



## Things I need to do to be a good mathematician in Year 1:

<i>I count to and across 20, forward and backward, beginning with 0 or 1, or from any given number.</i>		<i>I count to and across 50, forward and backward,</i>		<i>I count to and across 100, forward and backward,</i>		<i>I can tell the time to the hour and half past the hour</i>	
<i>I count in multiples of 2s and 10s.</i>		<i>Given a number, I can identify 1 more or 1 less</i>		<i>I read and write numbers from 1 – 20 in numerals and words</i>		<i>I identify and describe common 2D shapes, including: rectangles (including squares) circles, triangles</i>	
<i>I represent and use number bonds and related subtraction facts within 10.</i>		<i>I can count in multiples of 5s.</i>		<i>I can count to and across 100 forward and backward</i>		<i>I sequence events in chronological order using language (e.g. before, after, next, first, today, yesterday, tomorrow, morning, afternoon, evening).</i>	
<i>I recognise, find and name a half as one of two equal parts of an object, shape or quantity.</i>		<i>I add and subtract 1-digit and 2-digit numbers to 20, including zero.</i>		<i>I add and subtract 1-digit and 2-digit numbers to 20, including zero.</i>			
		<i>I solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of my teacher.</i>		<i>I represent and use number bonds and related subtraction facts within 20.</i>			



## Things I need to do to be a good mathematician in Year 2:

I count in steps of 2, 3, 5 and 10 from 0, and in tens from any number, forward and backward.		I compare and order numbers from 0 up to 100; use < > and = signs.		I recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems.		I identify and describe the properties of 2D shapes, including the number of sides and line symmetry in a vertical line.	
I read and write numbers to at least 100 in numerals and in words.		I can partition two-digit numbers into different combinations of 10s and 1s.				I identify and describe the properties of 3D shapes, including the number of edges, vertices and faces.	
I recognise the place value of each digit in a 2-digit number.		I recall multiplication and division facts for the 2, 5 and 10 tables and use to solve problems.				I can read scales in divisions of 1s, 2s, 5s and 10s in practical situations where all numbers on the scale are given.	
I recall and use addition and subtraction facts to 20 fluently and derive and use related facts up to 100.		I calculate the mathematical statements for multiplication and division within the multiplication tables and write them using the $\times \div =$ signs.				I find different combinations of coins that equal the same amounts of money.	
I add and subtract numbers mentally, including: 2-digit numbers and ones; 2-digit numbers and tens; two 2-digit numbers; adding three 1-digit numbers.		I write simple fractions and recognise the equivalence.				I tell and write the time to quarter past/to the hour and draw the hands on a clock face to show these times.	
I recall multiplication and division facts for the 2, 5 and 10 tables, including recognising odd and even numbers.		I recognise, find, name and write fractions $\frac{1}{3}$ , $\frac{1}{4}$ , $\frac{2}{4}$ , $\frac{1}{2}$ , $\frac{3}{4}$ of a length, shape, set of objects, or quantity.				I solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change.	
						I identify and describe the properties of 2D shapes, including the number of sides and line symmetry in a vertical line.	



## Things I need to do to be a good mathematician in Year 3:

<i>I count from 0 in multiples of 4, 8, 50 and 100.</i>		<i>I compare and order numbers up to 1000.</i>		<i>I estimate the answer to a calculation and use the inverse operations to check my answers.</i>		<i>I estimate and read time with increasing accuracy to the nearest minute; tell and write the time from an analogue clock, including using Roman numerals from I to XII</i>	
<i>I can find 10 or 100 more, or less, than a given number.</i>		<i>I recognise the place value of each digit in a 3-digit number.</i>		<i>I count up and down in tenths; recognise that tenths arise from dividing an object into ten equal parts and in dividing numbers or quantities by 10.</i>		<i>I measure the perimeter of simple 2D shapes.</i>	
<i>I read and write numbers to 1,000 in numerals and words</i>		<i>I solve word problems including missing number problems, number facts, place value and more complex addition and subtraction.</i>		<i>I practise formal methods of multiplication and division, including a high focus on reasoning</i>		<i>I identify right angles, recognise that two right angles make a half-turn, three make three quarters and four a complete turn</i>	
<i>I add and subtract numbers mentally, including: 3-digit number and ones; 3-digit numbers and tens; 3-digit numbers and hundreds.</i>		<i>I add and subtract numbers with up to 3 digits, using formal written methods of columnar addition and subtraction.</i>				<i>I read 12-hour and 24-hour clocks.</i>	
<i>I recall and use the multiplication and division facts for the 3, 4 and 8 tables.</i>		<i>I write and calculate mathematical statements for multiplication and division using known multiplication tables, including use of money and length.</i>				<i>I know the numbers of seconds in a minute and the number of days in each month, year and leap year.</i>	
		<i>I recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators.</i>				<i>I solve 1-step and 2-step questions such as 'How many more?' and 'How many fewer?' using information presented in scaled bar charts pictograms and other graphs.</i>	



## Things I need to do to be a good mathematician in Year 4:

<i>I count backwards through zero to include negative numbers</i>		<i>I read Roman numerals to 100</i>		<i>I compare and order numbers beyond 1000.</i>		<i>I read, write and convert time between analogue and digital 12- and 24-hour clocks.</i>	
<i>I count in multiples of 6, 7, 9, 25 and 1000.</i>		<i>I find 1000 more or less than a given number.</i>		<i>I round any number to the nearest 10, 100 or 1000.</i>		<i>I describe positions on a 2D grid as coordinates in the first quadrant.</i>	
<i>Recognise the place value of any 4 digit number.</i>		<i>I divide 2-digit and 3-digit numbers by a 1-digit number using formal written layout with no remainder.</i>		<i>I find the effect of dividing a 1-digit or 2-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths.</i>		<i>I solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.</i>	
<i>I add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction, where appropriate.</i>		<i>I find the effect of multiplying a number with up to 2 decimal places by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths.</i>		<i>I count up and down in hundredths; recognise that hundredths arise from dividing an object into one 100 equal parts and in dividing numbers or quantities by 100.</i>		<i>I read, write and convert time between analogue and digital 12- and 24-hour clocks.</i>	
<i>I recall multiplication and division facts for tables up to 12x12.</i>		<i>I recognise and show, using diagrams, families of common equivalent fractions.</i>		<i>I round decimals with one decimal place to the nearest whole number.</i>		<i>I describe positions on a 2D grid as coordinates in the first quadrant.</i>	
<i>I multiply 2-digit and 3-digit numbers by a 1-digit number using formal written layout.</i>		<i>I add and subtract fractions with the same denominator.</i>		<i>I compare numbers with the same number of decimal places up to two decimal places.</i>		<i>I solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.</i>	



## Things I need to do to be a good mathematician in Year 5:

I count forward or backwards in steps of powers of 10 for any given number up to 1,000,000.		I interpret negative numbers in context, count forward and backwards with positive and negative numbers including through zero.		I read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit.		I solve problems using timetables and converting between units of time.	
I count up and down in thousandths; recognise that thousandths arise from dividing an object into 1000 equal parts and in dividing numbers or quantities by 1000.		I read Roman numerals to 1000 and recognise years written in Roman numerals.		I round any number up to 1,000,000 to the nearest 10, 100, 1000, 10000 or 100000.			
I add and subtract numbers mentally with increasingly large numbers.		I use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.		I recognise and use square numbers and cube numbers, and the notation for square <sup>2</sup> and cubed <sup>3</sup> .			
I add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction).		I divide numbers up to 4-digits by a 1-digit number using the formal written method of short division and interpret remainders appropriately for the context.		I round decimals with two decimal places to the nearest whole number and to one decimal place.			
I identify multiples and factors including finding all factor pairs of a number and common factors of two numbers.		I multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.		I read, write, order and compare numbers with up to three decimal places.			
I multiply and divide numbers mentally drawing upon known facts.		I multiply numbers up to 4-digits by a 1-digit or 2-digit number using a formal written method, including long multiplication for 2-digit numbers.					
I know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers and establish whether a number up to 100 is prime and recall prime numbers up to 19.		I recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements.					
I multiply numbers up to 4-digits by a 1-digit or 2-digit number using a formal written method, including long multiplication for 2-digit numbers.		I multiply proper fractions and mixed numbers by whole numbers.					
I identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths.							



## **Things I need to do to be a good mathematician in Year 6:**

<i>I read, write, order and compare numbers up to 10,000,000 and determine the value of each digit.</i>		<i>I use negative numbers in context and calculate intervals across zero.</i>		<i>I multiply simple pairs of proper fractions, writing the answer in the simplest form.</i>	
<i>I use knowledge of the order of operations to carry our calculations involving the four operations</i>		<i>I multiply multi-digit numbers up to 4-digits by a 2-digit whole number using the formal written method of long multiplication.</i>		<i>I divide proper fractions by whole numbers.</i>	
<i>I identify common factors, common multiples and prime numbers.</i>		<i>I divide numbers up to 4-digits by a 2-digit number using the formal written method of short division, where appropriate, interpreting remainders according to the context.</i>		<i>I calculate % of whole numbers.</i>	
		<i>I add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions.</i>			