 6 = 12
- 3 x 6 = 18
- 4 x 6 = 24
- 5 x 6 = 30
- 6 x 6 = 36
- 7 x 6 = 42
- 8 x 6 = 48
- 9 x 8 = 54
- 10 x 6 = 60
- 11 x 6 = 66
- 12 x 6 = 72

### written methods

Do I need to use a formal written method?

With this written method we start at the left column.

