

Sheringham Community Primary School

Maths Progression Map

Concept	DM	ELG	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Number Number and Place Value	Count beyond ten Link the number symbol (numeral) with its cardinal number value Subitise Count objects, actions and sounds	Number Have a deep understanding of number to 10, including the composition of each number Subitise (recognise quantities without counting) up to 5 Numerical patterns Verbally count beyond 20, recognising the pattern of the counting system	count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number count, read and write numbers to 100 in numerals; count in multiples of twos, fives and tens given a number, identify one more and one less 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 read and write numbers from 1 to	count in steps of 2, 3, and 5 from 0, and in tens from any number, forward and backward recognise the place value of each digit in a two-digit number (tens, ones) identify, represent and estimate numbers using different representations, including the number line compare and order numbers from 0 up to 100; use $<$ $>$ and $=$ signs read and write numbers to at least 100 in numerals and in words	count from 0 in multiples of 4, 8, 50 and 100 find 10 or 100 more or less than a given number recognise the place value of each digit in a three digit number (hundreds, tens, ones) compare and order numbers up to 1000 identify, represent and estimate numbers using different representations read and write numbers up to 1000 in numerals and in words	count in multiples of 6, 7, 9, 25 and 1000 find 1000 more or less than a given number count backwards through zero to include negative numbers recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) order and compare numbers beyond 1000 identify, represent and estimate numbers using different representations	read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000 interpret negative numbers in context count forwards and backwards with positive and negative whole numbers, including through zero round any number up to 1 000 000 to the nearest 10, 100,	read, write, order and compare numbers up to 10 000 000 and determine the value of each digit round any whole number to a required degree of accuracy use negative numbers in context, and calculate intervals across zero solve number and practical problems that involve all of the above

			20 in numerals and words	use place value and number facts to solve problems	solve number problems and practical problems involving these ideas	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	1000, 10 000 and 100 000 solve number problems and practical problems that involve all of the above read Roman numerals to 1000 (M) and recognise years written in Roman numerals	
<p>Ready to Progress Links Go to pages as described</p>			<p>1NPV-1 Count within 100, forwards and backwards, starting with any number. (p18)</p> <p>1NPV-2 Reason about the location of numbers to 20 within the linear number system, including comparing using < > and = (p20)</p>	<p>2NPV-1 Recognise the place value of each digit in two-digit numbers, and compose and decompose two-digit numbers using standard and nonstandard partitioning. (p.51)</p> <p>2NPV-2 Reason about the location of any two digit number in the linear number system, including</p>	<p>3NPV-1 Know that 10 tens are equivalent to 1 hundred, and that 100 is 10 times the size of 10; apply this to identify and work out how many 10s there are in other three digit multiples of 10. (p.86)</p> <p>3NPV-2 Recognise the place value of each digit in three-digit numbers, and compose and</p>	<p>4NPV-1 Know that 10 hundreds are equivalent to 1 thousand, and that 1,000 is 10 times the size of 100; apply this to identify and work out how many 100s there are in other four-digit multiples of 100. (p.146)</p> <p>4NPV-2 Recognise the place value of each digit in four-digit numbers, and compose and decompose four-digit numbers</p>	<p>5NPV-1 Know that 10 tenths are equivalent to 1 one, and that 1 is 10 times the size of 0.1. Know that 100 hundredths are equivalent to 1 one, and that 1 is 100 times the size of 0.01. Know that 10 hundredths are equivalent to 1 tenth, and that 0.1 is 10 times the size of 0.01. (p.212)</p> <p>5NPV-2 Recognise the</p>	<p>6NPV-1 Understand the relationship between powers of 10 from 1 hundredth to 10 million, and use this to make a given number 10, 100, 1,000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply and divide by 10, 100 and 1,000). (p.282)</p> <p>6NPV-2 Recognise the place value of each digit in numbers up to 10</p>

				<p>identifying the previous and next multiple of 10. (p.53)</p>	<p>decompose three-digit numbers using standard and non-standard partitioning. (p.88)</p> <p>3NPV-3 Reason about the location of any three digit number in the linear number system, including identifying the previous and next multiple of 100 and 10. (p.91)</p> <p>3NPV-4 Divide 100 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 100 with 2, 4, 5 and 10 equal parts. (p.95)</p>	<p>using standard and nonstandard partitioning. (p.149)</p> <p>4NPV-3 Reason about the location of any four digit number in the linear number system, including identifying the previous and next multiple of 1,000 and 100, and rounding to the nearest of each. (p.150)</p> <p>4NPV-4 Divide 1,000 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in multiples of 1,000 with 2, 4, 5 and 10 equal parts. (p.155)</p>	<p>place value of each digit in numbers with up to 2 decimal places, and compose and decompose numbers with up to 2 decimal places using standard and nonstandard partitioning (p.216)</p> <p>5NPV-3 Reason about the location of any number with up to 2 decimals places in the linear number system, including identifying the previous and next multiple of 1 and 0.1 and rounding to the nearest of each (p.219)</p> <p>5NPV-4 Divide 1 into 2, 4, 5 and 10 equal parts, and read scales/number lines marked in units of 1 with 2, 4, 5 and 10 equal parts. (p.225)</p> <p>5NPV-5 Convert between units of</p>	<p>million, including decimal fractions, and compose and decompose numbers up to 10 million using standard and nonstandard partitioning. (p.286)</p> <p>6NPV-3 Reason about the location of any number up to 10 million, including decimal fractions, in the linear number system, and round numbers, as appropriate, including in contexts. (p.289)</p> <p>6NPV-4 Divide powers of 10, from 1 hundredth to 10 million, into 2, 4, 5 and 10 equal parts, and read scales/number lines with labelled intervals divided into 2, 4, 5 and 10 equal parts. (p.294)</p>
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							measure, including using common decimals and fractions. (p.229)	
Concept	DM	ELG	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Addition and Subtraction	<p>Automatically recall number bonds for numbers 0–5 and some to 10</p> <p>Explore the composition of numbers to 10</p> <p>Understand the 'one more than/one less than' relationship between consecutive numbers</p> <p>Compare numbers</p>	<p>Number: Automatically recall (without reference to rhymes, counting or other aids) number bonds up to 5 (including subtraction facts) and some number bonds to 10, including double facts.</p> <p>Numerical patterns: Compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity</p>	<p>read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs</p> <p>represent and use number bonds and related subtraction facts within 20</p> <p>add and subtract one-digit and two digit numbers to 20, including zero</p> <p>solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$</p>	<p>solve problems with addition and subtraction: using concrete objects and pictorial representations, including those involving numbers, quantities and measures applying their increasing knowledge of mental and written methods</p> <p>recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100</p> <p>add and subtract numbers using concrete objects, pictorial representations, and mentally, including:</p>	<p>add and subtract numbers mentally, including:</p> <ul style="list-style-type: none"> • a three-digit number and ones • a three-digit number and tens • a three-digit number and hundreds <p>add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction</p> <p>estimate the answer to a calculation and use inverse operations to check answers</p> <p>solve problems, including missing number problems, using</p>	<p>add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate</p> <p>estimate and use inverse operations to check answers to a calculation</p> <p>solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why</p>	<p>add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction)</p> <p>add and subtract numbers mentally with increasingly large numbers</p> <p>use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy</p> <p>solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why</p>	<p>multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication</p> <p>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</p> <p>divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting</p>

				<ul style="list-style-type: none"> • a two-digit number and ones • a two-digit number and tens • two two-digit numbers • adding three one digit numbers <p>show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot</p> <p>recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems</p>	<p>number facts, place value, and more complex addition and subtraction</p>		<p>Solve problems involving addition and subtraction including understanding the meaning of the equals sign</p>	<p>remainders according to the context</p> <p>perform mental calculations, including with mixed operations and large numbers</p> <p>identify common factors, common multiples and prime numbers</p> <p>use their knowledge of the order of operations to carry out calculations involving the four operations</p> <p>solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why</p> <p>solve problems involving addition, subtraction, multiplication and division</p> <p>use estimation to check answers to calculations and determine, in the</p>
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								context of a problem, an appropriate degree of accuracy
<p>Ready to Progress Links Go to pages as described</p>			<p>1AS-1 Compose numbers to 10 from 2 parts, and partition numbers to 10 into parts, including recognising odd and even numbers. (p.30)</p> <p>1AS-2 Read, write and interpret equations containing addition (+), subtraction (-) and equals (=) symbols, and relate additive expressions and equations to real-life contexts. (p.36)</p>	<p>2AS-1 Add and subtract across 10. (p.57)</p> <p>2AS-2 Recognise the subtraction structure of 'difference' and answer questions of the form, "How many more...?". (p.59)</p> <p>2AS-3 Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract only ones or only tens to/from a two digit number (p.64)</p> <p>2AS-4 Add and subtract within 100 by applying related one-digit addition and subtraction facts: add and subtract any 2 two digit numbers. (p.66)</p>	<p>3AS-1 Calculate complements to 100. (p.106)</p> <p>3AS-2 Add and subtract up to three-digit numbers using columnar methods. (p.109)</p> <p>3AS-3 Manipulate the additive relationship: Understand the inverse relationship between addition and subtraction, and how both relate to the part-part-whole structure. Understand and use the commutative property of addition, and understand the related property for subtraction (p.113)</p>			<p>6AS/MD-1 Understand that 2 numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships (multiplicative relationships restricted to multiplication by a whole number). (p.298)</p> <p>6AS/MD-2 Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships, and place-value understanding. (p.302)</p> <p>6AS/MD-3 Solve problems involving ratio relationships. (p.305)</p>

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Multiplication and Division		Numerical patterns Explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed equally	Record doubles of numbers to ten begin to half numbers to ten 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, doubles and halves calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (\times), division (\div) and equals (=) signs Understand division as grouping and sharing; repeated subtraction show that multiplication of two numbers can be done in any order (commutative)	recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables 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 arrays, grid and mental methods and progressing to written methods when ready solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence	recall multiplication and division facts for multiplication tables up to 12×12 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 recognise and use factor pairs and commutativity in mental calculations multiply two-digit and three digit numbers by a one-digit number using arrays and grid methods progressing to written layout when ready solve problems involving multiplying and	identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers establish whether a number up to 100 is prime and recall prime numbers up to 19 recognise and use square numbers and cube numbers, and the notation for squared (2^2) and cubed (3^3) multiply numbers up to 4 digits by a one- or two-digit number progressing from, arrays to the grid and moving onto an efficient	use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy identify common factors, common multiples and prime numbers multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication (when ready) divide numbers up to 4 digits by a two-digit whole number using a written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for

				<p>and division of one number by another cannot solve problems involving multiplication and division, using materials, arrays, repeated addition, repeated subtraction, mental methods, and multiplication and division facts, including problems in contexts</p>	<p>problems in which n objects are connected to m objects</p> <p>Understand multiplication as repeated addition -Understand division as grouping and sharing; repeated subtraction</p>	<p>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>Understand division as grouping and sharing; repeated subtraction</p>	<p>written method including long multiplication for two-digit numbers when ready</p> <p>divide numbers up to 4 digits by a one-digit number using grouping and sharing progressing to a written method of short division and interpret remainders appropriately for the context</p> <p>multiply and divide whole numbers and those involving decimals by 10, 100 and 1000</p> <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</p>	<p>the context (when ready)</p> <p>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</p> <p>perform mental calculations, including with mixed operations and large numbers</p> <p>use their knowledge of the order of operations to carry out calculations involving the four operations</p> <p>solve problems involving addition, subtraction, multiplication and division</p>
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							<p>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>	
<p>Ready to Progress Links Go to pages as described</p>				<p>2MD-1 Recognise repeated addition contexts, representing them with multiplication equations and calculating the product, within the 2, 5 and 10 multiplication tables. (p70)</p> <p>2MD-2 Relate grouping problems where the number of groups is unknown to multiplication equations with a missing factor, and to division</p>	<p>3MD - 1 Apply known multiplication and division facts to solve contextual problems with different structures, including quotitive and partitive division (p117)</p>	<p>4MD - 1 Multiply and divide whole numbers by 10 and 100 (keeping to whole number quotients); understand this as equivalent to making a number 10 or 100 times the size. (p171)</p> <p>4MD - 2 Manipulate multiplication and division equations, and understand and apply the commutative property of multiplication. (p173)</p> <p>4MD - 3</p>	<p>5MD - 1 Multiply and divide numbers by 10 and 100; understand this as equivalent to making a number 10 or 100 times the size, or 1 tenth or 1 hundredth times the size.(p244)</p> <p>5MD - 2 Find factors and multiples of positive whole numbers, including common factors and common multiples, and express a given number as a</p>	<p>For year 6 MD ready to progress criteria are combine with AS ready to progress criteria (please see above)</p>

				equations (quotitive division). (p72)		Understand and apply the distributive property of multiplication. (p178)	product of 2 or 3 factors. (p245) 5MD - 3 Multiply any whole number with up to 4 digits by any one-digit number using a formal written method. (p248) 5MD - 4 Divide a number with up to 4 digits by a one-digit number using a formal written method, and interpret remainders appropriately for the context (p252)	
Concept	DM	ELG	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Fractions			recognise, find and name a half as one of two equal parts of an object, shape or quantity recognise, find and name a quarter as one of four 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 write simple fractions for example, $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$	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, find and write fractions of a discrete set of	recognise and show, using diagrams, families of common equivalent fractions count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and	count up and down in fractions including tenths and hundredths compare and order fractions whose denominators are all multiples of the same number identify, name and write	recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents use common factors to simplify fractions; use common multiples to express fractions in the same denomination

				<p>Pupils should count in fractions up to 10, starting from any number and using the $\frac{1}{2}$ and $\frac{2}{4}$ equivalence on the number line</p> <p>recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators</p>	<p>objects: unit fractions and non-unit fractions with small denominators</p> <p>recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators</p> <p>recognise and show, using diagrams, equivalent fractions with small denominators</p> <p>add and subtract fractions with the same denominator within one whole [for example, $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$]</p> <p>compare and order unit fractions, and fractions with the same denominators</p> <p>solve problems that involve all of the above</p>	<p>dividing tenths by ten.</p> <p>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</p> <p>add and subtract fractions with the same denominator</p> <p>recognise and write decimal equivalents of any number of tenths or hundredths</p> <p>recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, $\frac{3}{4}$</p> <p>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</p> <p>round decimals with one decimal</p>	<p>equivalent fractions of a given fraction, represented visually, including tenths and hundredths</p> <p>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, $\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}$]</p> <p>add and subtract fractions with the same denominator and denominators that are multiples of the same number</p> <p>multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams</p> <p>read and write decimal numbers</p>	<p>compare and order fractions, including fractions > 1</p> <p>add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions</p> <p>multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, $\frac{1}{4} \times \frac{1}{2} = \frac{1}{8}$]</p> <p>divide proper fractions by whole numbers [for example, $\frac{1}{3} \div 2 = \frac{1}{6}$]</p> <p>associate a fraction with division and calculate decimal fraction equivalents [for example, 0.375] for a simple fraction [for example, $\frac{3}{8}$]</p> <p>identify the value of each digit in numbers given to</p>
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						<p>place to the nearest whole number</p> <p>compare numbers with the same number of decimal places up to two decimal places</p> <p>solve simple measure and money problems involving fractions and decimals to two decimal places</p> <p>compare and order unit fractions and fractions with the same denominators</p>	<p>as fractions [for example, $0.71 = 71/100$]</p> <p>recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents</p> <p>round decimals with two decimal places to the nearest whole number and to one decimal place</p> <p>read, write, order and compare numbers with up to three decimal places</p> <p>solve problems involving number up to three decimal places</p> <p>recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100,</p>	<p>three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places</p> <p>multiply one -digit numbers with up to two decimal places by whole numbers</p> <p>use written division methods in cases where the answer has up to two decimal places</p> <p>solve problems which require answers to be rounded to specified degrees of accuracy</p> <p>recall and use equivalences between simple fractions, decimals and percentages, including in different contexts</p> <p>solve problems which require knowing percentage and decimal equivalents of $1/2$, $1/4$, $1/5$, $2/5$, $4/5$</p>
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							<p>and as a decimal</p> <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> <p>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</p> <p>find non-unit fractions of quantities</p>	<p>and those fractions with a denominator of a multiple of 10 or 25</p>
<p>Ready to Progress Links Go to pages as described</p>					<p>3F - 1 Interpret and write proper fractions to represent 1 or several parts of a whole that is divided into equal parts.(p120)</p>	<p>4F - 1 Reason about the location of mixed numbers in the linear number system (p182)</p>	<p>4F - 2 Convert mixed numbers to improper fractions and vice versa.</p> <p>4F - 3 Add and subtract improper and</p>	<p>6F - 1 Recognise when fractions can be simplified, and use common factors to simplify fractions. (p312)</p> <p>6F - 2 Express fractions in a common</p>

					<p>3F - 2 Find unit fractions of quantities using known division facts (multiplication tables fluency).(p124)</p> <p>3F - 3 Reason about the location of any fraction within 1 in the linear number system. (p127)</p> <p>3F - 4 Add and subtract fractions with the same denominator, within 1 (p131)</p>		<p>mixed fractions with the same denominator, including bridging whole numbers.</p> <p>(Carried from Y4 as not referenced in NC Year 4)</p> <p>5F - 1 Find non-unit fractions of quantities (p255)</p> <p>5F - 2 Find equivalent fractions and understand that they have the same value and the same position in the linear number system. (p258)</p> <p>5F - 3 Recall decimal fraction equivalents for $\frac{1}{4}$, $\frac{1}{2}$, $\frac{1}{5}$ and $\frac{1}{10}$ and for multiples of these proper fractions (p262)</p>	<p>denomination and use this to compare fractions that are similar in value. (p316)</p> <p>6F - 3 Compare fractions with different denominators, including fractions greater than 1, using reasoning, and choose between reasoning and common denomination as a comparison strategy (p319)</p>
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Concept	DM	ELG	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Ratio & Proportion					<p>To understand the proportional amount of two quantities compared to each other.</p>	<p>To understand the proportional amount of two quantities compared to each other.</p> <p>Use the language of ratio and proportion</p> <p>Understand the relationship between ratio, proportion and fractions</p>	<p>To understand the proportional amount of two quantities compared to each other. solve problems involving the relative sizes of two quantities</p> <p>Use the language of ratio and proportion</p> <p>Understand the relationship between ratio, proportion and fractions</p> <p>Understand the relationship between scaling and multiplication</p>	<p>solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts</p> <p>solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison</p> <p>solve problems involving similar shapes where the scale factor is known or can be found</p> <p>solve problems involving unequal sharing and grouping using knowledge of fractions and multiples</p>

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Algebra	<p>sequence events in chronological order using language such as: before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening</p> <p>Continue, copy and create repeating patterns</p>	<p>sequence events in chronological order using language such as: before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening</p> <p>Continue, copy and create repeating patterns</p>	<p>sequence events in chronological order using language such as: before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening</p> <p>solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$</p> <p>Understand the power of the = sign</p> <p>Solve balancing calculations</p> <p>Recognise and use number sentences written in different ways</p> <p>Solve missing number calculations</p>	<p>recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems</p> <p>Understand the power of the = sign</p> <p>Solve balancing calculations</p> <p>Recognise and use number sentences written in different ways</p> <p>Solve missing number calculations</p> <p>What's the same? What's the difference? questions</p> <p><i>order and arrange combinations of mathematical objects in patterns</i></p>	<p>solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction</p> <p>solve problems, including missing number problems, involving multiplication and division, including integer scaling</p> <p>Understand the power of the = sign</p> <p>Solve balancing calculations</p> <p>Recognise and use number sentences written in different ways</p> <p>Solve missing number calculations</p> <p>What's the same? What's</p>	<p>solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction</p> <p>solve problems, including missing number problems, involving multiplication and division, including integer scaling</p> <p>Perimeter can be expressed algebraically as $2(a + b)$ where a and b are the dimensions in the same unit.</p> <p>Understand the power of the = sign</p> <p>Solve balancing calculations</p> <p>Recognise and use number sentences written in different ways</p> <p>Solve missing number calculations</p>	<p>solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction</p> <p>solve problems, including missing number problems, involving multiplication and division, including integer scaling</p> <p>Perimeter can be expressed algebraically as $2(a + b)$ where a and b are the dimensions in the same unit.</p> <p>use the properties of rectangles to deduce related facts and find missing lengths and angles</p> <p>Understand the power of the = sign</p>	<p>use simple formulae</p> <p>generate and describe linear number sequences</p> <p>express missing number problems algebraically</p> <p>find pairs of numbers that satisfy an equation with two unknowns</p> <p>enumerate possibilities of combinations of two variables</p>

			What's the same? What's the difference? questions		the difference? questions Describe and extend number sequences and begin to make generalised rules	What's the same? What's the difference? questions	Solve balancing calculations Recognise and use number sentences written in different ways Solve missing number calculations What's the same? What's the difference? Questions	
Concept	DM	ELG	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Geometry - Properties of shape	Compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can Select, rotate and manipulate shapes to develop spatial reasoning skills		recognise and name common 2-D and 3-D shapes, including: • 2-D shapes [for example, rectangles (including squares), circles and triangles] • 3-D shapes [for example, cuboids (including cubes), pyramids and spheres] Make a describe models , patterns and pictures using construction kits and every day materials	identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces identify 2-D shapes on the surface of 3-D shapes [for example, a circle on a cylinder and a triangle on a pyramid]	draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line identify and describe the properties of 3-D shapes, including	compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes identify acute and obtuse angles and compare and order angles up to two right angles by size identify lines of symmetry in 2- D shapes presented in different orientations complete a simple symmetric figure with respect to a	identify 3-D shapes, including cubes and other cuboids, from 2-D representations know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles draw given angles, and measure them in degrees (°) identify: • angles at a point and one whole turn (total 360°)	draw 2-D shapes using given dimensions and angles recognise, describe and build simple 3-D shapes, including making nets compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons illustrate and name parts of

				<p>compare and sort common 2-D and 3-D shapes and everyday objects</p> <p>Recognise and name common 3D shapes</p> <p>Make a describe models , patterns and pictures using construction kits and every day materials</p> <p>to know the language of quarter turn and half turn</p>	<p>the number of edges, vertices and faces identify 2-D shapes on the surface of 3-D shapes [for example, a circle on a cylinder and a triangle on a pyramid]</p> <p>compare and sort common 2-D and 3-D shapes and everyday objects</p> <p>recognise angles as a property of shape or a description of a turn</p> <p>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</p> <p>identify horizontal and vertical lines and pairs of</p>	<p>specific line of symmetry</p>	<ul style="list-style-type: none"> • angles at a point on a straight line and a $\frac{1}{2}$ turn (total 180°) • other multiples of 90° <p>use the properties of rectangles to deduce related facts and find missing lengths and angles</p> <p>distinguish between regular and irregular polygons based on reasoning about equal sides and angles</p>	<p>circles, including radius, diameter and circumference and know that the diameter is twice the radius</p> <p>recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles</p>
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					perpendicular and parallel lines			
<p>Ready to Progress Links Go to pages as described</p>			<p>1G-1 Recognise common 2D and 3D shapes presented in different orientations, and know that rectangles, triangles, cuboids and pyramids are not always similar to one another. (p42)</p> <p>1G-2 Compose 2D and 3D shapes from smaller shapes to match an example, including manipulating shapes to place them in particular orientations. (p44)</p>	<p>2G-1 Recognise common 2D and 3D shapes presented in different orientations, and know that rectangles, triangles, cuboids and pyramids are not always similar to one another. (p74)</p>	<p>3G-1 Recognise right angles as a property of shape or a description of a turn, and identify right angles in 2D shapes presented in different orientations. (p134)</p> <p>3G-2 Draw polygons by joining marked points, and identify parallel and perpendicular sides. (p137)</p> <p>3G-1 Recognise right angles as a property of shape or a description of a turn, and identify right angles in 2D shapes presented in different orientations. (p134)</p>	<p>4G-2 Identify regular polygons, including equilateral triangles and squares, as those in which the side-lengths are equal and the angles are equal. Find the perimeter of regular and irregular polygons. (p197)</p> <p>4G-3 Identify line symmetry in 2D shapes presented in different orientations. Reflect shapes in a line of symmetry and complete a symmetric figure or pattern with respect to a specified line of symmetry (p201)</p>	<p>5G-1 Compare angles, estimate and measure angles in degrees (°) and draw angles of a given size. (p265)</p>	<p>6G-1 Draw, compose, and decompose shapes according to given properties, including dimensions, angles and area, and solve related problems. (p322)</p>

Geometry - Position and Direction			describe position, direction and movement, including whole, half, quarter and three-quarter turns.	order and arrange combinations of mathematical objects in patterns and sequences 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) Know that a right angle is a quarter turn	Recap language and vocabulary of position and direction including right angles, quarter turn, half turn, three quarter turn, clockwise and anti-clockwise in Flashback Fours, number talks etc.	describe positions on a 2-D grid as coordinates in the first quadrant describe movements between positions as translations of a given unit to the left/right and up/down plot specified points and draw sides to complete a given polygon	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 a 2D grid as coordinates in the first quadrant	describe positions on the full coordinate grid (all four quadrants) draw and translate simple shapes on the coordinate plane, and reflect them in the axes
Measures	Compare length, weight and capacity		compare, describe and solve practical problems for: • lengths and heights [for	choose and use appropriate standard units to estimate and measure length/height	measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g);	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;	solve problems involving the calculation and conversion of units of measure, using decimal notation

		<p>example, long/short, longer/shorter, tall/short, double/half]</p> <ul style="list-style-type: none"> • mass/weight [for example, heavy/light, heavier than, lighter than] • capacity and volume [for example, full/empty, more than, less than, half, half full, quarter] • time [for example, quicker, slower, earlier, later] <p>measure and begin to record the following:</p> <ul style="list-style-type: none"> • lengths and heights • mass/weight • capacity and volume • time (hours, minutes, seconds) <p>recognise and know the value of different denominations of coins and notes</p> <p>sequence events in chronological order using</p>	<p>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</p> <p>compare and order lengths, mass, volume/capacity and record the results using >, < and =</p> <p>recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value</p> <p>find different combinations of coins that equal the same amounts of money</p> <p>solve simple problems in a practical context involving addition and</p>	<p>volume/capacity (l/ml)</p> <p>measure the perimeter of simple 2-D shapes</p> <p>add and subtract amounts of money to give change, using both £ and p in practical contexts</p> <p>tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks</p> <p>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</p>	<p>measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres</p> <p>find the area of rectilinear shapes by counting squares</p> <p>estimate, compare and calculate different measures, including money in pounds and pence</p> <p>read, write and convert time between analogue and digital 12- and 24-hour clocks</p> <p>solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days</p>	<p>centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre)</p> <p>understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints</p> <p>measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres</p> <p>calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm²) and square metres (m²) and estimate the area of irregular shapes</p>	<p>up to three decimal places where appropriate</p> <p>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</p> <p>convert between miles and kilometres</p> <p>recognise that shapes with the same areas can have different perimeters and vice versa</p> <p>recognise when it is possible to use formulae for area and volume of shapes</p> <p>calculate the area of parallelograms and triangles</p> <p>calculate, estimate and compare volume</p>
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			<p>language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]</p> <p>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</p>	<p>subtraction of money of the same unit, including giving change</p> <p>compare and sequence intervals of time 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</p> <p>know the number of minutes in an hour and the number of hours in a day</p>	<p>know the number of seconds in a minute and the number of days in each month, year and leap year compare durations of events [for example to calculate the time taken by particular events or tasks]</p>		<p>estimate volume [for example, using 1 cm³ blocks to build cuboids (including cubes)] and capacity [for example, using water]</p> <p>solve problems involving converting between units of time</p> <p>use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling</p>	<p>of cubes and cuboids using standard units, including cubic centimetres (cm³) and cubic metres (m³), and extending to other units [for example, mm³ and km³]</p>
<p>Ready to Progress Links Go to pages as described</p>							<p>5G-2 Compare areas and calculate the area of rectangles (including squares) using standard units. (p269)</p>	
<p>Statistics</p>				<p>interpret and construct simple pictograms, tally charts, block diagrams and simple tables ask</p>	<p>interpret and present data using bar charts, pictograms and tables solve one - step and two -</p>	<p>interpret and present discrete and continuous data using appropriate graphical</p>	<p>solve comparison, sum and difference problems using information</p>	<p>interpret and construct pie charts and line graphs and use these to solve problems</p>

				and answer simple questions by counting the number of objects in each category and sorting the categories by quantity ask and answer questions about totalling and comparing categorical data	step questions [for example, 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts and pictograms and tables	methods, including bar charts and time graphs. solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs	presented in a line graph complete, read and interpret information in tables, including timetables	calculate and interpret the mean as an average
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Concept	DM	ELG	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Probability						Use dice and spinner activities to introduce the language of probability	Use dice and spinner activities to introduce the language of probability	Use dice and spinner activities to introduce the language of probability