



Maths  
Key Concepts & Vocabulary

Below is an overview of the key concepts and vocabulary taught in maths throughout the school. These are revisited and built upon throughout children's time at Mayespark.

	Key Vocabulary	Explanation
<b>Key Stage One</b>	<b>Place Value</b>	
	Consecutive	Following an order. Consecutive numbers are adjacent in count. For example 6, 7, 8
	Digit	One of the symbols of a number system most commonly the symbols 0, 1, 2, 3, 4, 5, 6, 7, 8 and 9. Examples: the number 29 is a 2-digit number; there are three digits in 2.95. The position or place of a digit in a number conveys its value
	Partition	To split a number into component parts. Example: the two-digit number 38 can be partitioned into $30 + 8$ or $19 + 19$
	Place Value	The value of a digit that relates to its position or place in a number. Example: in 1482 the digits represent 1 thousand, 4 hundreds, 8 tens and 2 ones respectively; in 12.34 the digits represent 1 ten, 2 ones, 3 tenths and 4 hundredths respectively
	Quantity	Something that has a numerical value, for example: 5 bananas
	<b>Addition and subtraction</b>	
	Addend	A number to be added to another number.
	Associative law	Addition of more than two numbers can be done in any order $A+B+C = C+B+A$
	Commutative law	Addition of two numbers can be done in any order. $A+B = B+A$
	Equal	The symbol for equals is =. The equals symbol can be read as 'is equal to' or 'equals'. and meaning 'having the same value as'. Example: $7 - 2 = 4 + 1$ since both expressions, $7 - 2$ and $4 + 1$ have the same value, 5
	Minus	A name for the symbol -, representing the operation of subtraction
	Number bond	A pair of numbers with a particular total e.g. number bonds for ten are all pairs of whole numbers with the total 10
	Plus	A name for the symbol +, representing the operation of addition
	Product	The result of multiplying one number by another. Example: The product of 2 and 3 is 6 since $2 \times 3 = 6$
	Repeated addition	The process of repeatedly adding the same number or amount. One model for multiplication. Example $5 + 5 + 5 + 5 = 5 \times 4$
	Repeated subtraction	The process of repeatedly subtracting the same number or amount. One model for division. Example $35 - 5 - 5 - 5 - 5 - 5 - 5 = 0$ so $35 \div 5 = 7$ remainder 0
	Subtract	Carry out the process of subtraction. Finding the difference. Taking away.
	Subtrahend	A number to be subtracted from another number
	Sum	The result of one or more additions Example: 6 is the sum of $2+4$



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Multiplication and division																																									
Array	An ordered collection of counters or numbers in rows and columns																																								
Division	Division can be sharing – the number to be divided is shared equally into the stated number of parts; or grouping – the number of groups of a given size is found. Division is the inverse operation to multiplication																																								
Double	1. To multiply by 2. Example: Double 13 is $(13 \times 2) = 26$ . 2. The number or quantity that is twice another. Example: 26 is double 13																																								
Multiplicand	A number to be multiplied by another. e.g. in $5 \times 3$ , 5 is the multiplicand as it is the number to be multiplied by 3																																								
Fractions																																									
Equivalent fractions	Fractions with the same value as another. For example: $\frac{4}{8}$ , $\frac{5}{10}$ , $\frac{8}{16}$ are all equivalent fractions and all are equal to $\frac{1}{2}$																																								
All vocabulary taught in KS1 will be revisited in KS2.																																									
Place Value																																									
Integer	Any of the positive or negative whole numbers and zero. Example: ... - 2, -1, 0, +1, +2 ...																																								
Negative number	1. A number less than zero. Example: - 2. Where a point on a line is labelled 0 negative numbers are all those to the left of the zero on a horizontal numberline 2. Commonly read aloud as 'minus or negative one, minus or negative two' etc																																								
Place holder	In a decimal number, the zero numeral is used as a place holder Example: 3.02. The zero represents zero tenths																																								
Prime number	A whole number greater than 1 that has exactly two factors, itself and 1 Examples: The number 17 has only 2 factors (1 and itself).																																								
Addition and subtraction																																									
Column addition or subtraction	<p>A formal method of setting out an addition or a subtraction in ordered columns with each column representing a decimal place value and ordered from right to left in increasing powers of 10. With addition, more than two numbers can be added together using column addition, but this extension does not work for subtraction.</p> <div style="display: flex; justify-content: space-around; align-items: flex-start;"> <div style="text-align: center;"> <p>789 + 642 becomes</p> <table style="margin: auto;"> <tr><td>7</td><td>8</td><td>9</td></tr> <tr><td>+</td><td>6</td><td>4</td><td>2</td></tr> <tr><td colspan="4"><hr/></td></tr> <tr><td>1</td><td>4</td><td>3</td><td>1</td></tr> <tr><td colspan="4"><hr/></td></tr> <tr><td>1</td><td>4</td><td>3</td><td>1</td></tr> </table> <p>Answer: 1431</p> </div> <div style="text-align: center;"> <p>932 - 457 becomes</p> <table style="margin: auto;"> <tr><td>8</td><td>12</td><td>1</td></tr> <tr><td>9</td><td>3</td><td>2</td></tr> <tr><td>-</td><td>4</td><td>5</td><td>7</td></tr> <tr><td colspan="4"><hr/></td></tr> <tr><td>4</td><td>7</td><td>5</td></tr> </table> <p>Answer: 475</p> </div> </div> <p>(Examples taken from Appendix 1 of the Primary National Curriculum for Mathematics)</p>	7	8	9	+	6	4	2	<hr/>				1	4	3	1	<hr/>				1	4	3	1	8	12	1	9	3	2	-	4	5	7	<hr/>				4	7	5
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Compensation	A mental or written calculation strategy where one number is rounded to make the calculation easier. The calculation is then adjusted by an appropriate compensatory addition or subtraction.																																								



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<b>Key Stage Two Continued</b>		Example: $56 + 38$ is treated as $56 + 40$ and then 2 is subtracted to compensate
	Complement (in addition)	In addition, a number and its complement have a given total. Example: When considering complements in 100, 67 has the complement 33, since $67 + 33 = 100$
	Efficient methods	A means of calculation (which can be mental or written) that achieves a correct answer with as few steps as possible. In written calculations this often involves setting out calculations in a columnar layout
	Exchange	Change a number or expression for another of equal value. Example: Ten ones can be exchanged for one ten
	Common factor	A number which is a factor of two or more other numbers, for example 3 is a common factor of the numbers 9 and 30
	Common multiple	An integer which is a multiple of a given set of integers, e.g. 24 is a common multiple of 2, 3, 4, 6, 8 and 12
	<b>Multiplication and Division</b>	
	Dividend	In division, the number that is divided. E.g. in $15 \div 3$ , 15 is the dividend
	Divisor	The number by which another is divided. Example: In the calculation $30 \div 6 = 5$ , the divisor is 6. In this example, 30 is the dividend and 5 is the quotient
	Quotient	The result of a division. Example: $15 \div 3 = 5$ . 5 is the quotient
	Remainder	In the context of division requiring a whole number answer (quotient), the amount remaining after the operation. Example: 29 divided by 7 = 4 remainder 1
	Square number	A number multiplied by itself Example: $36 = 6 \times 6$ and so 36 is a square number or "6 squared"
	Square root	A number whose square is equal to a given number. Example: one square root of 25 is 5 since $5 \times 5$ or $5^2 = 25$ . The square root of 25 is recorded as $\sqrt{25} = 5$
	<b>Fractions, Decimals and Percentages</b>	
	Decimal	Decimals are represented as digits following a decimal point, indicating the number of tenths, hundredths, thousandths, etc The decimal point is placed at the right of the ones column. Each column after the decimal point is a decimal place
	Denominator	In the notation of common fractions, the number written below the line i.e. the divisor. Example: In the fraction $\frac{2}{3}$ the denominator is 3
Improper fraction	An improper fraction has a numerator that is greater than its denominator. Example: $\frac{9}{4}$ is improper and could be expressed as the mixed number $2\frac{1}{4}$	



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	Mixed fraction	A whole number and a fractional part expressed as a common fraction. Example: $1\frac{1}{3}$ is a mixed fraction. Also known as a mixed number
	Numerator	In a fraction, the numerator is the number written on the top. In the fraction $\frac{2}{3}$ , the numerator is 2
	Percentage	A fraction expressed as the number of parts per hundred and recorded using the %. Example: One half can be expressed as 50%; the whole can be expressed as 100%
	Proper fraction	A proper fraction has a numerator that is less than its denominator So $\frac{3}{4}$ is a proper fraction, whereas $\frac{4}{3}$ is an improper fraction (i.e. not proper)