

## Key Maths Facts to Revise

Thanks for your support with this revision.

### Place Value Columns:

The number system up to 10 million. In particular, please help children understand that each column to the left is 10x bigger than the column to the right and vice versa.

Millions		Thousands			Ones			Fractions		
Ten Millions	Millions	Hundred Thousands	Ten Thousands	Thousands	Hundreds	Tens	Ones	Tenths	Hundredths	Thousandths

### Fractions:

Children should understand how fractions are written and what the numerator and denominator means. For example:

Whole = 1



Three divisions =  $\frac{?}{3}$

Whole = 1



Four divisions =  $\frac{?}{4}$

Whole = 1

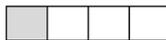


Six divisions =  $\frac{?}{6}$

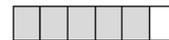
The numerator tells you how many divisions are selected



Three divisions, two selected =  $\frac{2}{3}$



Four divisions, one selected =  $\frac{1}{4}$



Six divisions, five selected =  $\frac{5}{6}$

### Equivalent Fractions:

Children should also appreciate that certain fractions are the same value as others. E.g.  $\frac{1}{2}$  is the same as  $\frac{2}{4}$  or 0.5 or 50%. The following are key facts they should know fluently:

Fraction	Decimal	Percentage
$\frac{1}{2}$	0.5	50%
$\frac{1}{4}$	0.25	25%
$\frac{3}{4}$	0.75	75%
$\frac{1}{3}$	0.333.	33.3%
$\frac{1}{5}$	0.2	20%
$\frac{2}{5}$	0.4	40%
$\frac{1}{10}$	0.1	10%
$\frac{2}{10}$	0.2	20%
$\frac{1}{8}$	0.125	12.5%

### Measurements:

In addition to knowing the different units of measurement, children should be able to convert between them. For example:

2500g = 2.5kg	2500ml = 2.5 litres	250cm = 2.5 metres
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2000g = 2kg 1000g = 1kg 750g = 0.75kg 500g = 0.5kg 250g = 0.25kg 100g = 0.1kg 50g = 0.05kg 10g = 0.01kg 1g = 0.001kg.	2000ml – 2 litres 1000ml = 1 litre 750ml = 0.75 litres 500ml= 0.5 litres 250ml = 0.25 litres 100ml = 0.1 litres 50ml = 0.05 litres 10ml = 0.01 litres 1ml = 0.001 litres	200cm = 2 metres. 100cm = 1 metre 75 cm = 0.75metre 50cm = 0.5 metres 25cm = 0.25metres 10 cm = 0.1m 1cm = 0.01metres.
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Also, they should be able to convert between km and miles (and vice versa) by knowing that (as an approximation), 1 **mile** = 1.6**km**. To turn **miles** into **kilometres** they can divide by 5 and multiply by 8. To turn **kilometres** into **miles** they can divide by 8 and multiply by 5.

#### Time:

Children should also be able to tell the time on both analogue and 12 and 24 hour digital clocks.

They should also know that:

60 seconds = 1 minute.

60 minutes = 1 hour.

24 hours = 1 days.

7 days in a week.

365 days in a year.

There are 30 days in April, June, September and November and 28 in February.

#### Number Vocabulary:

**Factors:** These are numbers that divide another number evenly. E.g. (1, 2, 3, 4, 6 and 12 are all factors of 12 because 12 will all divide by those numbers with no remainders. It is helpful to find factors of a number in pairs starting with 1 and the number itself. E.g. to find factors of 12, we would find them as: (1 and 12), (2 and 6) and (3 and 4).

**Multiples:** These are one or more of a number. E.g. multiples of 3 are: 3, 6, 9, 12, etc.

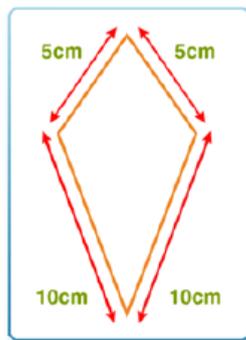
**Primes:** These numbers only divide by 1 and the number itself without leaving a remainder. Accordingly, they only appear in the 1x table and their own times table.

The first 15 primes are: 2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37, 41, 43 and 47. Please note that 2 is the only even prime number.

#### Shape:

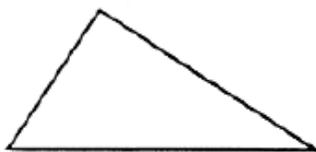
There are also some key facts relating to shapes as follows:

### Perimeter



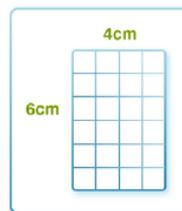
- The perimeter is the **distance** all the way around the **outside** of a 2D shape.
- To work out the perimeter, **add up the lengths of all the sides**.  
The perimeter of this shape is  $5 + 5 + 10 + 10 = 30$  cm

- The angles in a triangle add-up to  $180^\circ$
- The angles on a straight line add-up to  $180^\circ$
- The angles round a point add-up to  $360^\circ$
- The angles in a quadrilateral add-up to  $360^\circ$
- A **scalene triangle** has 3 sides of different length and 3 angles of different size



- An **isosceles triangle** has 2 equal length sides and 2 equal size angles

### Area



- The area of a 2D shape is the **amount of surface it covers**.
- To work out the area of a rectangle, multiply its length (the longer side) by its width (the shorter side):

$$\text{area} = \text{length} \times \text{width}$$

The area of this rectangle is  $6 \times 4 = 24$  cm<sup>2</sup>

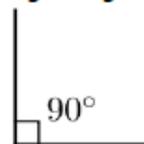
### Volume

The **volume** of a cube or cuboid = **length x breadth x height**

- **Acute angle** =  $1-89^\circ$



- **Right angle** =  $90^\circ$



- **Obtuse angle** =  $91-179^\circ$



- **Straight line** =  $180^\circ$

- **Reflex angle** =  $181-359^\circ$

### Roman Numerals

1	2	3	4	5	6	7	8	9
I	II	III	IV	V	VI	VII	VIII	IX

10	20	30	40	50	60	70	80	90
X	XX	XXX	XL	L	LX	LXX	LXXX	XC

100	200	300	400	500	600	700	800	900
C	CC	CCC	CD	D	DC	DCC	DCCC	CM