Balcombe CE Primary School
Mathematics Progression Year R – Year 6

Number and Place Value

Counting						
EYFS	**KS1**		**KS2**			
Three and Four Year Olds Reception Early Learning Goals	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
recite numbers past 5 say one number for each item in order 1,2,3,4,5. know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle') count objects, actions and sounds count beyond ten 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	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 find 10 or 100 more or less than a given number	count backwards through zero to include negative numbers count in multiples of 6, 7, 9, 25 and 1 000 find 1 000 more or less than a given number	interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000	use negative numbers in context, and calculate intervals across zero
Comparing Numbers						
EYFS	**KS1**		**KS2**			
Three and Four Year Olds Reception Early Learning Goals	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
compare quantities using language: 'more than', 'fewer than' begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...'	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 1 000	order and compare numbers beyond 1 000 compare numbers with the same number of decimal	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

compare numbers understand the 'one more than/one less than' relationship between consecutive numbers compare quantities up to 10 in different contexts, recognising when one quantity is greater than, less than or the same as the other quantity				places up to two decimal places		
Identifying, Representing and Estimating Numbers						
EYFS	**KS1**		**KS2**			
Three and Four Year Olds Reception Early Learning Goals	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
develop fast recognition of up to 3 objects, without having to count them individually ('subitising') show "finger numbers' up to 5 link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5 experiment with their own symbols and marks as well as numerals subitise link the number symbol (numeral) with its cardinal number value subitise (recognise quantities without counting) up to 5	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			
Reading and Writing Numbers						
EYFS	**KS1**		**KS2**			
Three and Four Year Olds Reception Early Learning Goals	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
link numerals and amounts: for example, showing the right number of objects to match the numeral, up to 5	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 Roman numerals to 100 (I to C) and know that over time, the numeral system	read, write, order and compare numbers to at least 1 000 000 and	read, write, order and compare numbers up to 10 000 000 and

experiment with their own symbols and marks as well as numerals link the number symbol (numeral) with its cardinal number value			read Roman Numerals from I to XII in the context of telling the time	changed to include the concept of zero and place value.	determine the value of each digit read Roman numerals to 1 000 (M) and recognise years written in Roman numerals	determine the value of each digit
Understanding Place Value						
EYFS	**KS1**		**KS2**			
Three and Four Year Olds Reception Early Learning Goals	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
understand the 'one more than/one less than' relationship between consecutive numbers explore the composition of numbers to10 have a deep understanding of numbers to 10, including the composition of each number		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)	recognise the place value of each digit in a four-digit number 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 units, tenths and hundredths	read, write, order and compare numbers to at least 1 000 000 and determine the value of each digit recognise and use thousandths and relate them to tenths hundredths and decimal equivalents	read, write, order and compare numbers up to 10 000 000 and determine the value of each digit identify the value of each digit to three decimal places and multiply and divide numbers by 10, 100 and 1 000 where the answers are up to three decimal places
Rounding						
EYFS	**KS1**		**KS2**			
Three and Four Year Olds Reception Early Learning Goals	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
				round any number to the nearest 10, 100 or 1000 round decimals with one decimal place to the nearest whole number	round any number up to 1000000 to the nearest 10, 100, 1000 10,000 and 100,000 round decimals with two decimal places to the nearest whole number and to one decimal place	round any whole number to a required degree of accuracy solve problems which require answers to be rounded to specified degrees of accuracy

Problem Solving						
EYFS	KS1		KS2			
Three and Four Year Olds Reception Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
solve real world mathematical problems with numbers up to 5 begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...'		use place value and number facts to solve problems	solve number problems and practical problems involving these ideas	solve number and practical problems that involve all of the above and with increasingly large positive numbers	solve number problems and practical problems that involve all of the above	solve number and practical problems that involve all of the above

Addition and Subtraction

Number Bonds						
EYFS	KS1		KS2			
Three and Four Year Olds Reception Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
develop fast recognition of up to 3 objects, without having to count them individually ('subitising') show 'finger numbers' up to 5 subitise explore the composition of numbers to 10 automatically recall number bonds for numbers 0-10 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 have a deep understanding of numbers to 10, including the composition of each number	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				

subitise (recognise quantities without counting) up to 5						

Mental Calculation

EYFS	KS1		KS2			
Three and Four Year Olds Reception Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
develop fast recognition of up to 3 objects, without having to count them individually ('subitising') know that the last number reached when counting a small set of objects tells you how many there are in total ('cardinal principle') show 'finger numbers' up to 5 subitise explore the composition of numbers to 10 automatically recall number bonds for numbers 0-10 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 have a deep understanding of numbers to 10, including the composition of each number subitise (recognise quantities without counting) up to 5	add and subtract one-digit and two-digit numbers to 20, including zero read, write and interpret mathematical statements involving addition (+), subtraction (–) and equals (=) signs	add and subtract numbers using concrete objects, pictorial representations, and mentally, including: *a two-digit number and ones *a two-digit number and tens *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	add and subtract numbers mentally, including: * 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	add and subtract numbers mentally with increasingly large numbers use their knowledge of the order of operations to carry out calculations involving the four operations

Written Methods

EYFS	KS1		KS2			
Three and Four Year Olds Reception Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	read, write and interpret		add and subtract numbers with up to	add and subtract numbers with up to 4	add and subtract whole numbers with	

	mathematical statements involving addition (+), subtraction (-) and equals (=) signs		three digits, using formal written methods of columnar addition and subtraction	digits using the formal written methods of columnar addition and subtraction where appropriate	more than 4 digits, including using formal written methods (columnar addition and subtraction)	
Inverse Operations, Estimating and Checking Answers						
EYFS	**KS1**		**KS2**			
Three and Four Year Olds Reception Early Learning Goals	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
develop fast recognition of up to 3 objects, without having to count them individually ('subitising') explore the composition of numbers to 10		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						
EYFS	**KS1**		**KS2**			
Three and Four Year Olds Reception Early Learning Goals	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
solve real world mathematical problems with numbers up to 5 begin to describe a sequence of events, real or fictional, using words such as 'first', 'then...' explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed evenly	solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations, and missing number problems such as 7 = □ -9	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	solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction	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 solve problems involving addition, subtraction, multiplication and division

Multiplication and Division

Multiplication and Division Facts						
EYFS	**KS1**		**KS2**			
Three and Four Year Olds Reception Early Learning Goals	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
explore the composition of numbers to 10 explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed evenly 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	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 and backward recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables, including recognising odd and even numbers	count from 0 in multiples of 4, 8, 50 and 100 recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables	count in multiples of 6, 7, 9, 25 and 1 000 recall multiplication and division facts for multiplication tables up to 12 × 12	count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000	

Mental Calculation						
EYFS	**KS1**		**KS2**			
Three and Four Year Olds Reception Early Learning Goals	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
explore the composition of numbers to 10 explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed evenly		show that multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot	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 recognise and use factor pairs and commutativity in mental calculations	multiply and divide numbers mentally drawing upon known facts multiply and divide whole numbers and those involving decimals by 10, 100 and 1000	perform mental calculations, including with mixed operations and large numbers associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. 3/8)

Written Calculation						
EYFS	KS1		KS2			
Three and Four Year Olds Reception Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication (×), division (÷) 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 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	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 two-digit whole number using the formal written method of short division where appropriate for the context 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 use written division methods in cases where the answer has up to two decimal places

Properties of Numbers: Multiples, Factors, Primes, Square and Cube Numbers						
EYFS	**KS1**		**KS2**			
Three and Four Year Olds Reception Early Learning Goals	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed evenly				recognise and use factor pairs and commutativity in mental calculations (repeated)	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 (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})	identify common factors, common multiples and prime numbers use common factors to simplify fractions; use common multiples to express fractions in the same denomination 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						
EYFS	**KS1**		**KS2**			
Three and Four Year Olds Reception Early Learning Goals	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
						use their knowledge of the order of operations to carry out calculations involving the four operations

Inverse Operations, Estimating and Checking Answers						
EYFS	**KS1**		**KS2**			
Three and Four Year Olds Reception Early Learning Goals	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
						use estimation to check answers to calculations and determine, in the context of a problem, levels of accuracy

Problem Solving						
EYFS	**KS1**		**KS2**			
Three and Four Year Olds Reception Early Learning Goals	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
explore and represent patterns within numbers up to 10, including evens and odds, double facts and how quantities can be distributed evenly	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 objects	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 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 addition, subtraction, multiplication and division solve problems involving similar shapes where the scale factor is known or can be found

Fractions (including decimals and percentages)

Counting in Fractional Steps						
EYFS	KS1		KS2			
Three and Four Year Olds Reception Early Learning Goals	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						
EYFS	KS1		KS2			
Three and Four Year Olds Reception Early Learning Goals	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 and name a quarter as one of four equal parts of an object, shape or quantity.	recognise, find, name and write fractions 1/3, $\frac{1}{4}$, 2/4 and $\frac{3}{4}$ of a length, shape, set of objects or quantity	recognise, find, write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators recognise that tenths arise from dividing an object 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	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	

Comparing Fractions and Decimals

EYFS	KS1		KS2			
Three and Four Year Olds Reception Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
			compare and order unit fractions, and fractions with the same denominators	compare numbers with the same number of decimal places up to two decimal places	compare and order fractions whose denominators are all multiples of the same number read, write, order and compare numbers with up to three decimal places	compare and order fractions, including fractions >1 identify the value of each digit in numbers given to three decimal places

Rounding Including Decimals

EYFS	KS1		KS2			
Three and Four Year Olds Reception Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
				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)

EYFS	KS1		KS2			
Three and Four Year Olds Reception Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
		write simple fractions for example, ½ of 6 = 3 and recognise the equivalence of 2/4 and ½	recognise and show, using diagrams, equivalent fractions with small denominators	recognise and show, using diagrams, families of common equivalent fractions recognise and write decimal equivalents of any number of tenths or hundredths	identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths read and write decimal numbers as fractions (e.g. 0.71 = 71/100)	use common factors to simplify fractions; use common multiples to express fractions in the same denomination associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a

				recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$, 3/4	recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents 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 as a decimal fraction	simple fraction (e.g. 3/8) recall and use equivalences between simple fractions, decimals and percentages, including in different contexts.
Addition and Subtraction of Fractions						
EYFS	**KS1**		**KS2**			
Three and Four Year Olds Reception Early Learning Goals	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
			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 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)	add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions

Multiplication and Division of Fractions						
EYFS	KS1		KS2			
Three and Four Year Olds Reception Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
					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. $\frac{1}{4} \times \frac{1}{2} = 1/8$) 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						
EYFS	KS1		KS2			
Three and Four Year Olds Reception Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
				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	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	multiply one-digit numbers with up to two decimal places by whole numbers multiply and divide numbers by 10, 100 and 1000 where the answers are up to three decimal places 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

						associate a fraction with division and calculate decimal fraction equivalents (e.g. 0.375) for a simple fraction (e.g. 3/8) use written division methods in cases where the answer has up to two decimal places
Problem Solving						
EYFS	**KS1**		**KS2**			
Three and Four Year Olds Reception Early Learning Goals	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
			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 whole number solve simple measure and money problems involving fractions and decimals to two decimal places.	solve problems which require knowing percentage and decimal equivalents of ½, ¼, 1/5, 2/5, 4/5 and those with a denominator of a multiple of 10 or 25 solve problems involving numbers up to three decimal places	

Ratio and Proportion

Ratio and Proportion						
EYFS	KS1		KS2			
Three and Four Year Olds Reception Early Learning Goals	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.

Algebra

Equations						
EYFS	KS1		KS2			
Three and Four Year Olds Reception Early Learning Goals	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 = □ - 9 represent and use number bonds and	recognise and use the inverse relationship between addition and subtraction and use this to check calculations and **missing number** problems recall and use addition and subtraction facts to	solve problems, including **missing number** problems, using number facts, place value, and more complex addition and subtraction solve problems, including **missing number** problems, involving multiplication and		use the properties of rectangles to deduce related facts and find **missing lengths and angles** (copied from Geometry: Properties of Shapes)	express missing number problems algebraically find pairs of numbers that satisfy number sentences involving two unknowns enumerate all possibilities of combinations of two

	related subtraction facts within 20	20 fluently, and derive and use related facts up to 100	division, including integer scaling			variables

Formulae						
EYFS	**KS1**		**KS2**			
Three and Four Year Olds Reception Early Learning Goals	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
				perimeter can be expressed algebraically as 2(a + b) where a and b are the dimensions in the same unit		use simple formulae recognise when it is possible to use formulae for area and volume of shapes

Sequences						
EYFS	**KS1**		**KS2**			
Three and Four Year Olds Reception Early Learning Goals	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
	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

Measurement

Comparing and Estimating						
EYFS	**KS1**		**KS2**			
Three and Four Year Olds Reception Early Learning Goals	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
make comparisons between objects relating to size, length, weight and capacity compare length, weight and capacity	compare, describe and solve practical problems for: *lengths and heights [for example,	compare and order lengths, mass, volume/capacity and record the results using >, < and =	compare durations of events, for example to calculate the time taken by particular events or tasks	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,	calculate, estimate and compare volume of cubes and cuboids using standard units, including centimetre

order two or three items by length or height	long/short, longer/shorter, tall/short, double/half] *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] sequence events in chronological order using language [for example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening]	compare and sequence intervals of time	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		square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes estimate volume (e.g. using 1 cm^3 blocks to build cubes and cuboids) and capacity (e.g. using water)	cubed (cm^3) and cubic metres (m^3) and extending to other units such as mm^3 and km^3

Measuring and Calculating

EYFS	KS1		KS2			
Three and Four Year Olds Reception Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
	measure and begin to record the following: *lengths and heights *mass/weight *capacity and volume *time (hours, minutes, seconds) recognise and know the value of different denominations of	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,	measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) measure the perimeter of simple 2-D shapes add and subtract	estimate, compare and calculate different measures, including money in pounds and pence measure and calculate the perimeter of a rectilinear figure (including squares) in	use all four operations to solve problems involving measure (e.g. length, mass, volume, money) using decimal notation including scaling measure and calculate the perimeter of	solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate recognise that shapes with the

	coins and notes	using rulers, scales, thermometers and measuring vessels recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value 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	amounts of money to give change, using both £ and p in practical contexts	centimetres and metres find the area of rectilinear shapes by counting squares	composite rectilinear shapes in centimetres and metres 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 recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3})	same areas can have different perimeters and vice versa calculate the area of parallelograms and triangles 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 [e.g. mm^3 and km^3] recognise when it is possible to use formulae for area and volume of shapes

Telling the Time

EYFS	KS1		KS2			
Three and Four Year Olds Reception Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
begin to describe a sequence of events, real or fictional, using words, such as 'first', 'then...'	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.	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 know the number of minutes in an hour and the number of hours in a day.	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 and read time with increasing accuracy to the nearest minute; record and compare time in terms of	read, write and convert time between analogue and digital 12 and 24-hour clocks solve problems involving converting from hours to minutes; minutes to seconds; years to mths; weeks to days	solve problems involving converting between units of time	

			seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight			
Converting						
EYFS	**KS1**		**KS2**			
Three and Four Year Olds Reception Early Learning Goals	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
		know the number of 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) read, write and convert time between analogue and digital 12 and 24-hour clocks solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days	convert between different units of metric measure (e.g. kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) solve problems involving converting between units of time understand and use 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 solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate convert between miles and kilometres

Geometry: Properties of Shape

Identifying Shapes and their Properties						
EYFS	**KS1**		**KS2**			
Three and Four Year Olds Reception Early Learning Goals	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: 'sides', 'corners'; 'straight', 'flat', 'round' select, rotate and manipulate shapes in order 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].	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]		identify lines of symmetry in 2-D shapes presented in different orientations	identify 3-D shapes, including cubes and other cuboids, from 2-D representations	recognise, describe and build simple 3-D shapes, including making nets illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius

Drawing and Constructing						
EYFS	**KS1**		**KS2**			
Three and Four Year Olds Reception Early Learning Goals	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
select shapes appropriately: flat surfaces for building, a triangular prism for a roof etc. combine shapes to make new ones - an arch, a bigger triangle etc. select, rotate and manipulate shapes in order to develop spatial reasoning skills			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 (°)	draw 2-D shapes using given dimensions and angles recognise, describe and build simple 3-D shapes, including making nets

compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can						
Comparing and Classifying						
EYFS	**KS1**		**KS2**			
Three and Four Year Olds Reception Early Learning Goals	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
talk about and explore 2D and 3D shapes (for example, circles, rectangles, triangles and cuboids) using informal and mathematical language: 'sides', 'corners'; 'straight', 'flat', 'round' compose and decompose shapes so that children recognise a shape can have other shapes within it, just as numbers can		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 distinguish between regular and irregular polygons based on reasoning about equal sides and angles	compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons
Angles						
EYFS	**KS1**		**KS2**			
Three and Four Year Olds Reception Early Learning Goals	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
			recognise angles as a property of shape or a description of a turn 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	know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles 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: Position and Direction

Position, Direction and Movement						
EYFS	KS1		KS2			
Three and Four Year Olds Reception Early Learning Goals	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
understand position through words alone – for example, "The bag is under the table," – with no pointing describe a familiar route discuss routes and locations, using words like 'in front of' and 'behind' draw information from a simple map talk about and identify the patterns around them. For example: stripes on clothes, designs on rugs and wallpaper. Use informal language like 'pointy', 'spotty', 'blobs' etc. extend and create ABAB patterns – stick, leaf, stick, leaf notice and correct an error in a repeating pattern continue, copy and create repeating patterns	describe position, direction and movement, including whole, 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) order and arrange combinations of mathematical objects in patterns and sequences		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 the full coordinate grid (all four quadrants) draw and translate simple shapes on the coordinate plane, and reflect them in the axes.

Statistics

Interpreting, Constructing and Presenting Data						
EYFS	**KS1**		**KS2**			
Three and Four Year Olds Reception Early Learning Goals	**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 counting the number of objects in each category and sorting the categories by quantity ask and answer questions about totalling and comparing categorical data.	interpret and present data using bar charts, pictograms and tables	interpret and present discrete and continuous data using appropriate graphical methods, incl. bar charts and time graphs	complete, read and interpret information in tables, including timetables	interpret and construct pie charts and line graphs and use these to solve problems
Solving Problems						
EYFS	**KS1**		**KS2**			
Three and Four Year Olds Reception Early Learning Goals	**Year 1**	**Year 2**	**Year 3**	**Year 4**	**Year 5**	**Year 6**
			solve one-step and two step questions [e.g. 'How many more?' and 'How many fewer?'] using information presented in scaled bar charts, pictograms, 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