



Progression in Mathematics						
Teaching Sequence in Mathematics – The Mastery Approach	‘The Big Picture’ – setting the mathematics learning that is about to take place within the chronology of pupils maths learning and skill development to date. Starting with what the children know, understand, are able to do and able to say.					
	Review most recent learning in mathematics through an arithmetic starter.					
	Specify key vocabulary to be used and its meaning.					
	Specify mathematical skills to be used through clearly defined modelling.					
	Provide opportunities for the children to work interactively using resources.					
	Provide opportunities for shared or independent problem solving.					
	Provide opportunities for children to critically review their own work and that of others.					
Individual reflection on the learning and mathematical skill development that has taken place.						
Number and Place Value						
Counting						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Count reliably with numbers from one to 20.	Count to and across 100, forwards and backwards, beginning with 0 or 1, or from any given number, and identify 1 more and 1 less.			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.
	Count in multiples of 2s, 5s and 10s.	Count in steps of 2, 3, and 5 from 0, and in 10s 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 1 000. Find 1 000 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.	
Comparing Numbers						
	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 .	Compare and order numbers up to 1000.	Order and compare numbers beyond 1000 (including numbers with the same number of decimal places up to two decimal places).	Compare numbers to at least 1 000 000 and determine the value of each digit.	Compare numbers up to 10 000 000 and determine the value of each digit.
Identifying, Representing and Estimating Numbers						



	Identify and represent numbers using objects and pictorial representations including the number line.	Identify, represent and estimate numbers using different representations, including the number line .	Identify, represent and estimate numbers using different representations.	Identify, represent and estimate numbers using different representations.		
Understanding Place Value						
	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.		Read, write and order numbers to at least 1 000 000 and determine the value of each digit.	Read, write and order numbers to at least 10 000 000 and determine the value of each digit.
			Roman numerals X- XII.	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.	Read Roman numerals to 1 000 (M) and recognise years written in Roman numerals.	
		Recognise the place value of each digit in a two-digit number (10s, 1s) .	Recognise the place value of each digit in a three-digit number (hundreds, tens and ones).	Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens and ones). Also recognise tenths and hundredths.	Also recognise thousandths, tenths and hundredths.	
Rounding						
				Round any number to the nearest 10, 100 or 1 000 (including numbers with one decimal place to the	Round any number up to 1 000 000 to the nearest 10, 100, 1 000, 10 000 and 100 000 (including numbers with two decimal places to the	Round any whole number to a required degree of accuracy (including solving problems



				nearest whole number).	nearest whole number and to one decimal place). Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.	which require answers to be rounded).
Problem Solving						
		Use place value and number facts to solve problems .	Solve number and practical problems involving these ideas.	Solve number and practical problems that involve all of the above with increasingly large positive numbers.	Solve number and practical problems involving all of the above.	Solve number and practical problems involving all of the above.
Number and Place Value Vocabulary						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
One more One less Place Order Number Count Numbers up to twenty Number line Pictorial Answer Equals Read Write	Same as EYFS, plus: Forwards Backwards Numerals Words Multiples Equal to More than Less than Fewer Most Least Identify Represent Digit Calculate Odd Even Pattern Numbers up to one hundred	Same as EYFS & Year 1, plus: Ones Tens Two- digit Estimate Place Value Solve Problems Greater than > Less than < Nearest ten Number facts Partition Count in steps Zero Compare Determine Value	Same as EYFS & KS1, plus: Hundreds Three- digit Ten more One hundred more Ten less One hundred less Roman numeral Numbers up to one thousand	Same as previous year groups, plus: Thousands Four- digit Negative number One thousand more One thousand less Decimal Decimal place Rounding Place holder Nearest ten Nearest hundred Nearest thousand One place Whole number Integer Tenths Hundredths	Same as previous year groups, plus: Ten thousands Hundred thousands Millions Context Steps of powers Decimal equivalents Two decimal places Thousandths Numbers up to one million	Same as previous year groups, plus: Intervals across zero Three decimal places Hundredths Thousandths Ten thousandths Numbers up to ten million



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Number: Addition and Subtraction						
Number Bonds						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Represent and use number bonds and related subtraction facts within 20.	Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100.				
Mental Calculation						
Using quantities and objects, add and subtract two single-digit numbers and count on or back to find the answer.	Add and subtract one-digit and two-digit numbers to 20, including zero.	Add and subtract numbers using concrete objects, pictorial representations, and mentally, including: <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 	Add and subtract numbers mentally, including: <ul style="list-style-type: none"> a three-digit number and ones a three-digit number and tens a three-digit number and hundreds. 		Add and subtract numbers mentally with increasingly large numbers.	Perform mental calculations, including with mixed operations and large numbers.
	Read, write and interpret mathematical statements involving addition (+), subtraction (-) and	Show that addition of two numbers can be done in any order (commutative) and subtraction of one				Use their knowledge of the order of operations to carry out calculations involving the four operations.



	equals (=) signs (appears also in Written Methods).	number from another cannot.				
Written Methods						
Using quantities and objects, add and subtract two single-digit numbers and count on or back to find the answer.	Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs (appears also in Mental Calculation).		Add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction.	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).	
Inverse Operations, Estimating and Checking Answers						
		Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.	Estimate the answer to a calculation and use inverse operations to check answers.	Estimate and use inverse operations to check answers to a calculation.	Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.	Use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.
Problem Solving						
Solve problems, including doubling, halving and sharing.	Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$.	Solve problems with addition and subtraction: <ul style="list-style-type: none"> using concrete objects and pictorial representations, including those involving numbers, quantities and measures 	Solve problems, including missing number problems, using number facts, and place value.	Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.	Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.	Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.



		<ul style="list-style-type: none"> applying their increasing knowledge of mental and written methods 				
		Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change.				
Addition and Subtraction Vocabulary						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Add Subtract Addition Subtraction Adding Subtracting Number Number line Single digit Count on Count back Answer Doubling Halving Sharing Numbers to twenty Check	Same as EYFS, plus: One step problem Concrete object Pictorial representation Missing number Problem Read Write Interpret Equals = Signs One-digit Two-digit Ones Mental Mentally	Same as EYFS & Year 1, plus: Columnar addition Columnar Subtraction Tens Order Inverse Relationship Calculation Solve problems Missing number problems Quantities Measures Formal Written method Mental method Method Operation Apply Whole number	Same as EYFS & KS1, plus: Three-digit number Hundreds Estimate Number facts	Same as previous year groups, plus: Two step problems Context Four-digit	Same as previous year groups, plus: Increasingly large numbers More than 4 digits Rounding Determine Context Multi-step problem	Same as previous year groups, plus: Estimation Mixed operations

Number: Multiplication and Division



Multiplication and Division Facts						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Count in multiples of twos, fives and tens.	Count in steps of 2, 3, and 5 from 0, and in tens from any number, forward or backward.	Count from 0 in multiples of 4, 8, 50 and 100.	Count in multiples of 6, 7, 9, 25 and 1000.	Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000.	
		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 x 12.		
Mental Calculations						
			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	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.	Multiply and divide numbers mentally drawing upon known facts.	Perform mental calculations, including with mixed operations and large numbers.



			pictorial and mental methods.			
		Show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.		Recognise and use factor pairs and commutativity in mental calculations.	Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.	Associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. 3/8).
Written Calculation						
		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.	Multiply two-digit and three-digit numbers by a one-digit number using formal written layout.	Multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers.	Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication.
					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.	Divide numbers up to 4 digits by a two-digit whole number using the formal written method of short division where appropriate for the context divide numbers up to 4



						<p>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>Use written division methods in cases where the answer has up to two decimal places.</p>
Properties of Numbers: Multiples, Factors, Primes, Square and Cube Numbers						
				Recognise and use factor pairs and commutativity in mental calculations.	Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers.	Identify common factors, common multiples and prime numbers Use common factors to simplify fractions; use common multiples to express fractions in the same denomination.
					Know and use the vocabulary of prime numbers, prime factors and composite (nonprime) 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) and cubed (³).	Calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre



						cubed (cm^3) and cubic metres (m^3), and extending to other units such as mm^3 and km^3 .
Order of Operations						
						Use their knowledge of the order of operations to carry out calculations involving the four operations.
Inverse Operations, Estimating and Checking Answers						
			Estimate the answer to a calculation and use inverse operations to check answers.	Estimate and use inverse operations to check answers to a calculation.	Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy.	Use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy.
Problem Solving						



	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.	Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods, and multiplication and division facts, including problems in contexts.	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 object.	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.	Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes.	Solve problems involving addition, subtraction, multiplication and division.
					Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.	Solve problems involving similar shapes where the scale factor is known or can be found.
Multiplication and Division Vocabulary						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Multiples	Same as EYFS & Year 1, plus:	Same as EYFS & KS1, plus:	Same as previous year groups, plus:	Same as previous year groups, plus:	Same as previous year groups, plus:



	<p>Twos Fives Tens Number Multiply Divide Multiplication Division One step problem Answer Concrete object Pictorial representation Arrays Count Equals Write</p>	<p>Multiplication facts Division facts Multiplication tables Odd numbers Even numbers Share Equally Repeated division Calculate</p>	<p>Missing number problem Estimate Inverse Formal written method Mathematical statement Recall Integer Two- digit One- digit</p>	<p>Derived facts Factors Factor pairs Scaling problems Three-digit</p>	<p>Decimals Four-digit Long multiplication Short division Remainders Context Common factors Common multiples Prime numbers Prime factors Composite numbers Square number Cube number Notation Squares Cubes</p>	<p>Scale factor Long division Whole number Remainders Fractions Rounding Mixed operations</p>
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Fractions (Including Decimals and Percentages)						
Counting in Fractional Steps						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			Count up and down in tenths.	Count up and down in hundredths.		
Recognising Fractions						
	Recognise, find and name a half as 1 of 2 equal parts of an object, shape or quantity.	Recognise, find, name and write fractions $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{2}{4}$, and $\frac{3}{4}$ of a length, shapes set of objects or quantity.	Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators.	Recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten.	Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents .	
	Recognise, find and name a quarter as 1 of 4 equal parts of an		Recognise that tenths arise from dividing an object			



	object, shape or quantity.		into 10 equal parts and in dividing one-digit numbers or quantities by 10.			
			Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators.			
Comparing Fractions						
			Compare and order unit fractions, and fractions with the same denominators.	Compare numbers with the same number of decimal places up to 2 decimal places.	Compare and order fractions whose denominators are all multiples of the same number.	Compare and order fractions, including fractions >1 .
Comparing Decimals						
				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.	Identify the value of each digit in numbers given to three decimal places.
Rounding Including Decimals						
				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.	Solve problems which require answers to be rounded to specified degrees of accuracy.
Equivalence (Including Fractions, Decimals and Percentages)						
		Write simple fractions e.g. $\frac{1}{2}$ of $6 = 3$ and recognise the equivalence of $\frac{2}{4}$ and $\frac{1}{2}$.	Recognise and show, using diagrams, equivalent fractions with small denominators.	Recognise and show, using diagrams, families of common equivalent fractions.	Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths	Use common factors to simplify fractions; use common multiples to express fractions in the same denomination.



				Recognise and write decimal equivalents of any number of tenths or hundredths.	Read and write decimal numbers as fractions (e.g. $0.71 = 71 / 100$).	Associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $3 / 8$).
					Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.	
				Recognise and write decimal equivalents to $1 / 4$; $1 / 2$; $3 / 4$.	Recognise the percent symbol (%) and understand that per cent relates to “number of parts per hundred”, and write percentages as a fraction with denominator 100 as a decimal fraction	Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.
Addition and Subtraction of Fractions						



			Add and subtract fractions with the same denominator within one whole (e.g. $5/7 + 1/7 = 6/7$).	Add and subtract fractions with the same denominator.	Add and subtract fractions with the same denominator and multiples of the same number.	Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions.
					Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements > 1 as a mixed number (e.g. $2/5 + 4/5 = 6/5 = 1\ 1/5$).	
Multiplication and Division of Fractions						
					Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.	Multiply simple pairs of proper fractions, writing the answer in its simplest form (e.g. $1/4 \times 1/2 = 1/8$).
						Multiply one-digit numbers with up to two decimal places by whole numbers.
						Divide proper fractions by whole numbers (e.g. $1/3 \div 2 = 1/6$).
Multiplication and Division of Decimals						
				Find the effect of dividing a one- or two-digit number by 10 and 100, identifying the		Multiply one-digit numbers with up to two decimal places by whole numbers.



				value of the digits in the answer as ones, tenths and hundredths.		<p>Identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places.</p> <p>Associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $\frac{3}{8}$).</p> <p>Associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. $\frac{3}{8}$).</p> <p>Use written division methods in cases where the answer has up to two decimal places.</p>
Problem Solving						



			Solve problems that involve all of the above.	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.	Solve problems involving numbers up to three decimal places.	
				Solve simple measure and money problems involving fractions and decimals to two decimal places.	Solve problems which require knowing percentage and decimal equivalents of $1/2$, $1/4$, $1/5$, $2/5$, $4/5$ and those with a denominator of a multiple of 10 or 25.	
Fractions (Including Decimals and Percentages) Vocabulary						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Fraction Half Equal parts One whole Object Shape Quantity Quarter	Same as EYFS & Year 1, plus: Simple fractions Equivalent Equivalence Count	Same as EYFS & KS1, plus: Tenths Unit fractions Non- unit fractions Numerator Denominator Compare Order	Same as previous year groups, plus: Hundredths Decimal Decimal place One decimal place Two decimal places Round decimals Whole number	Same as previous year groups, plus: Thousandths Multiples Three decimal places Percent Number of parts per hundred Percentages Decimal fraction	Same as previous year groups, plus: Common factors Common multiples Decimal fraction equivalents Simplest form



			Add Subtract Solve problems	Common equivalent fractions Decimal equivalents Dividing Ones Tenths Hundredths Simple measure Money problems	Mixed numbers Improper fraction Proper fraction Convert Mathematical statements Multiply Percentage and decimal equivalents	
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Measurement						
Comparing and Estimating						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Children use everyday language to talk about size, weight, capacity, to compare quantities and objects and to solve problems.	compare, describe and solve practical problems for: <ul style="list-style-type: none"> lengths and heights [e.g. long/short, longer/shorter, tall/short, double/half] mass/weight [e.g. heavy/light, heavier than, lighter than] 	Compare and order lengths, mass, volume/capacity and record the results using $>$, $<$ and $=$.	Measure, compare, add and subtract lengths (m/cm/mm) Measure, compare, add and subtract mass (kg/g) Measure, compare, add and subtract volume/capacity (l/ml)	Estimate, compare and calculate different measures, including money in pounds and pence.	Calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm ²) and square metres (m ²) and estimate the area of irregular shapes.	Calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre cubed (cm ³) and cubic metres (m ³), and extending to other units such as mm ³ and km ³ .



	<ul style="list-style-type: none"> • capacity and volume [e.g. full/empty, more than, less than, half, half full, quarter] • time [e.g. quicker, slower, earlier, later] • time (hours, minutes, seconds). 		<p>Measure the perimeter of simple 2D shapes (mm/cm)</p>			
					<p>Estimate volume (e.g. using 1 cm³ blocks to build cubes and cuboids) and capacity (e.g. using water).</p>	
	<p>Sequence events in chronological order using language [e.g. before and after, next, first, today, yesterday,</p>	<p>Compare and sequence intervals of time.</p>	<p>Compare durations of events, for example to calculate the time</p>			



	tomorrow, morning, afternoon and evening].		taken by particular events or tasks.			
			Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight.			
Measuring and Calculating						
Children use everyday language to talk about size, weight, capacity, to compare quantities and objects and to solve problems.	Measure and begin to record the following: <ul style="list-style-type: none"> lengths and heights mass/weight capacity and volume time (hours, minutes, seconds) 	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	Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml).	Estimate, compare and calculate different measures including money in pounds and pence.	Use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling.	Solve problems involving the calculation and conversion of units of measure , using decimal notation up to three decimal places where appropriate.



		appropriate unit, using rulers, scales, thermometers and measuring vessels.	Measure the perimeter of simple 2-D shapes.	Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres.	Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres.	Recognise that shapes with the same areas can have different perimeters and vice versa.
Children use everyday language to talk about money to compare quantities and objects and to solve problems.	Recognise and know the value of different denominations of coins and notes.	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 different combinations of coins that equal the same amounts of money.				
		Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change.				



				<p>Find the area of rectilinear shapes by counting squares.</p>	<p>Calculate and compare the area of squares and rectangles including using standard units, square centimetres (cm²) and square metres (m²) and estimate the area of irregular shapes. (Apply knowledge of squared and cubed.)</p>	<p>Calculate the area of parallelograms and triangles calculate, estimate and compare volume of cubes and cuboids using standard units, including cubic centimetres (cm³) and cubic metres (m³), and extending to other units [e.g. mm³ and km³].</p> <p>Recognise when it is possible to use formulae for area and volume of shapes.</p>
<p>Telling the Time</p>						



Children use everyday language to talk about time to solve problems.	Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times.	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.	Tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks.	Read, write and convert time between analogue and digital 12 and 24hour clocks.		
	Recognise and use language relating to dates, including days of the week, weeks, months and years.	Minutes in an hour and the number of hours in a day.	Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight.			
				Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.	Solve problems involving converting between units of time.	
Converting Time						
		Minutes in an hour and the number of hours in a day.	Know the number of seconds in a minute and the number of days in each month, year and leap year.	Convert between different units of measure (e.g. kilometre to metre; hour to minute).	Convert between different units of metric measure (e.g. kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre).	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.
				Read, write and convert time between analogue and digital 12 and 24hour clocks.	Solve problems involving converting between units of time.	Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate.
				Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.	Understand and use equivalences between metric units and common imperial units such as inches, pounds and pints.	Convert between miles and kilometres.
Measurement Vocabulary						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Measure Measurement Size Weight Capacity Compare Solve Problems Object Time	Same as EYFS, plus: Length Height Long Short Longer Shorter Tall Double Half Mass	Same as EYFS & Year 1, plus: Greater than > Less than < Equals = Intervals Standard units Estimate Direction Temperature Unit Scales Rulers	Same as EYFS & KS1, plus: Duration Time taken Nearest minute Record Seconds a.m. p.m. Noon Midnight	Same as previous year groups, plus: Estimate Rectilinear figure Area Rectilinear shapes Convert	Same as previous year groups, plus: Square centimetres (cm ²) Square metres (m ²) Irregular shapes Volume (cm ³) Cubes Cuboids Square numbers Cube numbers Metric measure	Same as previous year groups, plus: Decimal notation Cubic centimetres (cm ³) Cubic metres (m ³) Cubic millimetre (mm ³) Cubic kilometre (Km ³)



	Heavy Light Heavier than Lighter than Volume Full Empty More than Less than Half Half full Quarter Quicker Slower Earlier Later Sequence events Chronological order Before After Next First Today Yesterday Tomorrow Morning Afternoon Evening Record Hours Minutes Hour Half past O'clock Hands Clock face Seconds Coins	Thermometers Measuring vessels Metres Centimetres Kilograms Grams Degrees Celsius Litres Millilitres Symbols Money Pounds (£) Pence (p) Different combinations Change Five past Ten past Quarter past Twenty past Twenty-five past Half past Twenty-five to Twenty to Quarter to Ten to Five to	Kilometre Add Subtract Millimetres Perimeter Simple 2-D shapes Analogue clock Roman numerals 12-hour 24-hour Leap year		Metric units Imperial units Inches Pounds Pints	Decimal places Formulae Miles
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	Notes Dates Days Weeks Months Years					
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Geometry: Properties of Shapes						
Identifying Shapes and their Properties						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Explore characteristics of everyday objects and shapes and use mathematical language to describe them.	Recognise and name common 2-D and 3-D shapes, including: * 2-D shapes [e.g. rectangles (including squares), circles and triangles] 3-D shapes [e.g. cuboids (including cubes), pyramids and spheres].	Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line.	Identify horizontal, vertical, perpendicular and parallel lines in relation to other lines.	Identify lines of symmetry in 2-D shapes presented in different orientation.	Identify 3-D shapes, including cubes and other cuboids, from 2-D representations.	Recognise, describe and build simple 3-D shapes, including making nets.
		Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces.				Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.
		Identify 2-D shapes on the surface of 3-D shapes, [for example, a circle on a cylinder and a				



		triangle on a pyramid].				
Drawing and Constructing						
			Draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them.	Complete a simple symmetric figure with respect to a specific line of symmetry.	Draw given angles, and measure them in degrees ($^{\circ}$).	Draw 2-D shapes using given dimensions and angles.
						Recognise, describe and build simple 3-D shapes, including making nets.
Comparing and Classifying						
		Compare and sort common 2-D and 3-D shapes and everyday objects.		Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.	Use the properties of rectangles to deduce related facts and find missing lengths and angles.	Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons.



					Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.	
Angles						
			Recognise angles as a property of shape or a description of a turn.		Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles.	
			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 acute and obtuse angles and compare and order angles up to two right angles by size.	Identify: * angles at a point and one whole turn (total 360 °) * angles at a point on a straight line and ½ a turn (total 180 °) * other multiples of 90 °).	Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles.
			Identify horizontal and vertical lines			



			and pairs of perpendicular and parallel lines.			
Geometry: Properties of Shapes Vocabulary						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Shape Square Rectangle Circle Triangle Sides Straight side Curved side	Same as EYFS, plus: 2-D Shapes 3-D Shapes Two- Dimensional Three- Dimensional Cuboid Cube Pyramid Cone Cylinder Sphere	Same as EYFS & Year 1, plus: Properties Compare Common Line of symmetry Symmetrical Vertical line Edges Faces Vertices Pentagon Hexagon Octagon Kite Rhombus Polygon Square-based pyramid Triangular pyramid Triangular prism Rectangular prism	Same as EYFS & KS1, plus: Angle Turn Right angles Quarter of a turn Half-turn Three quarters of a turn Complete turn Horizontal lines Vertical lines Perpendicular lines Parallel lines	Same as previous year groups, plus: Lines of symmetry Symmetric figure Classify Geometric shapes Quadrilaterals Acute angle Obtuse angle	Same as previous year groups, plus: Angles Measure Degrees Missing lengths Missing angles Regular polygons Irregular polygons Degrees Estimate compare Reflex angle Point Straight line Multiples	Same as previous year groups, plus: Radius Diameter Circumference Nets

Geometry: Position and Direction						
Position, Direction and Movement						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6



Children use everyday language to talk about position, distance.	Describe position, direction and movement, including half, quarter and three-quarter turns.	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)	Recognise angles as a property of shape or a description of a turn.	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).
				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.		
Pattern						



Recognise, create and describe patterns.		Order and arrange combinations of mathematical objects in patterns and sequences.				
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Geometry: Position and Direction Vocabulary

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Position Distance Direction Move Movement Patterns	Same as EYFS, plus: Half turn Quarter turn Three-quarter turn Left Right Up Down	Same as EYFS & Year 1, plus: Rotation Right angle Clockwise Anti-clockwise Order Arrange Sequence	Same as EYFS and KS1	Same as previous year groups, plus: Co-ordinates Quadrant Grid Translate Translation Axis X- axis Y-axis Spaces Unit Plot Point Polygon	Same as previous year groups, plus: Reflection	Same as previous year groups, plus: Four quadrants

Statistics

Interpreting, Constructing and Presenting Data

EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		Interpret and construct simple pictograms, tally charts, block diagrams and simple tables. Ask and answer simple questions by	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.	Complete, read and interpret information in tables, including timetable.	Interpret and construct pie charts and line graphs and use these to solve problems.



		counting the number of objects in each category and sorting the categories by quantity. Ask and answer questions about totalling and comparing categorical data.				
Solving Problems						
			Solve one-step and twostep questions [e.g. '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.	Solve comparison, sum and difference problems using information presented in a line graph.	Calculate and interpret the mean as an average.
Statistics Vocabulary						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		Difference Interpret Construct Pictogram Tally chart Block diagrams Horizontal Vertical x- axis y-axis Key Title Chart Simple tables	Same as KS1, plus: Present Presented Graph Statistics Bar charts Tables Solve One- step questions	Same as previous year groups, plus: Time graphs Comparison Problems	Same as previous year groups, plus: Timetables Line graph	Same as previous year groups, plus: Pie chart Calculate Mean Average



		Ask Answer Questions Counting Objects Category Sort Quantity Total Compare Data	Two- step questions Information			
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Algebra						
Equations						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as $7 = \square - 9$	Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and missing number problems.	Solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction.		Use the properties of rectangles to deduce related facts and find missing lengths and angle.	Express missing number problems algebraically.
	Represent and use number bonds and related subtraction facts within 20.	Recall and use addition and subtraction facts to 20 fluently, and				Find pairs of numbers that satisfy number sentences



		derive and use related facts up to 100.				involving two unknowns.
						Enumerate all possibilities of combinations of two variables.
Formulae						
						Use simple formulae
						Recognise when it is possible to use formulae for area and volume of shapes.
Sequences						
	Sequence events in chronological order using language such as: before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening.	Compare and sequence intervals of time. Order and arrange combinations of mathematical objects in patterns.				Generate and describe linear number sequences.
Algebra Vocabulary						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	Same as EYFS, plus: Solve One-step problem Missing number Check	Same as EYFS & Year 1, plus: Inverse Relationship Compare	Same as EYFS & KS1	Same as previous year groups, plus: Perimeter Algebra	Same as previous year groups, plus: Properties Rectangles	Same as previous year groups, plus: Missing number Problem



	Calculate Problem Sequence Chronological	Order Arrange Pattern		Algebraically	Deduce Related facts Missing lengths Missing angles	Pairs Number sentence Variables Combination Possibility Enumerate Equation Formulae Generate Linear number sequence
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Ratio and Proportion						
Statements only appear in Year 6 but should be connected to previous learning, particularly fractions and multiplication and division.						
						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.

Ratio and Proportion Vocabulary						
EYFS	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
						Ratio Proportion Size Quantity Missing value Integer Multiplication Division Multiply Divide

Eastfield Primary School - Mathematics Progression Map



						Solve Problem Calculate Percentage Comparison Unequal sharing Grouping Fractions Multiples
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