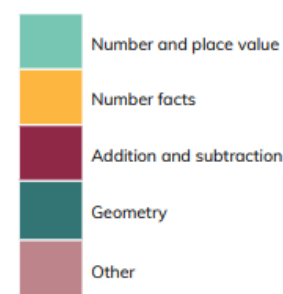


The STM Maths Curriculum

National Curriculum aims & purpose:	School aims - skills, attitudes and knowledge that we would like all children to develop on their journey through the school	
<p>The national curriculum for mathematics aims to ensure that all pupils:</p> <ul style="list-style-type: none"> become fluent in the fundamentals of mathematics, including through varied and frequent practice with increasingly complex problems over time, so that pupils develop conceptual understanding and the ability to recall and apply knowledge rapidly and accurately reason mathematically by following a line of enquiry, conjecturing relationships and generalisations, and developing an argument, justification or proof using mathematical language can solve problems by applying their mathematics to a variety of routine and non-routine problems with increasing sophistication, including breaking down problems into a series of simpler steps and persevering in seeking solutions <p>Mathematics is an interconnected subject in which pupils need to be able to move fluently between representations of mathematical ideas. The programmes of study are, by necessity, organised into apparently distinct domains, but pupils should make rich connections across mathematical ideas to develop fluency, mathematical reasoning and competence in solving increasingly sophisticated problems. They should also apply their mathematical knowledge to science and other subjects.</p> <p>The expectation is that the majority of pupils will move through the programmes of study at broadly the same pace. However, decisions about when to progress should always be based on the security of pupils' understanding and their readiness to progress to the next stage. Pupils who grasp concepts rapidly should be challenged through being offered rich and sophisticated problems before any acceleration through new content. Those who are not sufficiently fluent with earlier material should consolidate their understanding, including through additional practice, before moving on.</p>	<p>"Mastering maths means pupils acquiring a deep, long-term, secure and adaptable understanding of the subject. The phrase 'teaching for mastery' describes the elements of classroom practice and school organisation that combine to give pupils the best chances of mastering maths. Achieving mastery means acquiring a solid enough understanding of the maths that's been taught to enable pupils to move on to more advanced material." (NCETM)</p> <p>A belief that all pupils can achieve For too long there has been a misconception that some people aren't born mathematicians and often a frustrating conversation with parents that 'Jonny can't do maths, because I could never do maths!'. Mastery ensures that with high quality teaching and time, everyone can achieve.</p> <p>An understanding of what children need to learn and what steps will help them achieve Lesson design plays a significant role in 'teaching for mastery', as teachers we need to understand not only what our pupils need to be able to do but break the learning down into small steps to help them understand the concepts.</p> <p>Ongoing teaching and assessment Mastery Maths needs ongoing assessment to be central. Teacher's need to understand misconceptions and address them accordingly. Teaching needs to be fluid and meet the needs of the pupils within class, with assessment for learning being at the core of lessons and sequences of work.</p> <p>Opportunities for children to apply skills and deepen understanding Tasks should ensure that children are able to apply skills in a variety of ways and as such should be carefully chosen. Staff should use quality resources or design tasks that ensure that children are able to see concepts in several ways and can apply skills independently.</p> <p>Success for all pupils For children to believe in themselves, they need to experience success. Teaching sequences should enable children to succeed and feel confident in their mathematical ability.</p>	
<p>Links to learning in EYFS:</p> <p>Cardinality and Counting - Understanding that the cardinal value of a number refers to the quantity, or 'howmanyness' of things it represents</p> <p>Comparison - Understanding that comparing numbers involves knowing which numbers are worth more or less than each other</p> <p>Composition - Understanding that one number can be made up from (composed from) two or more smaller numbers</p> <p>Pattern - Looking for and finding patterns helps children notice and understand mathematical relationships</p> <p>Shape and Space - Understanding what happens when shapes move, or combine with other shapes, helps develop wider mathematical thinking</p> <p>Measures - Comparing different aspects such as length, weight and volume, as a preliminary to using units to compare later</p>	<p>STM Connections Curriculum</p> <p>As a school we know that Maths permeates through everything that we do and it is a skill that we use throughout the curriculum daily, opportunities to apply maths through the curriculum but not limited to:</p> <ul style="list-style-type: none"> Art – Shape and pattern DT - Enterprise opportunities, measure, shape Science – Data Handling, Measure, pattern Geography – Coordinates, distance History – Timelines, PE – Data Handling, Measure, time Computing – Problem solving, algebra 	<p>STM Plus Curriculum</p> <ul style="list-style-type: none"> Competitions to showcase number fluency and maths problem solving including national, local and school competitions. School visits and visitors that use maths in their daily work. Enterprise events. Opportunities to apply maths in real life activities STEM Projects Maths Day linking Maths throughout the curriculum and into careers Careers Fair

Maths Long Term Plan

	Unit	Unit name
Autumn 1	1	Previous Reception experiences and counting within 100
	2	Comparison of quantities and part-whole relationships
Autumn 2	3	Numbers 0 to 5
	4	Recognise, compose, decompose and manipulate 2D and 3D shapes
Spring 1	5	Numbers 0 to 10
	6	Additive structures
Spring 2	7	Addition and subtraction facts within 10
	8	Numbers 0 to 20
Summer 1	9	Unitising and coin recognition
	10	Position and direction
	11	Time









Year 1

Curriculum map



June 2021

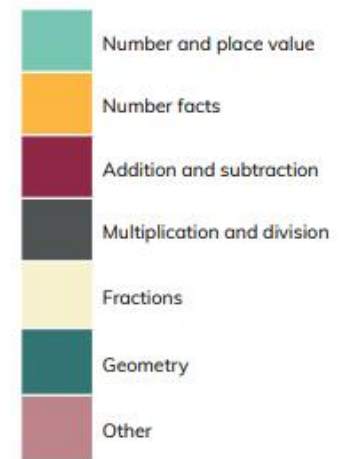
	Unit	Unit name
Autumn 1	1	Numbers 10 to 100
	2	Calculations within 20
Autumn 2	3	Fluently add and subtract within 10
	4	Addition and subtraction of two-digit numbers (1)
	5	Introduction to multiplication
Spring 1	6	Introduction to division structures
	7	Shape
Spring 2	8	Addition and subtraction of two-digit numbers (2)
	9	Money
Summer 1	10	Fractions
	11	Time
	12	Position and direction
	13	Multiplication and division – doubling, halving, quotitive and partitive division
Summer 2	14	Sense of measure – capacity, volume, mass

	Number and place value
	Number facts
	Addition and subtraction
	Multiplication and division
	Geometry
	Other

Year 2

Curriculum map

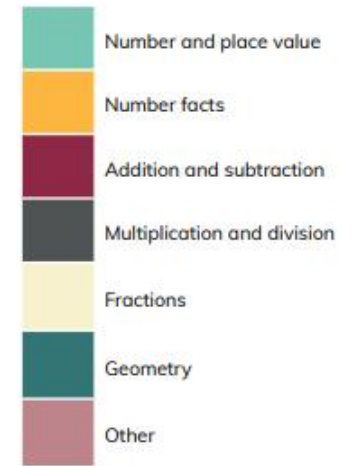
	Unit	Unit name
Autumn 1	1	Adding and subtracting across 10
	2	Numbers to 1,000
Autumn 2		
Spring 1	3	Right angles
	4	Manipulating the additive relationship and securing mental calculation
Spring 2	5	Column addition
	6	2, 4, 8 times tables
	7	Column subtraction
Summer 1	8	Unit fractions
Summer 2	9	Non-unit fractions
	10	Parallel and perpendicular sides in polygons
	11	Time



Year 3

Curriculum map

	Unit	Unit name
Autumn 1	1	Review of column addition and subtraction
	2	Numbers to 10,000
Autumn 2	3	Perimeter
	4	3, 6, 9 times tables
Spring 1	5	7 times table and patterns
	6	Understanding and manipulating multiplicative relationships
Spring 2	7	Coordinates
	8	Review of fractions
Summer 1	9	Fractions greater than 1
	10	Symmetry in 2D shapes
Summer 2	11	Time
	12	Division with remainders



Year 4

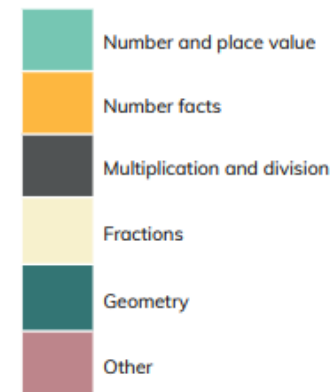
Curriculum map



NCETM
 NATIONAL CENTRE FOR EXCELLENCE
 IN THE TEACHING OF MATHEMATICS

June 2021







	Unit	Unit name
Autumn 1	1	Decimal fractions
	2	Money
	3	Negative numbers
Autumn 2	4	Short multiplication and short division
	5	Area and scaling
Spring 1	6	Calculating with decimal fractions
	7	Factors, multiples and primes
Spring 2	8	Fractions
Summer 1	9	Converting units
Summer 2	10	Angles and transformations



Year 5

Curriculum map

	Unit	Unit name
Autumn 1	1	Calculating using knowledge of structures (1)
	2	Multiples of 1,000
Autumn 2	3	Numbers up to 10,000,000
	4	Draw, compose and decompose shapes
Spring 1	5	Multiplication and division
	6	Area, perimeter, position and direction
Spring 2	7	Fractions and percentages
	8	Statistics
Summer 1	KS2 tests	
Summer 2	9	Ratio and proportion
	10	Calculating using knowledge of structures (2)
	11	Solving problems with two unknowns
	12	Order of operations
	13	Mean average

	Number and place value
	Addition and subtraction
	Multiplication and division
	Fractions
	Geometry
	Other

Year 6

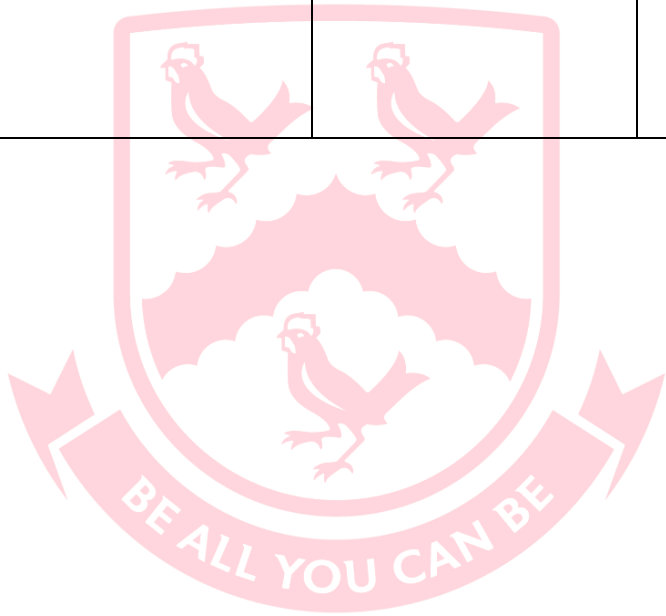
Curriculum map

Number

Number and Place Value

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number	count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward	count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number	count in multiples of 6, 7, 9, 25 and 1000	read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit	read, write, order and compare numbers up to 10 000 000 and determine the value of each digit
count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens	recognise the place value of each digit in a two-digit number (tens, ones)	recognise the place value of each digit in a three-digit number (hundreds, tens, ones)	find 1000 more or less than a given number	count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000	round any whole number to a required degree of accuracy
given a number, identify one more and one less	identify, represent and estimate numbers using different representations, including the number line	compare and order numbers up to 1000	count backwards through zero to include negative numbers	interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero	use negative numbers in context, and calculate intervals across zero
identify and represent numbers using objects and pictorial representations including the number line, and use the language of: equal to, more than, less than (fewer), most, least	compare and order numbers from 0 up to 100; use $<$, $>$ and $=$ signs	identify, represent and estimate numbers using different representations	recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones)	round any number up to 1 000 000 to the nearest 10, 100, 1000, 10 000 and 100 000	solve number and practical problems that involve all of the above.
read and write numbers from 1 to 20 in numerals and words.	read and write numbers to at least 100 in numerals and in words	read and write numbers up to 1000 in numerals and in words	order and compare numbers beyond 1000	solve number problems and practical problems that involve all of the above	
	use place value and number facts to solve problems.	solve number problems and practical problems involving these ideas.	identify, represent and estimate numbers using different representations	read Roman numerals to 1000 (M) and recognise years written in Roman numerals.	

			round any number to the nearest 10, 100 or 1000		
			solve number and practical problems that involve all of the above and with increasingly large positive numbers		
			read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value.		



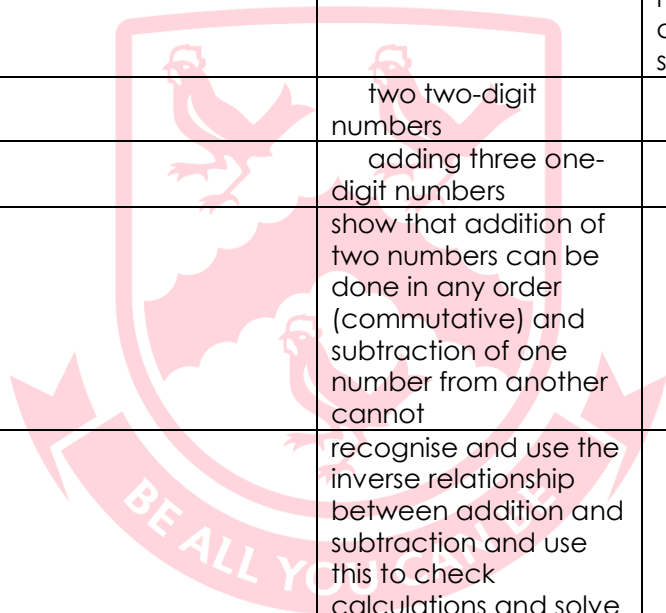
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Number

Addition and Subtraction

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs	solve problems with addition and subtraction:	add and subtract numbers mentally, including:	add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate	add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)	solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why
represent and use number bonds and related subtraction facts within 20	using concrete objects and pictorial representations, including those involving numbers, quantities and measures	a three-digit number and ones	estimate and use inverse operations to check answers to a calculation	add and subtract numbers mentally with increasingly large numbers	use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.
add and subtract one-digit and two-digit numbers to 20, including zero	applying their increasing knowledge of mental and written methods	a three-digit number and tens	solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.	use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy	
solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$.	recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100	a three-digit number and hundreds		solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.	
	add and subtract numbers using concrete objects, pictorial representations, and mentally, including:	add and subtract numbers with up to three digits, using formal written methods of columnar			

		addition and subtraction			
	a two-digit number and ones	estimate the answer to a calculation and use inverse operations to check answers			
	a two-digit number and tens	solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.			
	two two-digit numbers				
	adding three one-digit numbers				
	show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot				
	recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.				



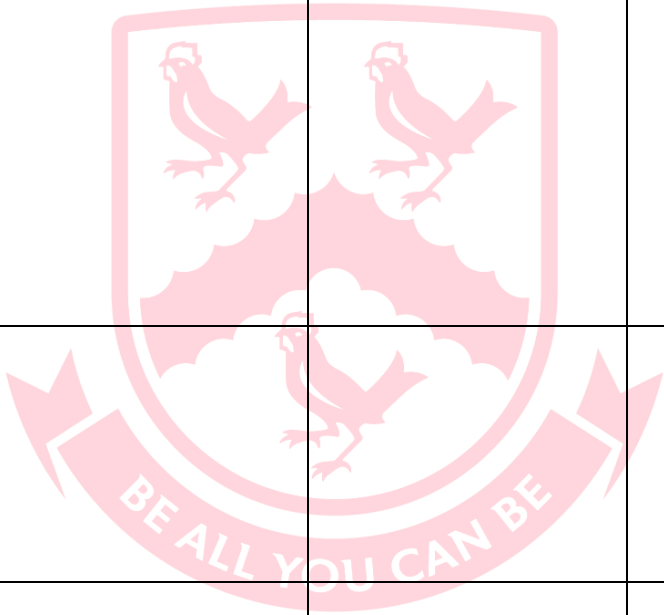
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Number

Multiplication and Division

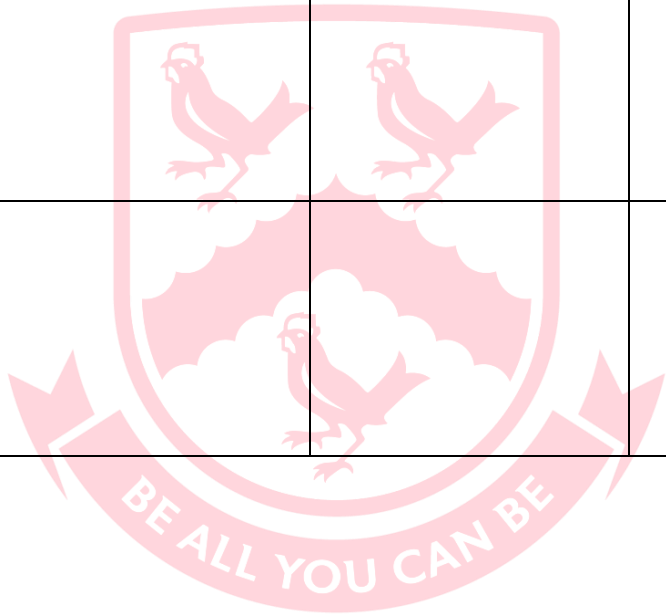
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
solve one-step problems involving multiplication and division, by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher.	recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers	recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables	recall multiplication and division facts for multiplication tables up to 12×12	identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers	multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication
	calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (\times), division (\div) and equals (=) signs	write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods	use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers	know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers	divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context
	show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot	solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects.	recognise and use factor pairs and commutativity in mental calculations	establish whether a number up to 100 is prime and recall prime numbers up to 19	divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context
	solve problems involving		multiply two-digit and three-digit numbers by	multiply numbers up to 4 digits by a one- or	perform mental calculations,

	<p>multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.</p>		<p>a one-digit number using formal written layout</p>	<p>two-digit number using a formal written method, including long multiplication for two-digit numbers</p>	<p>including with mixed operations and large numbers</p>
			<p>solve problems involving multiplying and adding, including using the distributive law to multiply two digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.</p>	<p>multiply and divide numbers mentally drawing upon known facts</p>	<p>identify common factors, common multiples and prime numbers</p>
				<p>divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context</p>	<p>use their knowledge of the order of operations to carry out calculations involving the four operations</p>
				<p>multiply and divide whole numbers and those involving decimals by 10, 100 and 1000</p>	<p>solve problems involving addition, subtraction, multiplication and division</p>
				<p>recognise and use square numbers and cube numbers, and the notation for squared (2) and cubed (3)</p>	<p>use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.</p>



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				<p>solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes</p>	
				<p>solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign</p>	
				<p>solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.</p>	



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Number

Fractions

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
recognise, find and name a half as one of two equal parts of an object, shape or quantity	recognise, find, name and write fractions $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$ and $\frac{3}{4}$ of a length, shape, set of objects or quantity	count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10	recognise and show, using diagrams, families of common equivalent fractions	compare and order fractions whose denominators are all multiples of the same number	use common factors to simplify fractions; use common multiples to express fractions in the same denomination
recognise, find and name a quarter as one of four equal parts of an object, shape or quantity.	write simple fractions for example, $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$.	recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators	count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.	identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths	compare and order fractions, including fractions > 1
		recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators	solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number	recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number [for example, $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$]	add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions
		recognise and show, using diagrams, equivalent fractions with small denominators	add and subtract fractions with the same denominator	add and subtract fractions with the same denominator and denominators that are multiples of the same number	multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$]
		add and subtract fractions with the same denominator	recognise and write decimal equivalents of any number of tenths or hundredths	multiply proper fractions and mixed numbers by whole numbers, supported	divide proper fractions by whole numbers [for example, $\frac{1}{3} \div 2 = \frac{1}{6}$]

		within one whole [for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$]		by materials and diagrams	
		compare and order unit fractions, and fractions with the same denominators	recognise and write decimal equivalents to $\frac{1}{4}, \frac{1}{2}, \frac{3}{4}$	read and write decimal numbers as fractions [for example, $0.71 = \frac{71}{100}$]	associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, $\frac{3}{8}$]
		solve problems that involve all of the above.	find the effect of dividing a one- or two-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths	recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents	identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places
			round decimals with one decimal place to the nearest whole number	round decimals with two decimal places to the nearest whole number and to one decimal place	multiply one-digit numbers with up to two decimal places by whole numbers
			compare numbers with the same number of decimal places up to two decimal places	read, write, order and compare numbers with up to three decimal places	use written division methods in cases where the answer has up to two decimal places
			solve simple measure and money problems involving fractions and decimals to two decimal places.	solve problems involving number up to three decimal places	solve problems which require answers to be rounded to specified degrees of accuracy
				recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with	recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.

				denominator 100, and as a decimal	
				<p>solve problems which require knowing percentage and decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, $\frac{1}{5}$, $\frac{2}{5}$, $\frac{4}{5}$ and those fractions with a denominator of a multiple of 10 or 25.</p>	multiply one-digit numbers with up to two decimal places by whole numbers



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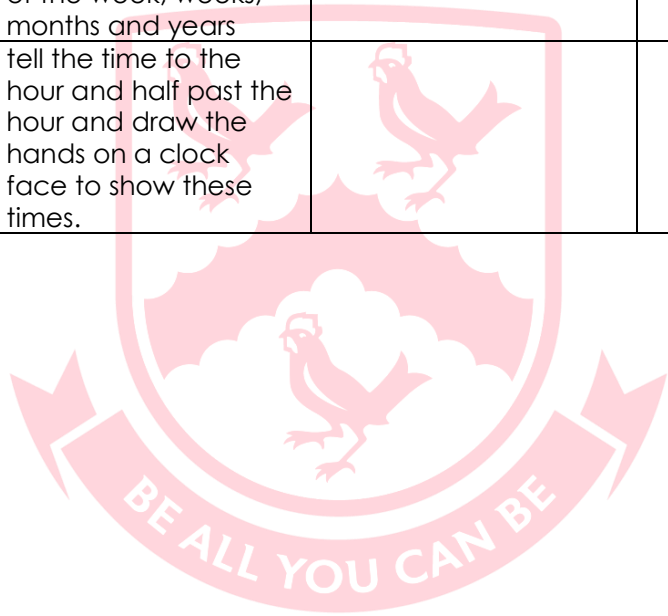
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Measurement

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
compare, describe and solve practical problems for:	choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml) to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels	measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)	Convert between different units of measure [for example, kilometre to metre; hour to minute]	convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)	solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate
lengths and heights [for example, long/short, longer/shorter, tall/short, double/half]	compare and order lengths, mass, volume/capacity and record the results using >, < and =	measure the perimeter of simple 2-D shapes	measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres	understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints	use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation to up to three decimal places
mass/weight [for example, heavy/light, heavier than, lighter than]	recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value	add and subtract amounts of money to give change, using both £ and p in practical contexts	find the area of rectilinear shapes by counting squares	measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres	convert between miles and kilometres
capacity and volume [for example, full/empty, more than, less than, half, half full, quarter]	find different combinations of coins that equal the same amounts of money	tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks	estimate, compare and calculate different measures, including money in pounds and pence	calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm ²) and square metres	recognise that shapes with the same areas can have different perimeters and vice versa

				(m ²) and estimate the area of irregular shapes	
time [for example, quicker, slower, earlier, later]	solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change	estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, a.m./p.m., morning, afternoon, noon and midnight	Convert between different units of measure [for example, kilometre to metre; hour to minute]	estimate volume [for example, using 1 cm ³ blocks to build cuboids (including cubes)] and capacity [for example, using water]	recognise when it is possible to use formulae for area and volume of shapes
measure and begin to record the following:	compare and sequence intervals of time	know the number of seconds in a minute and the number of days in each month, year and leap year	read, write and convert time between analogue and digital 12- and 24-hour clocks	solve problems involving converting between units of time	calculate the area of parallelograms and triangles
lengths and heights	tell and write the time to five minutes, including quarter past/to the hour and draw the hands on a clock face to show these times	compare durations of events [for example to calculate the time taken by particular events or tasks].	solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.	use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.	calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm ³) and cubic metres (m ³), and extending to other units [for example, mm ³ and km ³].
mass/weight	know the number of minutes in an hour and the number of hours in a day.				
capacity and volume					
time (hours, minutes, seconds)					
recognise and know the value of different denominations of coins and notes					

sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]					
recognise and use language relating to dates, including days of the week, weeks, months and years					
tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.					

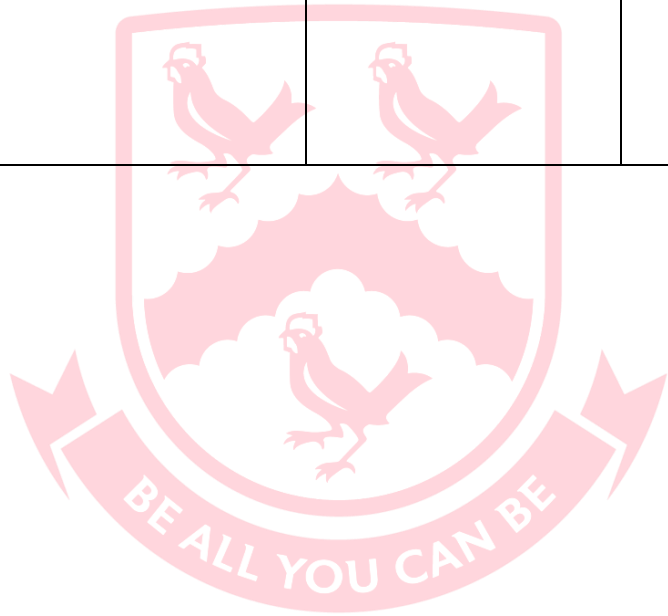


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Geometry

Properties of Shapes					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
recognise and name common 2-D and 3-D shapes, including:	identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line	draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them	compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes	identify 3-D shapes, including cubes and other cuboids, from 2-D representations	draw 2-D shapes using given dimensions and angles
2-D shapes [for example, rectangles (including squares), circles and triangles]	identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces	recognise angles as a property of shape or a description of a turn	identify acute and obtuse angles and compare and order angles up to two right angles by size	know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles	recognise, describe and build simple 3-D shapes, including making nets
3-D shapes [for example, cuboids (including cubes), pyramids and spheres].	identify 2-D shapes on the surface of 3-D shapes [for example, a circle on a cylinder and a triangle on a pyramid]	identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle	identify lines of symmetry in 2-D shapes presented in different orientations	draw given angles, and measure them in degrees ($^{\circ}$)	compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons
	compare and sort common 2-D and 3-D shapes and everyday objects.	identify horizontal and vertical lines and pairs of perpendicular and parallel lines.	complete a simple symmetric figure with respect to a specific line of symmetry.	identify:	illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius
			compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes	angles at a point and one whole turn (total 360°)	recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.

				angles at a point on a straight line and $\frac{1}{2}$ a turn (total 180°)	
				other multiples of 90°	
				use the properties of rectangles to deduce related facts and find missing lengths and angles	
				distinguish between regular and irregular polygons based on reasoning about equal sides and angles.	



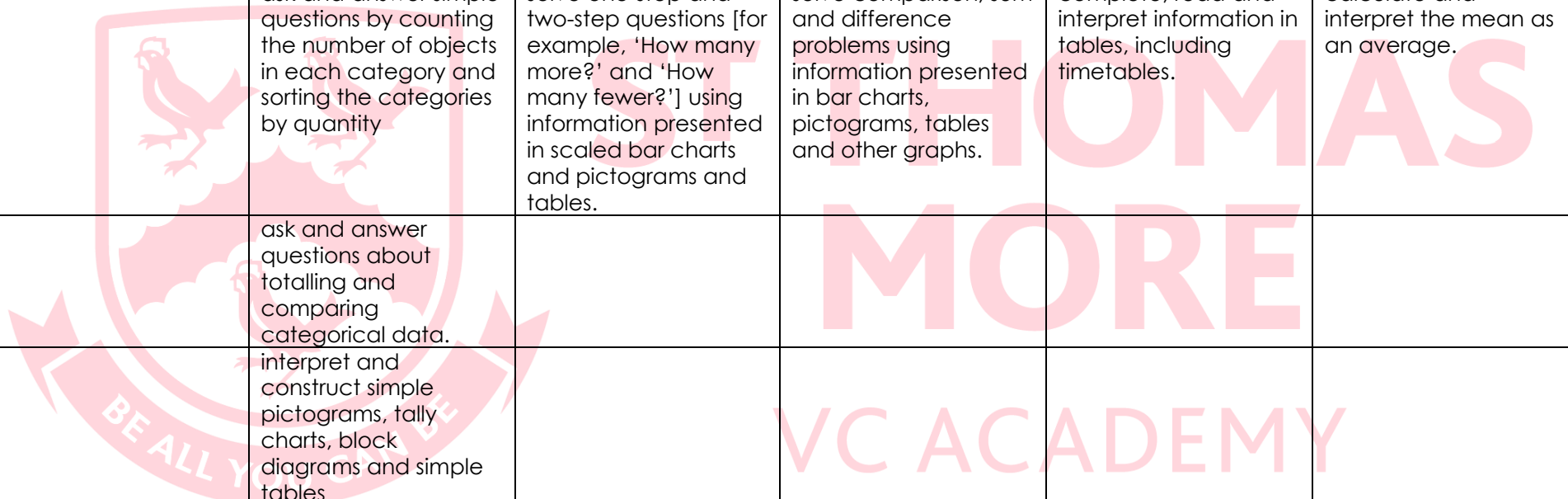
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Geometry

Position and Direction					
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
describe position, direction and movement, including whole, half, quarter and three-quarter turns.	order and arrange combinations of mathematical objects in patterns and sequences		describe positions on a 2-D grid as coordinates in the first quadrant	identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.	describe positions on the full coordinate grid (all four quadrants)
	use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise).		describe movements between positions as translations of a given unit to the left/right and up/down		draw and translate simple shapes on the coordinate plane, and reflect them in the axes.
			plot specified points and draw sides to complete a given polygon.		

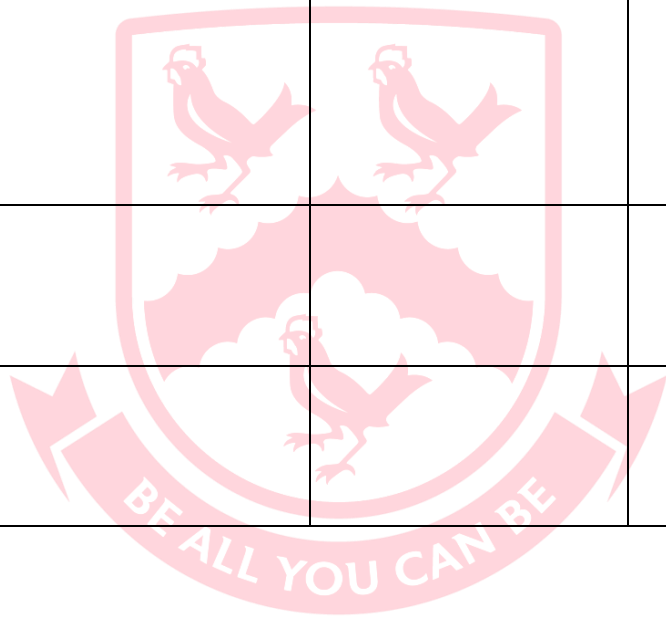
Statistics

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	interpret and construct simple pictograms, tally charts, block diagrams and simple tables	interpret and present data using bar charts, pictograms and tables	interpret and present discrete and continuous data using appropriate graphical methods, including bar charts and time graphs.	solve comparison, sum and difference problems using information presented in a line graph	interpret and construct pie charts and line graphs and use these to solve problems
	ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity	solve one-step and two-step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables.	solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs.	complete, read and interpret information in tables, including timetables.	calculate and interpret the mean as an average.
	ask and answer questions about totalling and comparing categorical data.				
	interpret and construct simple pictograms, tally charts, block diagrams and simple tables				



Ration and Proportion

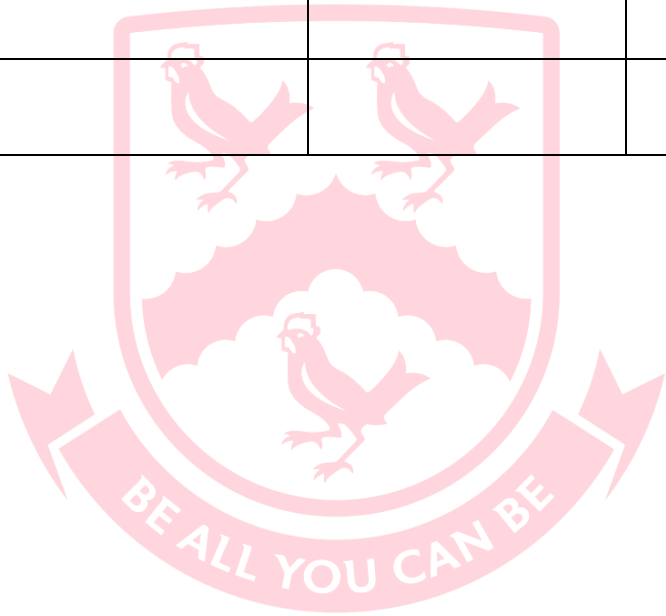
Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
					solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts
					solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison
					solve problems involving similar shapes where the scale factor is known or can be found
					solve problems involving unequal sharing and grouping using knowledge of fractions and multiples.



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Algebra

Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
					use simple formulae
					generate and describe linear number sequences
					express missing number problems algebraically
					find pairs of numbers that satisfy an equation with two unknowns
					enumerate possibilities of combinations of two variables.



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