



# Maths Vocabulary Book

Maths  
Vocabulary  
Book



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Lancashire County Council

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## Number

Word	Example/Symbol								
add total altogether	+								
take away subtract minus the difference	—								
multiply times lots of groups of	×								
divide share equally  remainder (rem.)	÷  4 $\overline{)25}$ 6 rem. 1								
digit two digit numbers three digit numbers	0 1 2 3 4 5 6 7 8 9 45 17 28 463 274 158								
place value thousands    hundreds tens            units	<table><tr><td>Thousands</td><td>Hundreds</td><td>Tens</td><td>Units</td></tr><tr><td>2</td><td>4</td><td>1</td><td>8</td></tr></table>	Thousands	Hundreds	Tens	Units	2	4	1	8
Thousands	Hundreds	Tens	Units						
2	4	1	8						
The decimal point is a dot .  decimals	tenths            .2            two tenths hundredths      .02           two hundredths thousandths     .002          two thousandths								
even numbers  odd numbers	0 2 4 6 8  1 3 5 7 9								

## Number

Word	Example/Symbol
doubling	Double 5 is 10, double 6 is 12
halving	Half of 10 is 5, half of 12 is 6
negative numbers  -4 is a higher number than -7	<p>number line</p> <p>-10 -9 -8 -7 -6 -5 -4 -3 -2 -1 0 1 2 3 4 5 6 7 8 9 10</p> <p>higher numbers</p> <p>lower numbers</p>
Rounding off to the nearest ten to the nearest hundred to the nearest whole number	<p>1, 2, 3, 4 round down 5, 6, 7, 8, 9 round up</p> <p>581 to the nearest 10 is 580 581 to the nearest 100 is 600 13.8 to the nearest whole number is 14</p>
Fractions – when something is divided into equal parts Numerator – how many parts we are talking about Denominator – how many parts altogether	<p><math>\frac{3}{4}</math></p> <p>numerator</p> <p>denominator</p>
Fractions – to change to a decimal divide the top by the bottom (divide the numerator by the denominator)	<p>Change <math>\frac{1}{4}</math> to a decimal</p> <p><math>1 \div 4 = 0.25</math></p>
Percentage means out of 100	<p><math>\frac{1}{4}</math> is the same as 0.25 or 25%</p> <p><math>\frac{1}{2}</math> is the same as 0.5 or 50%</p> <p><math>\frac{3}{4}</math> is the same as 0.75 or 75%</p>
Factors – these are numbers that divide exactly into another number	<p><math>16 \div 2 = 8</math>    <math>16 \div 4 = 4</math>    <math>16 \div 8 = 2</math></p> <p>1, 2, 4, 8 and 16 are factors of 16</p>
Prime numbers – these are numbers that do not divide by any other number but 1	2, 3, 5, 7, 11, 13, 17, 19, 23, 29, 31, 37 .....

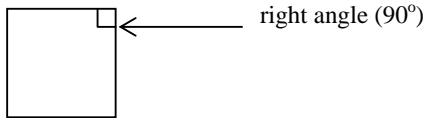

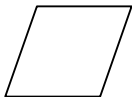
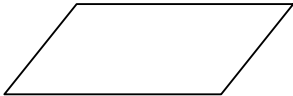
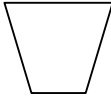
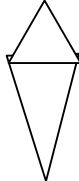
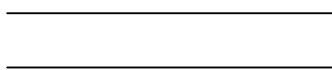
## Number

Word	Example/Symbol
<p><b>Multiples</b> These are in the <i>times tables</i></p>	<p>Multiples of 2 are 2, 4, 6, 8 .....</p> <p>Multiples of 5 are 5, 10, 15, 20 ....</p> <p>Multiples of 8 are 8, 16, 24, 32 .....</p>
<p>Number sequences – lists of numbers that follow a pattern</p> <p>The Rule</p>	<p>3      8      13      23              +5    +5    +5            The rule is add 5</p> <p>2      4      7      11      16              +2      +3    +4      +5            The rule is add 1 extra each time</p>
Function machine – this follows a rule	<pre> graph LR     A[Number in] --&gt; B[÷ 2]     B --&gt; C[Number out]     D[16] --&gt; E[8]           </pre>
Inverse means the Opposite	<p>The inverse of + is –</p> <p>– is +</p> <p>x is ÷</p> <p>÷ is x</p>
<p>Square number - when a number is multiplied by itself</p> <p>1, 4, 9, 16, 25... are square numbers</p>	<p>1 (1 x 1)    1<sup>2</sup> (one squared)</p> <p>4 (2 x 2)    2<sup>2</sup> (two squared)</p> <p>9 (3 x 3)    3<sup>2</sup> (three squared)</p> <p>16 (4 x 4)   4<sup>2</sup> (four squared)</p> <p>25 (5 x 5)   5<sup>2</sup> (five squared)</p>
Square root is the inverse of square	<p>The square root of 49 is 7 (7 x 7 = 49)</p>
<p>Cube number – when a number is multiplied by itself three times</p> <p>1, 8 and 27 are cube numbers</p>	<p>1 x 1 x 1 = 1      1<sup>3</sup> (one cubed)</p> <p>2 x 2 x 2 = 8      2<sup>3</sup> (two cubed)</p> <p>3 x 3 x 3 = 27     3<sup>3</sup> (three cubed)</p>
<p>&gt; greater than</p> <p>&lt; less than</p> <p>≥ greater than or equal to</p> <p>≤ less than or equal to</p>	<p>23 &gt; 16</p> <p>16 &lt; 23</p>

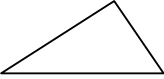
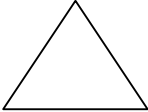
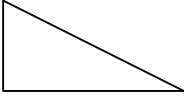
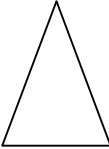
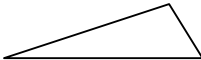
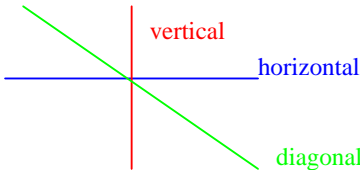
## Number

Word	Example/Symbol
Brackets – these show which part of the calculation to work out first ( )	$(3+4) \times 5 = 35$ $3 + (4 \times 5) = 23$ <p>Work out the part in brackets first</p>
If there are no brackets then dividing and multiplying comes before adding and subtracting	<p><b>BODMAS</b></p> <p>Brackets Over Divide Multiply Add Subtract</p>

## Shapes

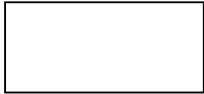
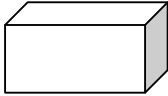

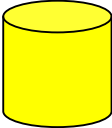
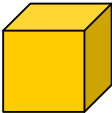


Word	Example/Symbol
Quadrilateral – has four sides They have special names.	
Square – 4 sides of equal length 4 right angles	
Rectangle – opposite sides of equal length 4 right angles	
Rhombus – 4 sides of equal length Opposite sides are parallel No right angles	
Parallelogram – opposite sides are the same length and parallel	
Trapezium – these have one pair of parallel sides	
Kite – two pairs of sides next to each other have equal lengths but no parallel sides	
Parallel lines – two straight lines that are always the same distance apart	

## Shapes

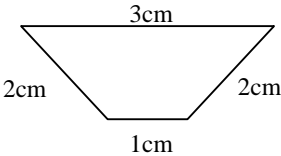
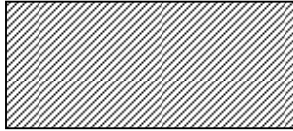
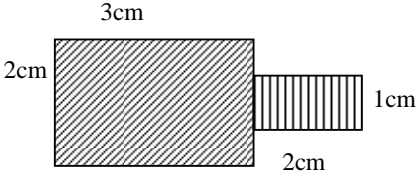

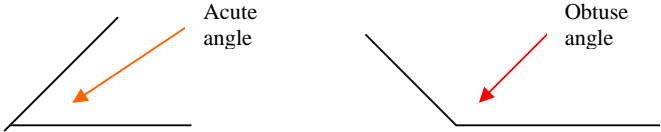



Word	Example/Symbol
Triangle – has three sides There are four types of triangles	
Equilateral triangle 3 equal sides 3 equal angles	
Right-angled triangle One angle is a right angle (90°)	
Isosceles triangle Two sides are equal Two angles are equal	
Scalene triangle All 3 sides have different length All 3 angles are different	
Other Polygons Pentagon - 5 sides Hexagon - 6 sides Heptagon - 7 sides Octagon - 8 sides	
Horizontal line – across, on a level  Vertical line - upright  Diagonal line	



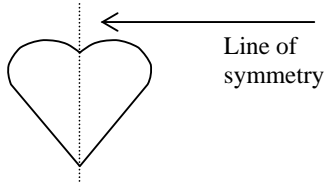
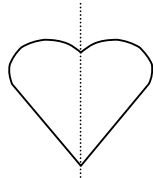
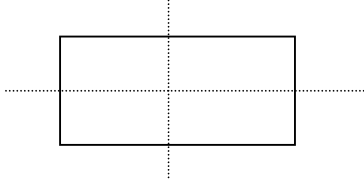
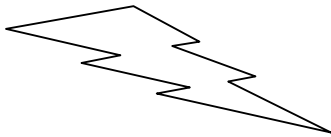
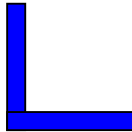


## Shapes

Word	Example/Symbol
<b>2D shapes</b> two dimensions – length and width	length  width
<b>3D shapes</b> three dimensions – length, width and depth	length width  depth
Some 3D shapes Sphere	
Cylinder	
Cube	
Cuboid	
Cone	

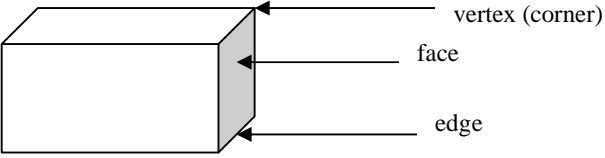
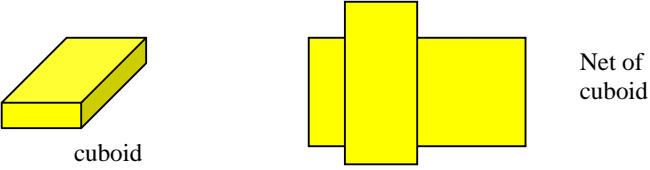
## Shapes

Word	Example/Symbol
<p>Perimeter – the distance all around a flat shape</p> <p>Add up the lengths of all the sides</p>	 $3+2+1+2 = 8\text{cm}$
<p>Area – the surface a shape covers</p> <p>Area of a rectangle</p>	 $\text{Area} = 4 \times 2 = 8\text{cm}^2$
<p>Find area of the two shapes and add them up</p>	 <div style="border: 1px solid black; padding: 5px; display: inline-block;"> <math>3 \times 2 = 6\text{cm}^2</math>  <math>2 \times 1 = 2\text{cm}^2</math>  <math>\text{Area} = 6 + 2 = 8\text{cm}^2</math> </div>
<p>Angle – a measure of a turn</p> <p>Right angle is <math>90^\circ</math> (90 degrees)</p>	
<p>Acute angle is less than <math>90^\circ</math></p> <p>Obtuse angle is more than <math>90^\circ</math> but less than <math>180^\circ</math></p>	
<p>Protractor – measures angles</p>	
<p>Volume of a solid shape is the amount of space it takes up.</p> <p>Measured in cubic centimetre – <math>\text{cm}^3</math> cubic metre – <math>\text{m}^3</math></p>	
<p>Circle</p> <p>Radius – halfway across</p> <p>Diameter – right across</p> <p>Circumference – distance around the outside</p>	 <p style="text-align: right;">circumference</p>

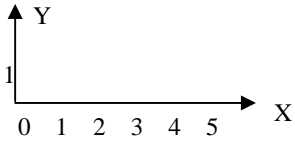
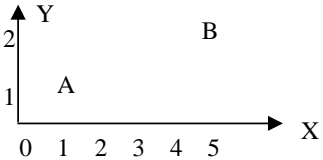
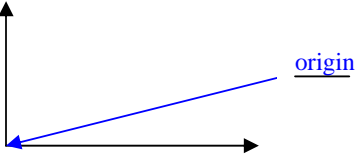
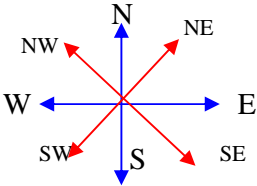
## Shapes

Word	Example/Symbol
<p>Symmetry</p> <p>A shape has reflection symmetry when one half of a shape is a reflection of the other half</p>	
One line of symmetry	
Two lines of symmetry	
No lines of symmetry	
Rotational symmetry is rotating the shape into different positions that look exactly the same	
Order 1	
Order 2	
Order 3	




## Shapes

Word	Example/Symbol
Face Edge Vertex (vertices)	
Shape net – this folds up to make a 3D shape	

## Measurement


Word	Example/Symbol
<p>Co-ordinates – points on a grid</p> <p>A point has two numbers to show its position</p>	
<p>The co-ordinates of</p> <p>A (1, 1)</p> <p>B (5, 2)</p>	
<p>The co-ordinates must be in the right order</p> <p>They are in brackets (X, Y)</p>	
<p>The point(0, 0) is called the origin</p>	
<p>Map References tell you where something is on a map.</p> <p>They are like co-ordinates but may have letters instead of numbers.</p>	
<p>Compass Points – there are 8 main points.</p> <p>North – N      South – S</p> <p>East – E      West – W</p>	
<p>North West – NW</p> <p>North East – NE</p> <p>South West – SW</p> <p>South East – SE</p>	

## Measurement

Word	Example/Symbol
<p>Length – how long something is</p> <p>The pencil is 3cm long</p>	<p>3cm</p> 
<p>millimetre - mm</p> <p>centimetre – cm</p> <p>metre – m</p> <p>kilometre - km</p>	<p>10mm = 1cm</p> <p>100cm = 1m</p> <p>1000m = 1km</p>
<p>Mass – tells you how heavy something is</p> <p>gram - g</p> <p>kilogram - kg</p>	<p>1000g = 1kg</p> 
<p>Volume is the space that liquid takes up – capacity</p> <p>millilitres – ml</p> <p>litre - L</p>	<p>1000ml = 1L</p> 

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## Data Handling

Word	Example/Symbol
Average – there are all types of averages	mean median mode
Mean is the total divided by how many	$1+4+2+5 = 12$ total there are 4 numbers $12 \div 4 = 3$ The mean is 3
Median is the middle value Write all the numbers in order of size. The number in the <u>middle</u> is the <u>median</u> .	0.9 1.6 <b>1.8</b> 2.3 2.7 The <b>median</b> value is 1.8
<u>Mode</u> is the <u>most</u> common value Write all the numbers down in order of size. Find the number that is the most common. This is the mode.	1 3 3 3 5 5 6 9 3 is the <b>most</b> common – This is the <b>mode</b>
Range is the difference between the biggest and smallest number	2 4 4 5 7 $7 - 2 = 5$ <b>The range is 5</b>
Probability is how likely something is to happen	<b>High</b> probability – is <b>likely</b> to happen <b>Low</b> probability – is <b>unlikely (not likely)</b> to happen <b>Zero</b> probability will <b>never</b> happen
Equal probabilities are when things have the same chance of happening When you toss a coin it is equally likely to be heads or tails	 Even chance of heads or tails 1 in 2 chance of getting heads or tails
With a dice there are 6 possible numbers you can get. They are all equally likely.	The chance of getting a <b>1</b> is <b>1</b> in <b>6</b>



## Data Handling

Word	Example/Symbol												
A 1 in 2 is the same as probability  $\frac{1}{2}$ , 0.5 or 50%	Write the probability as a fraction and then change it to a decimal or percentage.  1 in 4 becomes $\frac{1}{4}$ or 0.25 or 25%												
Probability lines show what the numbers mean	<table><tr><td>0</td><td>0.5</td><td>1.0</td></tr><tr><td>0%</td><td>50%</td><td>100%</td></tr><tr><td colspan="3"><hr/></td></tr><tr><td>0</td><td><math>\frac{1}{2}</math></td><td>1</td></tr></table>	0	0.5	1.0	0%	50%	100%	<hr/>			0	$\frac{1}{2}$	1
0	0.5	1.0											
0%	50%	100%											
<hr/>													
0	$\frac{1}{2}$	1											

# Have Fun In Maths



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