



	Aspect	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Number- place value	Numbers to 10	Count objects, actions and sounds, up to 10 forwards and backwards, beginning at zero, one or any given number and link numerals with its cardinal number value. Explore odd and even numbers to 10.	<p>Sort objects into groups by characteristics.</p> <p>Begin to count objects that have been sorted into groups from one to 10.</p> <p>Count objects that have been sorted into groups from one to 10.</p> <p>Identify and represent numbers using concrete objects and pictorial representations.</p> <p>Find consecutive and non-consecutive missing numbers in sequences counting forwards.</p> <p>Find consecutive and non-consecutive missing numbers in sequences counting backwards.</p> <p>Identify one more than a given number within 10.</p> <p>Identify one less than a given number within 10.</p> <p>Match one object with another.</p> <p>Compare groups of objects using the language of equal to, more, more than, greater than, less, less than and fewer.</p> <p>Use <math>&lt;</math>, <math>&gt;</math> and <math>=</math> signs to compare numbers within 10.</p> <p>Compare numbers using the language: 'greatest, largest, smallest, more than, less than, least, most' and 'equal to'.</p> <p>Justify the order of numbers using their counting, sorting and grouping knowledge.</p> <p>Order three groups of objects and use the language 'greatest and smallest'.</p> <p>Order numbers within 10 using the language 'greatest, largest, smallest, more than, less than, least, most' and 'equal to'. Justify the order of numbers using their place value knowledge.</p> <p>Use ordinal numbers to compare position.</p> <p>Use a number line to 10 to: * Count to 10 * See one more/one less * See greater than/less than statements *</p> <p>Order numbers</p>					

	Aspect	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Number- place value	Numbers to 20	<p>Find one more or one less than numbers to 10.</p> <p>Explore addition and subtraction with numbers to 10, using concrete objects, pictorial representations and number lines.</p> <p>Explore the composition of numbers to 10 and compare numbers.</p> <p>Recall number bonds to five and explore the different ways that groups of six–10 objects can be represented. Examples include, three and four together make seven, and seven take away four leaves three.</p>	<p>Find consecutive and non-consecutive missing numbers in sequences, counting forwards and backwards, including numbers 11 to 20.</p> <p>Represent numbers 11 to 20 in different ways.</p> <p>Partition number 11 to 19 into a 10 and ones.</p> <p>Identify one more and one less than a given number within 20.</p> <p>Use vocabulary of comparison such as: greater than, less than and equal to compare groups of objects including those greater than 10.</p> <p>Use <math>&lt;</math>, <math>&gt;</math> and <math>=</math> signs to compare numbers within 20.</p> <p>Order up to three groups of objects within 20.</p> <p>Order up to three abstract digits from 0 to 20.</p>	<p>Consolidate finding consecutive and non-consecutive missing numbers in sequences, counting forwards and backwards, including numbers 11 to 20.</p> <p>Consolidate partitioning number 11 to 19 into a 10 and ones.</p>				

	Aspect	Reception	Year 1	Year 2
Number- place value	Numbers beyond 20- Reception and KS1	<p>Recite numbers, in order, to 20 and beyond.</p> <p>Identify and represent up to five objects, without counting, using concrete objects and pictorial representation.</p> <p>Use and understand language related to adding and subtracting, including 'more than, less than' and 'the same as'.</p>	<p>Count to 50, beginning with 0 or 1, or from any given number.</p> <p>Count forwards and backwards to and from 50 from any given number.</p> <p>Represent numbers to 50 and partition a two digit number into 10s and ones.</p> <p>Identify one more or less than a given number, using numbers to 50.</p> <p>Use the language of equal to, more than, less than (fewer), most and least in various mathematical contexts.</p> <p>Use <math>&lt;</math>, <math>&gt;</math> and <math>=</math> signs to compare numbers within 50.</p> <p>Order numbers within 50 using the language 'largest, smallest, more than, less than, least, most' and 'equal to', and justify the order of numbers using their place value knowledge.</p> <p>Count in multiples of two from 20 to 50.</p> <p>Count in multiples of five from 20 to 50.</p> <p>Count to 100, beginning with zero or one, or from any given number.</p> <p>Group in 10s to identify how many 10s and ones are within numbers up to 100.</p> <p>Use <math>&lt;</math>, <math>&gt;</math> and <math>=</math> signs and language to begin comparing numbers up to 100.</p> <p>Compare numbers and amounts using <math>&lt;</math>, <math>&gt;</math> and <math>=</math> signs and language 'more than, less than' and 'equal to'.</p> <p>Order sets of objects and numbers from smallest to largest and largest to smallest, using the language 'most, bigger, biggest, larger, largest, smaller, smallest' and 'least'.</p> <p>Identify one more or less than a given number, using numbers to 100.</p>	<p>Consolidate counting to 50, beginning with zero or one, or from any given number.</p> <p>Consolidate represent numbers to 50 and partition a two digit number into 10s and ones.</p> <p>Consolidate using <math>&lt;</math>, <math>&gt;</math> and <math>=</math> signs to compare numbers within 50.</p> <p>Read and write numbers to at least 100 in numerals and words.</p> <p>Recognise the place value of each digit in a two-digit number (ones and tens).</p> <p>Partition numbers in a variety of ways, not just as 10s and ones. For example, 58 is made up of five 10s and eight ones or four 10s and 18 ones, or two 10s and 38 ones.</p> <p>Explore how 10s and ones can be partitioned and recombined to make a total.</p> <p>Use concrete, pictorial and abstract representations correctly in a place value chart.</p> <p>Compare a variety of groups of objects using the language 'equal to, more, more than, greater than, less, less than, fewer' and the symbols <math>&lt;</math>, <math>&gt;</math> and <math>=</math>.</p> <p>Use <math>&lt;</math>, <math>&gt;</math> and <math>=</math> signs to write number sentences.</p> <p>Compare and order numbers from zero up to 100.</p> <p>Consolidate counting in multiples of two.</p> <p>Consolidate counting in multiples of five.</p> <p>Consolidate count in multiples of 10.</p> <p>Count in multiples of three.</p>



	Aspect	Year 3	Year 4	Year 5	Year 6
Number- place value	Numbers beyond 20 - KS2	<p>Consolidate recognising the place value of each digit in a two digit number (ones and 10s). Consolidate exploring how tens and ones can be partitioned and recombined to make a total. Explore 100.</p> <p>Demonstrate using base 10, concrete and pictorial representations, including place value grids, how hundreds are bigger than 10s and how 10s are bigger than ones.</p> <p>Read and write three digit numbers on a place value grid.</p> <p>Estimate, work out and write numbers on a number line to 100.</p> <p>Estimate, work out and write numbers on a number line to 1000.</p> <p>Find 10 and 100 more or less than a given number.</p> <p>Use &lt;, &gt; and = signs to compare objects and numbers up to 1000.</p> <p>Compare and order numbers up to 1000.</p> <p>Count in steps of 50 from any multiple of 50, both forwards and backwards.</p> <p>Consolidate, using base 10 concrete and pictorial representations, including place value grids, the understanding of how hundreds are bigger than 10s and how 10s are bigger than ones.</p> <p>Consolidate reading and writing three digit numbers on a place value grid.</p> <p>Consolidate estimating, working out and writing numbers on a number line to 1000.</p> <p>Round any three digit number to the nearest 10.</p> <p>Round any three digit number to the nearest hundred.</p> <p>Explore 1000.</p> <p>Represent numbers to 10,000 using a range of concrete materials.</p> <p>Partition numbers in a variety of ways, not just as thousands, hundreds, 10s and ones. For example, <math>5000 + 300 + 20 + 9</math> is equal to <math>4000 + 1300 + 10 + 19</math>.</p> <p>Estimate, work out and write numbers on a number line to 10,000.</p> <p>Consolidate finding 10 and 100 more or less than a given number.</p> <p>Find 1000 more or less than a given number.</p> <p>Compare and order numbers beyond 1000, up to 10,000.</p> <p>Round any four digit number to the nearest 1000.</p> <p>Use number facts to count in 25s.</p> <p>Consolidate representing numbers to 10,000 using a range of concrete materials.</p> <p>Represent numbers to 10,000, adding and subtracting 10, 100 and 1000 and discussing what happens to the place value columns.</p> <p>Consolidate rounding any three digit number to the nearest 10.</p> <p>Consolidate rounding any three digit number to the nearest 100.</p> <p>Round any four digit number to the nearest 10, hundred or thousand.</p>	<p>Consolidate, using base 10 concrete and pictorial representations, including place value grids, the understanding of how hundreds are bigger than 10s and how 10s are bigger than ones.</p> <p>Consolidate reading and writing three digit numbers on a place value grid.</p> <p>Consolidate estimating, working out and writing numbers on a number line to 1000.</p> <p>Round any three digit number to the nearest 10.</p> <p>Round any three digit number to the nearest hundred.</p> <p>Explore 1000.</p> <p>Represent numbers to 10,000 using a range of concrete materials.</p> <p>Partition numbers in a variety of ways, not just as thousands, hundreds, 10s and ones. For example, <math>5000 + 300 + 20 + 9</math> is equal to <math>4000 + 1300 + 10 + 19</math>.</p> <p>Estimate, work out and write numbers on a number line to 10,000.</p>	<p>Consolidate representing numbers to 10,000 using a range of concrete materials.</p> <p>Represent numbers to 10,000, adding and subtracting 10, 100 and 1000 and discussing what happens to the place value columns.</p> <p>Consolidate rounding any three digit number to the nearest 10.</p> <p>Consolidate rounding any three digit number to the nearest 100.</p> <p>Round any four digit number to the nearest 10, hundred or thousand.</p> <p>Represent numbers on a place value grid to 100,000 and use a number line to find numbers between two points. Place a number and estimate where larger numbers will be.</p> <p>Compare and order numbers up to 100,000.</p> <p>Round any number to 100,000 using understanding of multiples of 10, 100, 1000 and 10,000.</p>	<p>Consolidate representing numbers to 10,000, adding and subtracting 10, 100 and 1000 and discussing what happens to the place value columns.</p> <p>Consolidate representing numbers on a place value grid to 100,000 and use a number line to find numbers between two points. Place a number and estimate where larger numbers will be.</p> <p>Consolidate reading, writing and representing numbers to 1,000,000.</p>



	Aspect	Year 3	Year 4	Year 5	Year 6
Number- place value	Numbers beyond 20 - KS2	<p>Represent numbers on a place value grid to 100,000 and use a number line to find numbers between two points. Place a number and estimate where larger numbers will be.</p> <p>Compare and order numbers up to 100,000.</p> <p>Round any number to 100,000 using understanding of multiples of 10, 100, 1000 and 10,000.</p> <p>Read, write and represent numbers to 1,000,000.</p> <p>Complete number sequences using counting forwards and backwards in powers of 10 up to 1,000,000.</p> <p>Use &lt;, &gt; and = signs and language to compare and order numbers up to 1,000,000.</p> <p>Round numbers to six digits, including rounding to the nearest 100,000, and explain where rounding in context is different than expected.</p> <p>Consolidate representing numbers to 10,000, adding and subtracting 10, 100 and 1000 and discussing what happens to the place value columns.</p> <p>Consolidate representing numbers on a place value grid to 100,000 and use a number line to find numbers between two points. Place a number and estimate where larger numbers will be.</p> <p>Consolidate reading, writing and representing numbers to 1,000,000.</p> <p>Read, write and represent numbers to ten million in different ways.</p> <p>Compare and order numbers, presented in different ways, up to ten million.</p> <p>Consolidate rounding any four digit number to the nearest 10, hundred or thousand.</p> <p>Round any whole number to 10,000,000.</p>	<p>Consolidate finding 10 and 100 more or less than a given number.</p> <p>Find 1000 more or less than a given number.</p> <p>Compare and order numbers beyond 1000, up to 10,000.</p> <p>Round any four digit number to the nearest 1000.</p> <p>Use number facts to count in 25s.</p>	<p>Read, write and represent numbers to 1,000,000.</p> <p>Complete number sequences using counting forwards and backwards in powers of 10 up to 1,000,000.</p> <p>Use &lt;, &gt; and = signs and language to compare and order numbers up to 1,000,000.</p> <p>Round numbers to six digits, including rounding to the nearest 100,000, and explain where rounding in context is different than expected.</p>	<p>Read, write and represent numbers to ten million in different ways.</p> <p>Compare and order numbers, presented in different ways, up to ten million.</p> <p>Consolidate rounding any four digit number to the nearest 10, hundred or thousand.</p> <p>Round any whole number to 10,000,000.</p>



	Aspect	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Number- place value	Negative Numbers					Count backwards through zero to include negative numbers.	Explore negative numbers and their position on a number line. Count back through zero and use negative numbers in context, such as temperature..	Understand negative numbers through counting forwards and backwards through zero. Find intervals across zero in relevant contexts.
	Roman Numerals					Explore Roman numerals up to 100 (I to C).	Read Roman numerals up to 1000 (M) and recognise years written in Roman numerals.	



	Aspect	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Number- Algebra	Algebra							<p>Explore one-step function machines, giving an output to an input, and work backwards to give an input from an output.</p> <p>Explore two-step function machines, recording inputs and outputs in the form of a table.</p> <p>Use simple algebraic inputs, such as <math>y</math>, to form expressions, such as <math>y + 4</math>.</p> <p>Substitute into simple expressions to find a particular value.</p> <p>Substitute into familiar formulae such as those for area and volume and use simple formulae to work out values of everyday activities such as the cost of a taxi or the amount of medicine to take given a person's age.</p> <p>Use algebraic notation to form one-step equations.</p> <p>Solve simple one-step equations involving the four operations.</p> <p>Solve two-step equations involving the four operations.</p> <p>Find pairs of numbers that satisfy an equation involving two unknowns, such as <math>2p + q = 12</math>.</p> <p>Find possible solutions to equations which involve multiples of one or more unknown.</p>
Number- Ratio	Ratio							<p>Make simple comparisons between two different quantities.</p> <p>Use objects and diagrams to compare ratios and fractions.</p> <p>Recognise the colon notation as relating to the order of parts. Use the language 'for every..., there are...' and read ratios, such as 3:5 as 'three to five'.</p> <p>Draw 2-D shapes on a grid to a given scale factor and be able to use vocabulary, such as 'Shape A is three times as big as shape B'.</p> <p>Use multiplication and division fact to calculate missing information and scale factors.</p> <p>Apply learned ratio skills and knowledge to a wide range of problems in different contexts.</p>



	Aspect	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Number – Decimals and Percentages	Fractions, Decimals and Percentages				<p>Count up and down in tenths, recognising that tenths arise from dividing an object into 10 equal parts and in dividing one digit numbers or quantities by 10.</p>	<p>Consolidate counting up and down in tenths, recognising that tenths arise from dividing an object into 10 equal parts and in dividing one digit numbers or quantities by 10. Recognise tenths or hundredths using a hundreds square. Use a part-whole model to partition a fraction into tenths and hundredths. Recognise the relationship between <math>\frac{1}{10}</math> and 0.1. Write any number of tenths as a decimal and represent them using concrete and pictorial representations. Count up and down in hundredths, recognising that hundredths arise when dividing an object or number by 100 and dividing tenths by 10. Write hundredths as decimals and as fractions. Write <math>\frac{1}{2}</math>, <math>\frac{1}{4}</math> and <math>\frac{3}{4}</math> as decimals linking to hundredths.</p>	<p>Convert fractions to decimals and explore their relationship. Represent more complex decimal numbers and fractions as fractions and decimals. Explore the links between tenths, hundredths and thousandths in both decimal and fraction form. Recognise the percent symbol (%), knowing that percent relates to 'number of parts per hundred'. Write percentages as a fraction with the denominator 100 and as a decimal. Recall the fraction and decimal equivalents of 50%, 25%, 20%, 40% and 80%.</p>	<p>Explore the links between tenths, hundredths and thousandths. Consider decimal and mixed number equivalences. Convert decimals to fractions and explore their relationship and simplify fractions to help show patterns. Explore how finding an equivalent fraction where the denominator is 10, 100 or 1000 makes it easier to convert from a fraction to a decimal. Find fractions as decimals by dividing the numerator by the denominator. Consolidate the recognition of the percent symbol (%), knowing that percent relates to 'number of parts per hundred'. Convert fractions to equivalent fractions where the denominator is 100 in order to find the percentage equivalent. Use knowledge of common equivalent fractions and decimals to find the equivalent percentage. Convert between fractions, decimals and percentages to order and compare them. Use known fractional equivalences, such as 50%, 25%, 10% and 1%, to find percentages of amounts. Explore different methods of finding certain percentages. Find 20% by dividing by 10 and multiplying by 2 or by dividing by 5. Find 5% by finding half of 10%. Using these methods, build up to find other percentages, such as 35%. Use their understanding of percentages to find the missing whole or a missing percentage when the other values are given</p>



## Number – Decimals and Percentages

## Recognise, order and compare decimals

Aspect	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
					<p>Read and represent tenths on a place value grid.</p> <p>Read and represent tenths on a number line and link this to measurement, looking at measuring in cm and mm.</p> <p>Demonstrate on a place value chart how the digits move when dividing by 10, and the importance of zero as a place holder.</p> <p>Demonstrate how two digit numbers move on a place value chart when dividing by 10.</p> <p>Read and represent hundredths on a place value grid.</p> <p>Demonstrate how two digit numbers move on a place value chart when dividing by 100.</p> <p>Revise number bonds to 10 and 100.</p> <p>Make a whole from any number of tenths and hundredths.</p> <p>Read and write numbers with up to two decimal places and understand the value of each digit.</p> <p>Compare numbers with up to two decimal places.</p> <p>Order numbers with up to two decimal places.</p> <p>Round numbers with one decimal place to the nearest whole number.</p>	<p>Use place value counters and a place value grid to make numbers with up to two decimal places, reading and writing the decimal numbers and explaining the value of each digit.</p> <p>Read and represent thousandths on a place value grid.</p> <p>Round decimals with two decimal places to the nearest whole number and to one decimal place (380.64 → 380.6; 34.65 → 34.7; 1456.54 → 1457).</p> <p>Read, write, order and compare numbers with up to three decimal places.</p> <p>Create simple rules for given decimal sequences.</p> <p>Multiply numbers with decimals by 10, 100 and 1000.</p> <p>Divide numbers with decimals by 10, 100 and 1000.</p>	<p>Consolidate using place value counters and a place value grid to make numbers with up to two decimal places, reading and writing the decimal numbers and explaining the value of each digit.</p> <p>Consolidate reading and represent thousandths on a place value grid.</p> <p>Identify the value of each digit in numbers given to three decimal places and multiply the numbers by 10, 100 and 1000, giving answers up to three decimal places.</p> <p>Identify the value of each digit in numbers given to three decimal places and divide the numbers by 10, 100 and 1000, giving answers up to three decimal places.</p> <p>Use concrete resources to multiply decimals, explore what happens when exchanges take place. Make links to money and measures.</p> <p>Use concrete resources to divide decimals. Explore what happens when exchanges take place.</p>



	Aspect	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Number – Decimals and Percentages	Addition with decimals						Add decimals within one whole. Find the complements which sum to make one. Add decimals crossing the whole, using complements. Add numbers greater than one with the same number of decimal places. Add numbers with different numbers of decimal places.	
	Subtraction with decimals						Subtract decimals within one whole. Subtract numbers with the same number of decimal places. Subtract decimals with different numbers of decimal places.	
	Problems (decimals and percentages)						Solve problems involving adding and subtracting decimals with the same number of decimal places. Solve problems involving adding and subtracting decimals with a different number of decimal places. Add and subtract numbers with decimals from whole numbers.	Use understanding of division to solve problems where the answer has up to two decimal places.



	Aspect	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Statistics	Construct, read and interpret			<p>Construct simple tally charts.</p> <p>Construct simple pictograms.</p> <p>Interpret simple pictograms. Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity.</p> <p>Construct more complex pictograms where part symbols are used.</p> <p>Interpret more complex pictograms.</p>	<p>Consolidate constructing simple tally charts.</p> <p>Consolidate constructing more complex pictograms where part symbols are used.</p> <p>Consolidate interpreting simple pictograms. Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity.</p> <p>Interpret data from bar charts, pictograms and tables.</p>	<p>Interpret and present discrete data in bar charts, pictograms and tables including data gathered using tally charts. Use an appropriate scale when drawing bar charts.</p> <p>Read a time line graph accurately and create their own line graphs to represent continuous data.</p>	<p>Consolidate interpreting and presenting discrete data in bar charts, pictograms and tables including data gathered using tally charts. Use an appropriate scale when drawing bar charts.</p> <p>Consolidate reading a time line graph accurately and create their own line graphs to represent continuous data.</p> <p>Read horizontal and vertical axes of a line graph, including estimating the values between intervals.</p> <p>Represent data in a line graph, drawing axes with appropriate scale.</p> <p>Read tables to extract information and answer questions.</p> <p>Read, answer questions on and complete two-way tables.</p> <p>Read timetables to extract information and answer questions.</p>	<p>Use knowledge of scale to read line graphs accurately.</p> <p>Read and interpret line graphs, including those that show more than one set of data. Draw line graphs selecting the most appropriate scales and intervals to use.</p> <p>Read, interpret and draw lines graphs. Use line graphs to solve problems.</p>



	Aspect	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Statistics	Problems (Statistics)				Ask and answer questions about totalling and comparing categorical data for simple block diagrams.	Solve comparison, sum and difference problems using discrete data, including gathered data, with a range of scales. Solve comparison, sum and difference problems using continuous data with a range of scales. Ask and answer questions relating to collected data.	Consolidate solving comparison, sum and difference problems using discrete data, including gathered data, with a range of scales. Solve comparison, sum and difference problems using information presented in a line graph.	Calculate and interpret the mean as an average.
	Pie Charts							Illustrate and name the parts of a circle, including the radius, diameter and circumference, and know that the radius is half of the diameter. Calculate fractions of amounts to interpret simple pie charts, and use a clear understanding what the whole of the pie chart represents when solving problems. Calculate percentages of amounts to interpret pie charts, recognising fractions in order to read the pie chart more efficiently. Draw pie charts using a protractor.



	Aspect	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Geometry - Shape, Position and Direction	Shape	<p>Use mathematical names for common 3-D shapes and use 3-D shapes in their play.</p> <p>Use mathematical names for common 2-D shapes and explore shapes in their play.</p>	<p>Recognise and name common 3-D shapes, including cuboids, cubes, cylinders, pyramids, cones and spheres, in different orientations and sizes, and relate them to everyday objects.</p> <p>Sort and group 3-D shapes according to simple properties, including type, size and colour.</p> <p>Recognise and name common 2-D shapes, including rectangles, squares, circles and triangles, in different orientations and sizes, and relate them to everyday objects.</p> <p>Sort and group 2-D shapes according to simple properties, including type, size and colour.</p>	<p>Recognise and name 2-D and 3-D shapes in different orientations and proportions, and differentiate between them.</p> <p>Count sides of 2-D shapes by marking each side as they count.</p> <p>Identify and count vertices of 2-D shapes.</p> <p>Draw 2-D shapes.</p> <p>Explore shapes being halved along their vertical line of symmetry.</p> <p>Recognise and sort 2-D shapes, including a circle, square, triangle, rectangle, pentagon, hexagon and octagon, using a range of different orientations.</p> <p>Create patterns with 2-D shapes.</p> <p>Identify and describe 2-D shapes of faces on 3-D shapes.</p> <p>Identify edges on 3-D shapes.</p> <p>Identify vertices on 3-D shapes.</p> <p>Compare and sort 3-D shapes and everyday objects.</p>	<p>Recognise, describe and draw 2-D shapes accurately.</p> <p>Recognise and describe 3-D shapes in different orientations, using properties, such as the number of faces, edges, vertices and curved surfaces.</p> <p>Make 3-D shapes (cubes, cuboids, prisms, cylinders, pyramids, cones and spheres) using construction materials.</p>	<p>Consolidate recognising, describing and drawing 2-D shapes accurately.</p> <p>Compare and classify triangles using the names isosceles, scalene and equilateral.</p> <p>Name and describe properties of quadrilaterals, including a square, rectangle, rhombus, parallelogram and trapezium.</p>	<p>Consolidate comparing and classifying triangles, using the names isosceles, scalene and equilateral.</p> <p>Consolidate naming and describing properties of quadrilaterals including a square, rectangle, rhombus, parallelogram and trapezium.</p> <p>Distinguish between regular and irregular polygons.</p> <p>Identify 3-D shapes, including cubes and cuboids, from their 2-D nets.</p>	<p>Draw shapes accurately, using learned knowledge, on different grids, such as squared and dotted paper, and using a protractor on plain paper.</p> <p>Identify and create a 3-D shape from its net. Draw nets of shapes accurately.</p>



	Aspect	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Geometry - Shape, Position and Direction	Pattern and Symmetry	Continue, copy and create repeating patterns using a variety of objects.	Complete and make simple patterns with 2-D and 3-D shapes.	Create patterns with 3-D shapes.	Identify horizontal and vertical lines of symmetry in shapes and symbols.	Consolidate identifying horizontal and vertical lines of symmetry in shapes and symbols. Identify lines of symmetry within 2-D shapes using mirrors, tracing paper and paper folding activities. Complete 2-D shapes and patterns using knowledge of symmetry and equipment, such as squared paper, mirrors or tracing paper, to help them to accurately complete figures.	Consolidate identifying lines of symmetry within 2-D shapes using mirrors, tracing paper and paper folding activities. Consolidate completing 2-D shapes and patterns using knowledge of symmetry and equipment, such as squared paper, mirrors or tracing paper, to help them to accurately complete figures.	



# Geometry - Shape, Position and Direction

## Position, Direction and Co-ordinates

Use and understand language that describes where objects are in relation to each other.

Describe position and movement, including whole, half, quarter and three quarter turns. Describe direction and movement, including forwards, backwards, left and right. Describe position, including top, in between, bottom, above and below.

Consolidate describing direction and movement including forwards, backwards, left and right. Consolidate describing position, including top, in between, bottom, above and below. Solve problems involving position. Give and then write directions for routes, including recording routes on 2-D grids. Describe turns using the language full, half, quarter, three quarter turns, clockwise and anticlockwise. Describe and record directions involving movement and turns. Describe and create patterns that involve direction and turns using the language clockwise, anticlockwise, quarter, half and three quarters.

Read, write and use pairs of coordinates in the first quadrant, reading the axes in the correct order. Plot given coordinates on a 2-D grid and read, write and use pairs of coordinates. Move shapes and points on a coordinate grid following specific directions using language such as left/right and up/down. Describe the movement of shapes and points on a coordinate grid using specific language, such as left/right and up/down.

Consolidate reading, writing and using pairs of coordinates in the first quadrant, reading the axes in the correct order. Consolidate plotting given coordinates on a 2-D grid and read, write and use pairs of coordinates. Read coordinates in the first quadrant. Translate shapes on a grid. Translate and describe translations of coordinates. Reflect objects using lines that are parallel to the axes, using a 2-D grid and coordinates in the first quadrant. Record the coordinates of the vertices of objects and its reflected image.

Read and plot coordinates in the first quadrant. Read and plot coordinates in all four quadrants. Draw and translate simple shapes in all four quadrants of a coordinates grid and describe the translations using directional language. Reflect shapes in both the  $x$ -axis and  $y$ -axis.



	Aspect	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Geometry - Shape, Position and Direction	Angles				<p>Recognise angles as a measure of a turn. Practice making <math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, <math>\frac{3}{4}</math> and whole turns from different starting points, in both clockwise and anticlockwise directions, in practical contexts. Explore right angles and define with respect to turn. Identify whether an angle is greater than or less than a right angle in shapes and turns Measure and draw straight lines accurately in centimetres and millimetres. Identify and find parallel and perpendicular lines in a range of practical contexts. Use the arrow notation to represent parallel lines and the right angle notation for perpendicular lines.</p>	<p>Consolidate recognising angles as a measure of a turn, and practise making <math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, <math>\frac{3}{4}</math> and whole turns from different starting points in both clockwise and anticlockwise directions in practical contexts. Consolidate exploring right angles and define with respect to turn. Consolidate identifying whether an angle is greater than or less than a right angle in shapes and turns Compare acute and obtuse angles with a right angle. Compare and order angles in ascending and descending order.</p>	<p>Consolidate comparing acute and obtuse angles with a right angle. Consolidate comparing and ordering angles in ascending and descending order. Recognise and define angles in terms of degrees and as fractions of a full turn. Use a protractor to measure acute angles. Use a protractor to measure obtuse angles. Use a protractor to draw angles of a given size. Calculate missing angles on a straight line. Calculate missing angles and know when to measure an angle and when to calculate from given facts. Identify right angles in squares and rectangles on a grid.</p>	<p>Use a protractor to measure angles given in different orientations, identifying which side of the scale to read. Consolidate using a protractor to draw angles of a given size. Make links between right angles and turns, and apply these links in different contexts, such as time and on a compass. Consolidate calculating missing angles on a straight line. Consolidate calculating missing angles and know when to measure an angle and when to calculate from given facts. Calculate unknown angles. Explore vertically opposite angles. Explore interior angles of a triangle. Calculate unknown angles in triangles using known properties including length of sides. Solve missing angle problems. Explore interior angles of quadrilaterals, including a parallelogram, rhombus and trapezium. Partition shapes into triangles from a single vertex to work out the sum of the angles in polygons. Calculate exterior angles using knowledge of angles on a straight line summing to 180 degrees.</p>



Measuring- Measuring and Calculating

Aspect	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Length and Height	Use language in their play, including heavy, light, heavier, lighter, long, short, longer, shorter, tall, taller, full and empty. Compare and order the length and height of two to three objects and use and understand the language tall, taller, tallest, long, longer, longest, short, shorter and shortest.	Compare, describe and solve practical problems for lengths and heights (long or short; longer or shorter; tall or short and double or half). Measure and begin to record lengths and heights, using pictorial representations, numbers or words. Measure and begin to record lengths and heights, using a ruler.	Consolidate comparing, describing and solving practical problems for lengths and heights (long or short; longer or shorter; tall or short and double or half). Consolidate measuring and recording lengths and heights, using pictorial representations, numbers or words. Consolidate measuring and recording lengths and heights, using a ruler. Measure both length and height to the nearest cm with a ruler and tape measure. Measure larger objects using metres. Compare lengths in the same unit of objects using comparison language (such as longer than, shorter than, taller than, longest, shortest and tallest) and symbols. Order given lengths, as well as ordering objects by measuring each length using the language 'shorter, shortest, longer and longest' to describe the order.	Recognise millimetres and build on their understanding of centimetres and metres using different measuring equipment including rulers, tape measures, metre sticks and trundle wheels. Consolidate measuring larger objects using metres. Consolidate comparing lengths in the same unit of objects using comparison language, such as longer than, shorter than, taller than, longest, shortest and tallest and symbols. Subtract lengths by taking away and finding the difference.	Consolidate subtracting lengths by taking away and finding the difference.		
Problems (Measurement)	Compare quantities and objects to solve problems.	Solve simple problems that involve all Y1 elements of measurement, using concrete objects, pictorial representations and number lines.	Solve one-step and two-step problems relating to length Solve problems involving mass. Solve problems involving volume.	Solve problems involving time. Compare mixed measurements using the inequality symbols. Add and subtract mass using a range of mental and written methods. Add and subtract volumes and capacities, using a range of mental and written methods depending on the context.	Solve simple problems with money, involving all four operations.	Use timetables to retrieve information and solve problems, convert between different units of time where necessary and create timetables.	Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate. Write and use formulae when calculating area and perimeter of rectilinear shapes.



Measuring- Measuring and Calculating

Volume and Capacity

Compare and order the capacity of two to three items in sand and water play and use and understand the language full and empty.

Compare the volume in a container by describing whether it is full, nearly full, empty or nearly empty.  
Measure and begin to record capacities and volumes, using pictorial representations, numbers or words.  
Compare capacity using non-standard units of measure including the vocabulary of more, less and equal to, and the symbols <, > and =.

Consolidate comparing the volume in a container by describing whether it is full, nearly full, empty or nearly empty.  
Consolidate measuring and recording capacities and volumes, using pictorial representations, numbers or words.  
Compare the volume of containers using <, > and =, including the use of language: quarter, half and three quarters full.  
Measure and estimate the volume of containers using millimetres (ml).  
Recognise the difference between measuring in millilitres and litres and when it is more efficient to use litres to measure liquid rather than millilitres.

Recognise the difference between measuring in millilitres and litres and when it is more efficient to use litres to measure liquid rather than millilitres.  
Consolidate comparing the volume of containers, using <, > and =, including the use of the language quarter, half and three quarters full.  
Explore capacity in litres or millilitres.  
Explore capacity in litres and millilitres. Record measurements as '\_\_\_L' and '\_\_\_ml'. For example, '5L' and '500ml'.  
Compare actual numerical measures of capacity, including mixed measurements, using the inequality symbols.

Investigate how volume is different from capacity.  
Compare and order different solids that are made of cubes.  
Estimate volume and capacity of different solids and objects.  
Estimate capacity using practical equipment.

Consolidate, through further investigation, how volume is different from capacity.  
Count cubic units (1 cm<sup>3</sup>) to find the volume of 3-D shapes, then use cubes to build models and describe their volume.  
Demonstrate the link between counting cubes and the formula (\*l\*x\*w\*x\*h\*) for calculating the volume of cuboids.



	Aspect	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Measuring- Measuring and Calculating	Weight and Mass	Use language in their play, including heavy, light, heavier, lighter, long, short, longer, shorter, tall, taller, full and empty. Compare and order the weight of two to three items and use and understand the language heavy, heavier, heaviest, light, lighter and lightest.	Hold and describe objects using vocabulary such as heavy, light, heavier than, lighter than, then use scales to check. Investigate to see if larger objects are always heavier than smaller objects. Measure and begin to record masses or weights, using pictorial representations, numbers or words. Use non-standard units and balance scales to weigh objects and compare whether they are heavier or lighter.	Consolidate holding and describing objects using vocabulary, such as heavy, light, heavier than and lighter than, then use scales to check. Investigate to see if larger objects are always heavier than smaller objects. Consolidate measuring and recording masses or weights, using pictorial representations, numbers or words. Compare mass using < and > and order objects based on their masses. Feel the mass of gram weights and use grams when reading weighing scales. Feel the mass of a 1kg, weight and use kilograms when reading weighing scales.	Consolidate comparing mass using < and >, and order objects based on their masses.  Consolidate feeling the mass of gram weights and use grams when reading weighing scales.  Read a range of scales, in kilograms or grams, to measure mass, including scales with missing intervals.  Measure the mass of objects and record them as a mixed measurement in kilograms and grams.			
	Temperature			Read temperature on different thermometer scales.	Consolidate reading temperature on different thermometer scales.			



## Measuring- Measuring and Calculating

## Money

Use money, including coins, in role play situations.

Recognise and know the value of different denominations of coins, including 1p, 2p, 5p, 10p, 20p, 50p, £1 and £2.  
Recognise and know the value of different denominations of notes.  
Begin to count in 1p, 2p, 5p and 10p coins.

Consolidate the recognition of different denominations of coins, including 1p, 2p, 5p, 10p, 20p, 50p, £1 and £2 and know their value.  
Consolidate the recognition of different denominations of notes and know their value.  
Count in 1p, 2p, 5p and 10p coins.  
Count in £1 and £2 coins and £5, £10 and £20 notes.  
Count in pounds and pence.  
Select coins to make an amount.  
Find different combinations of coins that equal the same amounts of money.  
Compare two different values in either pounds or pence.  
Add money using different methods such as, count on, partitioning and regrouping.  
Find the difference between two amounts of money including the use of the strategies of counting on and counting back.  
Find change from a given amount converting £1 into 100p when necessary.  
Solve simple problems in a practical context, involving addition and subtraction of money of the same unit and giving change.

Consolidate counting in 1p, 2p, 5p and 10p coins.  
Consolidate counting in £1 and £2 coins and £5, £10 and £20 notes.  
Add and subtract amounts of money to give change, using both £ and pence, in practical contexts, including using formal written methods.  
Add two amounts of money using pictorial representations to support them.  
Use different methods to subtract money.  
Use a number line and a part-whole model to subtract to find change.

Convert between different units of money using decimal notation.  
Compare and order amounts of money.  
Round amounts of money written in decimal notation to the nearest pound.  
Estimate totals with more than two amounts, discussing over and under estimation.  
Consolidate adding two amounts of money, using pictorial representations to support them.  
Consolidate using different methods to subtract money.  
Consolidate using a number line and a part-whole model to subtract to find change.



	Aspect	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Measuring- Measuring and Calculating	Converting Units				<p>Convert between pounds and pence.</p> <p>Convert multiples of 100cm into metres and vice versa. Partition lengths not in multiples of 100 into metres and centimetres.</p> <p>Convert multiples of 10 mm into centimetres and vice versa. Partition lengths not in multiples of 10 into centimetres and millimetres.</p> <p>Convert, compare and order lengths based on measurements in mm, cm and m.</p> <p>Add lengths given in different units of measurement, converting to the same unit of length to improve efficiency.</p>	<p>Consolidate converting multiples of 100cm into metres and vice versa. Partition lengths not in multiples of 100 into metres and centimetres.</p> <p>Consolidate converting multiples of 10mm into centimetres and vice versa.</p> <p>Partition lengths not in multiples of 10 into centimetres and millimetres.</p> <p>Multiply and divide by 1000 to convert between kilometres and metres and find two lengths that add to a whole number of kilometres.</p> <p>Consolidate adding lengths given in different units of measurement, converting to the same unit of length to improve efficiency.</p> <p>Consolidate converting between pounds and pence.</p> <p>Convert between units of time, such as hours to minutes.</p> <p>Convert between units of time, such as years, months, weeks and days.</p> <p>Convert between analogue and digital times, using a format up to 12 hours, using am and pm to distinguish between times in the morning and afternoon.</p> <p>Convert between analogue and digital times using a 24 hour clock.</p>	<p>Consolidate multiplying and dividing by 1000 to convert between kilometres and metres and find two lengths that add to a whole number of kilometres.</p> <p>Convert from metres to kilometres (km), grams to kilograms (kg) and vice versa.</p> <p>Convert from metres to millimetres (mm), litres to millilitres (ml) and vice versa.</p> <p>Convert between different units of length and choose the appropriate unit for measurement.</p> <p>Use approximate equivalences between metric units and common imperial units , such as inches, pounds (lbs) and pints.</p> <p>Convert between different units of time, including years, months, weeks, days, hours, minutes and seconds.</p>	<p>Read, write and recognise all metric measures for length, mass and capacity.</p> <p>Convert between units of length, mass and capacity using skills of multiplying and dividing by 10, 100 and 1000.</p> <p>Find approximate conversions from miles to km and from km to miles.</p> <p>Use knowledge of imperial and metric measurements to perform related conversions, both within imperial measures and between imperial and metric.</p>



	Aspect	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Measuring- Measuring and Calculating	Perimeter				Measure and compare the perimeter of simple 2-D shapes. Calculate the perimeter of simple 2-D shapes.	Consolidate measuring and comparing the perimeter of simple 2-D shapes. Calculate the perimeter of rectilinear shapes by counting squares on a grid. Explore different ways of how to calculate perimeter and find missing lengths. Calculate perimeter of rectilinear shapes, without using squared paper, using addition and subtraction to calculate the missing sides.	Measure the perimeter of rectilinear shapes from diagrams without grids. Consolidate calculating the perimeter of rectilinear shapes by counting squares on a grid. Consolidate calculating perimeter of rectangles (including squares) that are not on a squared grid. Consolidate calculating perimeter of rectilinear shapes, without using squared paper, using addition and subtraction to calculate the missing sides. Find the perimeter of shapes with and without grids and unknown side lengths.	
	Area					Demonstrate how different shapes can have the same area. Count the number of squares in a shape to measure and compare the areas of rectilinear shapes. Make rectilinear shapes using a given number of squares. Compare and order shapes by the size of area using < and >.	Consolidate counting the number of squares in a shape to measure and compare the areas of rectilinear shapes. Find the area of a rectangle by counting squares and using a formula. Calculate the area of compound shapes by splitting into smaller shapes. Find the approximate area of irregular shapes by counting squares using knowledge of fractions to combine part-squares.	Draw rectilinear shapes that have the same area, and use knowledge of factors to draw rectangles with different areas, recognising the connections between side lengths and factors. Approximate and estimate the area of a triangle by counting squares, seeing the link between the area of a triangle and the area of a rectangle or square. Find the area of a rectangle then halve it to find the area of a triangle. Use the formula, $\text{base} \times \text{perpendicular height} \div 2$ to calculate the area of a variety of triangles where different side lengths are given and where more than one triangle makes up a shape. Investigate the link between the area of a rectangle and parallelogram by cutting a parallelogram so that it can be rearranged into a rectangle. Find the area of a parallelogram using knowledge of finding the area of a rectangle.

## Measuring- Measuring and Calculating

Aspect	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Time	<p>Order and sequence familiar events, such as everyday routines.</p> <p>Know the order of the days of the week.</p> <p>Use simple timers to measure periods of time.</p>	<p>Describe, sort and order events using sequencing language, such as before, 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 and talk about events using today, yesterday and tomorrow.</p> <p>Tell the time to the hour using an analogue clock.</p> <p>Tell the time, to the half hour, using an analogue clock, understanding the language 'half past'.</p> <p>Measure and begin to record time (hours, minutes and seconds), using pictorial representations, numbers or words.</p> <p>Compare amounts of time using the language faster, slower, earlier and later.</p>	<p>Consolidate telling the time to the hour using an analogue clock.</p> <p>Consolidate telling the time, to the half hour using an analogue clock, understanding the language 'half past'.</p> <p>Read and write times, using o'clock and half past, from analogue clocks.</p> <p>Read and draw the times 'quarter to' and 'quarter past'.</p> <p>Read and show analogue time to five minute intervals.</p> <p>Consolidate measuring and recording time (hours, minutes and seconds), using pictorial representations, numbers or words.</p> <p>Use clocks to convert minutes to hours and minutes.</p> <p>Identify the start and end time of an event and use the times to work out the duration.</p>	<p>Consolidate reading and writing times, o'clock and half past, from analogue clocks.</p> <p>Consolidate reading and drawing the times 'quarter to' and 'quarter past'.</p> <p>Investigate the concept of years and months.</p> <p>Explore language around day and the difference between day-time and day.</p> <p>Tell the time to the nearest five minutes on an analogue clock using past and to, including reading Roman numerals up to 12 (I to XII).</p> <p>Tell the time to the nearest minutes on an analogue clock using past and to.</p> <p>Use language morning, afternoon, am and pm to describe the time of day.</p> <p>Compare analogue and digital clocks.</p> <p>Find the durations of events using both analogue and digital clocks.</p> <p>Compare durations of time using analogue and digital clocks.</p> <p>Find start and end times to the nearest minute using both analogue and digital times.</p> <p>Measure and compare durations of time in seconds. Write durations of time in different ways e.g. 80 seconds is the same as 1 minute and 20 seconds.</p>	<p>Consolidate telling the time to the nearest five minutes on an analogue clock, using past and to.</p> <p>Consolidate telling the time to the nearest minutes on an analogue clock using past and to. Read Roman numerals up to 12 (I to XII).</p> <p>Consolidate the use of the language morning, afternoon, am and pm to describe the time of day.</p> <p>Consolidate comparing analogue and digital clocks.</p>		





	Aspect	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Number- Fractions	Recognising, finding and making fractions		<p>Make a half. Make a whole. Recognise, find and name a half as one of two equal parts of an object or shape. Recognise, find and name a half as one of two equal parts of a quantity. Recognise, find and name a quarter as one of four equal parts of an object or shape. Recognise, find and name a quarter as one of four equal parts of a quantity.</p>	<p>Recognise equal and unequal parts of real life objects and pictorial representations of a variety of shapes and quantities. Explore halves in different contexts and use the <math>\frac{1}{2}</math> notation alongside half or halves. Find half of a set of objects or quantity. Recognise a quarter, explore splitting wholes into quarters and see that a quarter is half of a half. Find quarters of shapes, objects and quantities. Recognise a third, explore splitting wholes into thirds. Find thirds of shapes, objects and quantities. Recognise a unit fraction as one equal part of a whole. Recognise <math>\frac{2}{3}</math> and <math>\frac{3}{4}</math> as non-unit fractions. See fractions where the whole is shaded and how these fractions are written. Recognise, find, name and write the fractions <math>\frac{1}{4}</math>, <math>\frac{1}{2}</math>, <math>\frac{2}{4}</math>, <math>\frac{3}{4}</math> and <math>\frac{1}{3}</math> of a length, shape, set of objects or quantity.</p>	<p>Consolidate recognition of equal and unequal parts of real life objects and pictorial representations of a variety of shapes and quantities. Consolidate exploring halves in different contexts, and use the <math>\frac{1}{2}</math> notation alongside half or halves. Consolidate finding half of a set of objects or quantity. Consolidate recognition of a quarter, explore splitting wholes into quarters and see that a quarter is half of a half. Consolidate finding quarters of shapes, objects and quantities. Consolidate recognition of a third, explore splitting wholes into thirds. Consolidate finding thirds of shapes, objects and quantities. Consolidate recognition of a unit fraction as one equal part of a whole. Consolidate the recognition of <math>\frac{2}{3}</math> and <math>\frac{3}{4}</math> as non-unit fractions. See fractions where the whole is shaded and how these fractions are written. Consolidate recognising, finding, naming and writing the fractions <math>\frac{1}{4}</math>, <math>\frac{1}{2}</math>, <math>\frac{2}{4}</math>, <math>\frac{3}{4}</math> and <math>\frac{1}{3}</math> of a length, shape, set of objects or quantity. Recognise unit and non-unit fractions and fractions with denominators other than two, three and four.</p>	<p>Consolidate recognition of unit and non-unit fractions and fractions with denominators other than two, three and four. Explore fractions of shapes, quantities and a number line. Consolidate counting up and down in tenths, recognising that tenths arise from dividing an object into 10 equal parts and in dividing one digit numbers or quantities by 10.</p>	<p>Consolidate exploring fractions of shapes, quantities and fractions of a number line.</p>	



## Number- Fractions

Aspect	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Equivalence			<p>Explore the equivalence of two quarters and one half of the same whole and demonstrate that they are the same.</p>	<p>Explore the equivalence of two quarters and one half of the same whole, and demonstrate that they are the same.                      Recognise and show, using diagrams, equivalent fractions with small denominators.                      Recognise how a number line divided into different amounts can represent equivalent fractions.                      Use proportional reasoning to link pictorial images with abstract methods to find equivalent fractions. Find patterns and missing numerators and denominators when exploring equivalent fractions.                      Compare unit fractions or fractions with the same denominator.                      Order unit fractions or fractions with the same denominator.</p>	<p>Recognise and show, using diagrams, equivalent fractions with small denominators.                      Recognise how a number line divided into different amounts can represent equivalent fractions.                      Recognise and show, using diagrams, families of common equivalent fractions.                      Find equivalent fractions using the method of multiplying the numerators and denominators by the same number.                      Demonstrate that the number of equal parts that make a whole is dependent on the number of equal parts altogether.                      Compare and order unit fractions or non-unit fractions with the same denominators.</p>	<p>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.                      Consolidate demonstrating that the number of equal parts that make a whole is dependent on the number of equal parts altogether.                      Convert improper fractions to mixed numbers.                      Convert mixed numbers to improper fractions using concrete and pictorial methods.                      Compare and order fractions less than one, where the denominators are multiples of the same number. Find common denominators and common numerators.                      Compare and order fractions greater than one, including improper fractions and mixed numbers.</p>	<p>Consolidate the identification, naming and writing of equivalent fractions of a given fraction, represented visually, including tenths and hundredths.                      Simplify fractions through an understanding of the highest common factor.                      Consolidate converting improper fractions to mixed numbers.                      Consolidate converting mixed numbers to improper fractions using concrete and pictorial methods.                      Compare and order fractions with the same denominator or denominators that are multiples of the same number and find the difference between fractions using a number line.                      Compare and order fractions where denominators are not multiples of the same number.                      Find the lowest common multiple of the denominators in order to find equivalent fractions with the same denominators, then compare the numerators to find the larger or smaller fraction.                      Compare and order fractions by finding a common numerator, then compare the denominators to find the larger or smaller fraction.</p>



## Number- Fractions

Aspect	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Counting and Calculating with Fractions			Find three quarters of a quantity. Count up in halves, thirds and quarters from any number up to 10. Solve simple problems involving fractions.	Solve problems involving Y3 fractions skills, such as adding and subtracting fractions with the same denominator within one whole. Recognise, find and write fractions of a discrete set of objects, using unit fractions with small denominators. Recognise, find and write fractions of a discrete set of objects, using unit and non-unit fractions with small denominators.	Count in fractions greater than one on a number line, and link to improper fractions and mixed numbers. Consolidate recognising, finding and writing fractions of a discrete set of objects, using unit and non-unit fractions with small denominators. Find non-unit fractions of a quantity. Solve problems involving increasingly challenging fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number.	Count up and down in a given fraction and find missing fractions in a sequence. Consolidate finding non-unit fractions of a quantity. Solve problems involving Y5 fractions skills.	Solve problems that involve adding and subtracting fractions and mixed numbers. Solve problems that combine the four operations and fractions using understanding of the order of operations. Calculate fractions of an amount. Find the whole amount from the known value of a fraction.
The four operations with fractions						Add and subtract fractions with the same denominator. Multiply unit fractions by whole numbers, supported by materials and diagrams. Multiply non-unit fractions by whole numbers, supported by materials and diagrams. Multiply mixed numbers by whole numbers. Improve calculation efficiency by changing the order of fractions and whole numbers when multiplying them.	Add and subtract fractions within 1 where the denominators are multiples of the same number. Add and subtract fractions where the denominators are not multiples of the same number, finding equivalent fractions to find a common denominator. Multiply fractions and mixed numbers by integers. Multiply simple pairs of proper fractions, writing the answer in its simplest form. Divide fractions where the numerator is a multiple of the integer dividing by. Divide fractions where the numerator is not a multiple of the integer dividing by.



## Number- Fractions

Aspect	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Addition with Fractions				Add two or more fractions with the same denominator, where the total is less than one, using practical equipment and pictorial representations	Consolidate adding fractions with the same denominator within one whole ( $\frac{5}{7} + \frac{1}{7} = \frac{6}{7}$ ). Add 2 or more fractions.	Add fractions where one denominator is a multiple of the other. Add more than 2 fractions where two denominators are a multiple of the other. Use pictorial methods to explore adding two or more proper fractions where the total is greater than one. Add two fractions where one or both are mixed numbers or improper fractions.	Consolidate adding two fractions where one or both are mixed numbers or improper fractions. Add mixed numbers and fractions with any denominators, simplifying answers and converting between improper fractions and whole numbers when calculating.
Subtraction with Fractions				Subtract fractions with the same denominator where the total is less than one, using practical equipment and pictorial representations	Consolidate subtracting fractions with the same denominator within one whole ( $\frac{5}{7} - \frac{1}{7} = \frac{4}{7}$ ). Subtract 2 or more fractions. Subtract fractions from whole amounts.	Subtract fractions where one denominator is a multiple of the other. Subtract proper fractions from mixed numbers. Subtract two fractions where one is a mixed number, and you need to break one of the wholes up. Use different strategies to subtract two mixed numbers.	Consolidate subtracting proper fractions from mixed numbers. Use different strategies to subtract mixed numbers, including exchanging wholes for fractions and subtracting the wholes and fractions separately and converting the mixed number to an improper fraction.



## Number- Multiplication and Division

## Times Tables

## Reception

## Year 1

## Year 2

## Year 3

## Year 4

## Year 5

## Year 6

Revise counting in multiples of two, up to 50.  
Revise counting in multiples of five, up to 50.  
Count in multiples of 10.

Mentally calculate mathematical statements for multiplication within the two times tables.  
Mentally calculate mathematical statements for multiplication within the five times tables.  
calculate mathematical statements for multiplication within the 10 times tables.

Consolidate mentally calculating mathematical statements for multiplication within the two times tables.  
Consolidate mentally calculating mathematical statements for multiplication within the five times tables.  
Explore problems involving multiplying by three using knowledge of counting in threes.  
Mentally calculate mathematical statements for multiplication within the three times tables.  
Mentally calculate mathematical statements for division within the three times tables.  
Mentally calculate mathematical statements for multiplication within the four times tables.  
Mentally calculate mathematical statements for division within the four times tables.  
Mentally calculate mathematical statements for multiplication within the eight times tables.  
Mentally calculate mathematical statements for division within the eight times tables.  
Consolidate mentally calculating mathematical statements for multiplication within the two, four and eight times tables.

Mentally calculate mathematical statements for multiplication within the 10 times tables.  
Explore problems involving multiplying by three, using knowledge of counting in threes and consolidate mentally calculating mathematical statements for division within the three times tables.  
Consolidate mentally calculating mathematical statements for multiplication within the three times tables.  
Mentally calculate mathematical statements for multiplication and division within the six times tables.  
Mentally calculate mathematical statements for multiplication and division within the nine times tables.  
Recall and use multiplication and division facts for all times tables up to 12 (12x12).

Consolidate mentally calculating mathematical statements for multiplication within the 10 times tables.



## Number- Multiplication and Division

## Multiplication

Double quantities within 10 and explore how to share amounts evenly using concrete resources.

Explore making equal groups and write statements, such as 'there are \_\_ groups of \_\_.' Add equal groups to find a total, counting equal groups of two, five and 10, and explore this within 50. Make arrays. Double small quantities, using concrete objects and pictorial representations .

Make equal groups and write statements, such as 'there are \_\_ groups of \_\_.' Redistribute from unequal to equal groups. Consolidate adding equal groups to find a total, counting equal groups of two, five and 10, and explore this within 50. Consolidate making arrays. Make equal groups. Add equal groups, connecting this to repeated addition. Link repeated addition and multiplication together. Use the multiplication symbol and work out the total from pictures. Interpret a multiplication word problem by drawing images to help solve it See, using arrays, that multiplication facts are commutative. Consolidate doubling small quantities, using concrete objects and pictorial representations. Consolidate making groups of an equal amount from a given total.

Recognise, add and make equal groups. Consolidate linking repeated addition and multiplication together. Consolidate using arrays to see that multiplication facts are commutative.

Multiply by 100, exploring the links with multiplying by 10 and what is happening to the value of the digits. Multiply by one and zero exploring the results. Change the order of numbers in multiplication to group them more efficiently through an understanding of commutativity and the 'Associative Law' Demonstrate an understanding of factor pairs using concrete resources. Use partitioning of two digit numbers into 10s and ones, or into factor pairs, in order to multiply one and two digit numbers.

Find multiples of whole numbers. Use arrays to show the relationship between multiplication and division. Find the common factors of two numbers, compare with arrays and display results in a Venn diagram. Establish if a number up to 100 is prime and recall all prime numbers up to 19 (2, 3, 5, 7, 11, 13, 17 & 19). Establish if a number is a square number using arrays. Establish if a number is a cube number. Consolidate multiplying by 100, exploring the links with multiplying by 10 and what is happening to the value of the digits. Multiply by 1000, explaining the number of places to the left on a place value grid. Digits move when multiplied by different multiples of 10. Use understanding of multiples of zero, 100 and 1000 to answer related questions.

Consolidate using arrays to show the relationship between multiplication and division. Find the common factors of two numbers, using mental methods and knowledge of multiples and display results in Venn diagrams and tables. Find common multiples of numbers. Find the prime factors of numbers. Develop the understanding of square and cube numbers.



	Aspect	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Number- Multiplication and Division	Division	Explore how to share amounts evenly using concrete resources.	Make groups of an equal amount from a given total. Share concrete objects into equal groups, observe that sometime the number of objects cannot be shared equally.	<p>Consolidate sharing concrete objects into equal groups, observe that sometime the number of objects cannot be shared equally.</p> <p>Divide by sharing objects into equal groups with concrete objects then pictorial representations.</p> <p>Divide by making equal groups, then count on to find the total number of groups.</p> <p>Use grouping and sharing to be able to solve simple division problems.</p> <p>Explore odd and even numbers and their structure using concrete manipulatives.</p> <p>Use grouping or sharing to answer questions and use the five times table to support division by five.</p> <p>Use grouping and sharing, depending on the context of the problem, to divide by 10.</p>	<p>Consolidate dividing by sharing objects into equal groups with concrete objects and pictorial representations.</p> <p>Consolidate dividing by making equal groups, then count on to find the total number of groups.</p> <p>Consolidate using grouping and sharing to be able to solve simple division problems.</p>	<p>Divide by 10, with whole number answers, exploring what is happening to the value of the digits.</p> <p>Divide by 100, with whole number answers.</p> <p>Demonstrate how both the sharing and grouping structures of division can be used to divide a number by one or itself.</p>	<p>Consolidate dividing by 10, with whole number answers, exploring what is happening to the value of the digits.</p> <p>Consolidate dividing by 100, with whole number answers.</p> <p>Divide by 10, 100 and 1000 explaining the number of places to the right on a place value grid.</p> <p>Digits move when dividing by different powers of 10.</p>	Use knowledge of factors to explain the relationship between dividend and divisor.



	Aspect	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Number- Multiplication and Division	Multiplication Methods				<p>Multiply two digits by one digit using the formal method of column multiplication with no exchange.</p> <p>Multiply two digits by one digit using the formal method of column multiplication with exchange.</p>	<p>Use a variety of informal written methods to multiply a two digit and a one digit number, understanding when to use a mental method to multiply and when to represent thinking by showing working.</p> <p>Consolidate multiplying two digits by one digit using the formal method of column multiplication with no exchange.</p> <p>Apply knowledge of exchanging 10 ones for one 10 in multiplication, including exchanging multiple groups of 10s in moving towards the formal short multiplication method.</p> <p>Multiply two digit and three digit numbers by any one digit number, using a formal written method.</p>	<p>Consolidate applying knowledge of exchanging 10 ones for one 10 in addition in multiplication, including exchanging multiple groups of 10s in moving towards the formal short multiplication method.</p> <p>Consolidate multiplying two digit and three digit numbers by any one digit number, using a formal written method.</p> <p>Multiply numbers with up to four digits by one digit numbers, using a formal written method.</p> <p>Use the area model of multiplication.</p> <p>Multiply two digits by two digits using a formal written method.</p> <p>Multiply three digits by two digits using a formal written method.</p> <p>Multiply four digits by two digits using a formal written method.</p>	<p>Consolidate multiplying numbers with up to four digits by a one-digit numbers, using a formal written method.</p> <p>Consolidate using the area model of multiplication.</p> <p>Consolidate multiplying two digits by two digits using a formal written method.</p> <p>Consolidate multiplying three digits by two digits using a formal written method.</p>



Number- Multiplication and Division

Division Methods

Aspect	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
				<p>Divide two digit numbers by a one digit number by partitioning into 10s and ones and sharing into equal groups, using numbers that do not involve exchange or remainders.</p> <p>Divide two digit numbers by a digit number by partitioning into 10s and ones and sharing into equal groups, using numbers that involve exchanging between the 10s and ones. The answers do not have remainders.</p> <p>Divide 100 into two, four, five and 10 equal parts.</p> <p>Explore division with remainders using concrete objects, pictorial representations and arrays.</p> <p>Divide two digit numbers by a one digit number by partitioning into 10s and ones and sharing into equal groups, using numbers that involve exchanging between the 10s and ones and give answers with remainders.</p>	<p>Consolidate dividing two digit numbers by a one digit number by partitioning into 10s and ones and sharing into equal groups. Divide numbers that involve exchanging between the 10s and ones. The answers do not have remainders.</p> <p>Divide two digit numbers by a one digit number by sharing into equal groups where the 10s and ones are divisible by the divisor. Divide numbers that involve exchanging between the 10s and ones.</p> <p>Use place counters to divide two digit numbers by one digit numbers involving remainders.</p> <p>Use place counters to divide three digit numbers by one digit numbers with and without remainders.</p>	<p>Consolidate dividing two digit numbers by a one digit number by sharing into equal groups where the 10s and ones are divisible by the divisor. Divide numbers that involve exchanging between the tens and ones.</p> <p>Consolidate using place counters to divide two digit numbers by one digit numbers involving remainders.</p> <p>Consolidate using place counters to divide three digit numbers by one digit numbers with and without remainders.</p> <p>Divide up to four digit numbers by a one digit number.</p> <p>Use place counters to partition and then group numbers to develop short division method with remainders.</p>	<p>Consolidate dividing up to four digit numbers by a one digit number.</p> <p>Consolidate using place counters to partition and then group numbers to develop short division method with remainders.</p> <p>Divide up to four digit numbers by up to two digit numbers using the short division method.</p> <p>Divide three digit numbers by a two digit number without remainders, starting with a more expanded method (with multiples shown), before progressing to the more formal long division method.</p> <p>Divide four digit numbers by two digit numbers using the long division method.</p> <p>Divide using long division method where answers have remainders, checking that the remainder is smaller than the divisor.</p> <p>Divide four digit numbers using long division method where answers have remainders, interpreting the remainder as appropriate or not applicable depending on context.</p>



	Aspect	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p>Number- Multiplication and Division</p>	<p>Problems (Multiplication and Division)</p>				<p>Consolidate using grouping or sharing to answer questions and use the five times table to support division by five.</p> <p>Consolidate using grouping and sharing, depending on the context of the problem to divide by 10.</p> <p>Compare multiplication and division facts using inequality symbols.</p> <p>Solve multiplication problems using known multiplication facts.</p> <p>Solve simple scaling problems using the vocabulary 'times as many'.</p> <p>List systematically, then calculate without listing, the possible combinations resulting from two groups of objects.</p>	<p>Solve multiply and divide by 6 problems using knowledge of equal groups, with concrete and pictorial supporting methods.</p> <p>Solve multiply and divide by 9 problems.</p> <p>Solve multiply and divide by seven problems, exploring commutativity.</p> <p>Apply multiplication facts, including the seven times table, to solve problems.</p> <p>Consolidate solving division problems linking division with repeated subtraction. Include problems with a remainder.</p> <p>Solve increasingly challenging integer scaling and correspondence problems, in which n objects are connected to m objects.</p>		<p>Solve multiplication problems in different contexts.</p> <p>Complete mixed operation calculations.</p> <p>Select the appropriate mental strategy over computational methods to improve efficiency.</p> <p>Determine, by using known facts from one calculation and an understanding of commutativity and inverse operations, the answer of similar calculation without starting afresh.</p>



	Aspect	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Number- Addition and Subtraction	Addition		<p>Separate a whole number of items into two parts (groups).                      Count the items in two parts or groups to make a whole.                      Separate a whole number of items into two parts (groups) and count the items in two parts to demonstrate how many there are altogether.                      Count the items in two parts to find how many there are altogether.                      Create a number sentence using '+' and '='.                      Add two numbers within 10 and recognise that addition is commutative.                      Break numbers into different parts.                      Partition numbers into parts systematically.                      Explore number bonds to 10 through a variety of representations, including fingers.                      Compare numbers bonds using the '=', '&lt;' and '&gt;' symbols.                      Use '+' and '=' accurately when solving simple additions within 10.                      Add by counting on.                      Find all number bonds of numbers within 10.                      Count on from a given part to the whole to find the missing part.                      Add by counting on.                      Consolidate exploring number bonds to 10 through a variety of representations, including fingers.                      Use number bonds to 10 to find number bonds to 20.                      Add numbers within 20 using knowledge of number bonds.</p>	<p>Demonstrate knowledge of all number bonds to 10.                      Identify multiples of 10 bonds to 100, recognising the link between single digit bonds and 10s bonds.                      Consolidate adding numbers within 20 using knowledge of number bonds.                      Consolidate using number bonds to 10 to find number bonds to 20.                      Find number bonds to 100 with tens and ones.                      Add three one digit numbers, using commutativity to increase efficiency.</p>	<p>Consolidate adding two digits and one digit, including crossing ten.</p>			
	Subtraction		<p>Use the language of subtraction in real life contexts.                      Complete subtraction number sentences using the '-' symbol.                      Break apart a number into two parts, using concrete and pictorial representations to support.                      Count backwards to subtract by 'putting the start number in our head and counting backwards'.                      Find the difference by counting back, counting on or making both amounts to visually show how many more/less.                      Recognise and use the subtraction symbol within 20, not crossing 10.                      Use the strategy of partitioning to make ten to support subtraction crossing 10.                      Subtract one digit and two digit numbers within 20, crossing 10.</p>	<p>Consolidate using the strategy of partitioning to make ten to support subtraction crossing 10.</p>	<p>Consolidate subtracting one digit from two digits, including crossing 10.</p>			





	Aspect	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Number- Addition and Subtraction	Problems- Addition and Subtraction			Apply their increasing knowledge of mental and written methods to solve simple problems with addition and subtraction, using concrete objects and pictorial representations, including those involving numbers, quantities and measures.	<p>Predict answers and develop number sense by looking for patterns between calculations.</p> <p>Solve problems, including missing number problems, using number facts, place value and more complex addition and subtraction.</p>		Solve addition and subtraction multistep problems in different contexts.	<p>Consolidation of solving addition and subtraction multistep problems in different contexts.</p> <p>Solve addition and subtraction multistep problems in different contexts, deciding which operations and methods to use and explaining their choices.</p>



Number- Addition and Subtraction

Aspect	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Addition Methods			<p>Add two digits and one digit including crossing 10.</p> <p>Add two digit numbers not crossing 10, including column method.</p> <p>Add two digit numbers crossing 10, using partitioning and exchange.</p>	<p>Add three digit and two digit numbers, including crossing 10.</p> <p>Add multiples of 10 to a three digit number with an exchange.</p> <p>Consolidate adding two digit numbers crossing 10, using partitioning and exchange.</p> <p>Add two digit and three digit numbers, including exchanging in more than one column.</p> <p>Add two three digit numbers with no exchange.</p> <p>Add two three digit numbers with an exchange.</p>	<p>Consolidate adding two three digit numbers with no exchange.</p> <p>Add two four digit numbers with no exchange.</p> <p>Consolidate adding two three digit numbers with an exchange.</p> <p>Add two four digit numbers with an exchange.</p> <p>Add two four digit numbers with more than one exchange.</p>	<p>Consolidate adding two four digit numbers with an exchange.</p> <p>Consolidate adding two four digit numbers with more than one exchange.</p> <p>Add numbers with more than four digits, using place value to line the numbers up correctly for column addition.</p>	<p>Consolidate adding numbers with more than four digits, using place value to line the numbers up correctly for column addition.</p>
Subtraction Methods			<p>Subtract one digit from two digits, including crossing ten.</p> <p>Subtract a two digit number from a two digit number, without crossing ten.</p> <p>Subtract a two digit number from a two digit number crossing ten.</p>	<p>Subtract one digit from three digits, including crossing 10.</p> <p>Subtract multiples of 10 from a three digit number, with an exchange.</p> <p>Consolidate subtracting a two digit number from a two digit number, crossing 10.</p> <p>Focus on the position of numbers and place value to subtract two digits from three digits using the column method.</p> <p>Subtract three digits from three digits, including the use of column subtraction.</p> <p>Subtract three digits from three digits including exchanging in more than one column.</p>	<p>Consolidate subtracting three digits from three digits, including the use of column subtraction.</p> <p>Subtract two four digit numbers with no exchange.</p> <p>Consolidate subtracting three digits from three digits, including exchanging in more than one column.</p> <p>Subtract two four digit numbers with one exchange.</p> <p>Subtract two 4-digit numbers with more than one exchange.</p> <p>Find the most efficient methods for subtractions by comparing column subtraction and mental methods.</p>	<p>Consolidate subtracting two four digit numbers with one exchange.</p> <p>Consolidate subtracting two four digit numbers with more than one exchange.</p> <p>Subtract numbers with more than four digits, including exchange using the formal column method.</p>	<p>Consolidate subtracting numbers with more than four digits, including exchange using the formal column method.</p>



Big Idea	Aspect	Reception	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
Number- Addition and Subtraction	Estimating and checking				<p>Estimate the answer to a calculation and use inverse operations to check answers.</p> <p>Use inverse operations to check answers.</p>	<p>Round to the nearest 10, 100 and 1000 to estimate answers.</p> <p>Use inverse operations to check answers, working with increasingly large numbers.</p>	<p>Round numbers to support estimating answers for calculations using the term approximate.</p> <p>Use inverse operations to check addition and subtraction answers.</p>	<p>Consolidate using inverse operations to check addition and subtraction answers.</p>