Sutton St James CP School

Assessment without Levels - Maths

Age Expectations for Reception Pupils

Early Years Foundation Stage		
Autumn Term	**Spring Term**	**Summer Term**
Numbers ▪ Children count reliably with numbers from 1-5 ▪ Numbers with personal significance can be recognised within the setting ▪ Say which number is greatest and which is smallest ▪ Combine two single digit amounts to 5 ▪ Solve everyday number problems within the setting	**Numbers** ▪ Children count reliably with numbers from 1-10 ▪ Numbers with a personal significance can be placed in order ▪ Say which number is 1 more than a given number ▪ Add two single digit numbers by counting on ▪ Solve simple problems that involve doubling	**Numbers** ▪ Children count reliably with numbers from 1-20 ▪ Numbers can be placed in order ▪ Say which number is 1 more or 1 less than a given number ▪ Add and subtract two single digit numbers by counting on or back ▪ Solve problems including doubling, halving and sharing
Shape, Space and Measures ▪ Use everyday language to talk about the size and position of familiar objects ▪ Compare familiar objects to solve simple problems ▪ Create patterns ▪ Recognise familiar objects within the setting ▪ Use mathematical language to describe familiar objects	**Shape, Space and Measures** ▪ Use everyday language to talk about size, position and weight of familiar objects ▪ Compare a range of objects to solve simple problems ▪ Recognise and create patterns ▪ Explore characteristics of everyday objects ▪ Use simple mathematical language to describe everyday objects	**Shape, Space and Measures** ▪ Use everyday language to talk about size, weight, capacity, position, distance, time and money ▪ Compare quantities and objects to solve problems ▪ Recognise, create and describe patterns ▪ Explore characteristics of everyday objects and shapes ▪ Use mathematical language to describe everyday objects and shapes

Sutton St James CP School

Assessment without Levels - Maths
Age Expectations Year 1 Pupils

Year 1		
Autumn Term	**Spring Term**	**Summer Term**
Number – Number and Place Value ▪ Count to and across 50, forwards and backwards, beginning with 0 or 1 ▪ Count, read and write numbers to 20 in numerals; count in multiples of twos, fives and tens ▪ When given a number to 50, identify one more ▪ Identify numbers using objects and pictorial representations and use the language of more than, less than (fewer), most and least ▪ Read and write numbers from 1-5 in numerals and words	**Number – Number and Place Value** ▪ Count to and across 50, forwards and backwards, beginning with 0 or 1, or from any given number ▪ Count, read and write numbers to 50 in numerals; count in multiples of twos, fives and tens ▪ When given a number to 50, identify one more or one less ▪ Identify numbers using objects and pictorial representations including a number line and use the language of equal to, more than, less than (fewer), most and least ▪ Read and write numbers from 1-10 in numerals and words	**Number – Number and Place Value** ▪ 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 ▪ When given a number, identify one more or one less ▪ Identify and represent numbers using objects and pictorial representations including a number line and use the language of equal to, more than, less than (fewer), most and least ▪ Read and write numbers from 1-20 in numerals and words
Number – Addition and Subtraction ▪ Read, write and interpret mathematical statements involving addition (+) and equals (=) signs, represent and use number bonds within 10 ▪ Add one-digit and one-digit numbers to 20, including zero, subtract one-digit and one-digit numbers to 5, including zero ▪ Solve one-step problems that involve addition using concrete objects and pictorial representations	**Number – Addition and Subtraction** ▪ Read, write and interpret mathematical statements involving addition (+) and equals (=) signs, represent and use number bonds and related subtraction facts within 10 ▪ Add one-digit and two-digit numbers to 20, including zero, subtract one-digit and one-digit numbers to 10, including zero ▪ Solve one-step problems that involve addition and subtraction using concrete objects and pictorial representations	**Number – Additional and Subtraction** ▪ Read, write and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs, represent and use number bonds and related subtraction facts within 20 ▪ Add and subtract one-digit and two-digit numbers to 20 including zero ▪ Solve one-step problems that involve addition and subtraction, using concrete objects and pictorial representations and missing number problems e.g. 7=?-9
Number – Multiplication and Division ▪ Solve practical problems including multiplication and division using concrete objects and pictorial representations	**Number – Multiplication and Division** ▪ Solve simple and practical problems including multiplication and division using concrete objects and pictorial representations	**Number – Multiplication and Division** ▪ Solve one-step problems including multiplication and division by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher
Number - Fractions ▪ Recognise, find and name a half as one of two equal parts of a shape ▪ Recognise that shapes can be cut up into more than 2 parts	**Number - Fractions** ▪ Recognise, find and name a half as one of two equal parts of a shape or number ▪ Recognise, find and name a quarter as one of four equal parts of a shape	**Number - Fractions** ▪ Recognise, find and name a half as one of two equal parts of an object, shape or quantity ▪ Recognise, find and name a quarter as one of four equal parts of an object, shape or quantity
Measurement Compare, describe and solve practical problems for: ▪ Lengths and heights e.g. long/short, longer/shorter, tall/short ▪ Weights e.g. heavy/light ▪ Capacity and volume e.g. full/empty, more than, less than Measure and begin to record the following:	**Measurement** Compare, describe and solve practical problems for: ▪ Lengths and heights e.g. long/short, longer/shorter, tall/short, double/half ▪ Mass and weights e.g. heavy/light ▪ Capacity and volume e.g. full/empty, more than, less than, half full	**Measurement** Compare, describe and solve practical problems for: ▪ Lengths and heights e.g. long/short, longer/shorter, tall/short, double/half ▪ Mass and weights e.g. heavy/light, heavier than, lighter than ▪ Capacity and volume e.g. full/empty, more than, less than, half, half full, quarter

▪ Lengths ▪ Weights ▪ Capacity ▪ Time (minutes) Also, pupils will be expected to: ▪ Recognise and know the value of different denominations of coins to 20p ▪ Sequence events in chronological order using language like before and after, next and first ▪ Recognise and use language relating to dates including all 7 days of the week ▪ Recognise o'clock and that the hour hand indicates the hour	Measure and begin to record the following: ▪ Lengths and heights ▪ Mass and weights ▪ Capacity and volume ▪ Time (hours and minutes) Also, pupils will be expected to: ▪ Recognise and know the value of different denominations of coins to 50p ▪ Sequence events in chronological order using language like before and after, next, first, yesterday and tomorrow ▪ Recognise and use language relating to dates including days of the week and months of the year ▪ Tell the time to the hour and draw the hands on a clock face to show these times	Measure and begin to record the following: ▪ Lengths and heights ▪ Mass and weights ▪ Capacity and volume ▪ Time (hours, minutes and seconds) Also, pupils will be expected to: ▪ Recognise and know the value of different denominations of coins and notes ▪ Sequence events in chronological order using language like before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening ▪ Recognise and use language relating to dates including days of the week, weeks, months and years ▪ Tell the time to the hour and half past the hour and draw the hands on a clock face to show these times
Geometry – Properties of Shape ▪ Name some common 2D shapes ▪ Name some common 3D shapes	**Geometry – Properties of Shape** ▪ Name common 2D shapes including squares, circles and triangles ▪ Name common 3D shapes including cubes, pyramids and spheres	**Geometry – Properties of Shape** ▪ Recognise and name common 2D shapes including rectangles (including squares), circles and triangles ▪ Recognise and name common 3D shapes including cuboids (including cubes), pyramids and spheres
Geometry – Position and Direction ▪ Describe position including whole and half turns	**Geometry – Position and Direction** ▪ Describe position and direction including whole and half turns	**Geometry – Position and Direction** ▪ Describe position, direction and movement including whole, half, quarter and three quarter turns

Sutton St James CP School

Assessment without Levels - Maths

Age Expectations Year 2 Pupils

Year 2		
Autumn Term	**Spring Term**	**Summer Term**
Number – Number and Place Value ▪ Count in steps of 2 from 0 and in tens from any two-digit number both forwards and backwards ▪ Recognise the place value of each digit in a two-digit number to 20 (tens and ones) ▪ Identify numbers using different representations including the number line ▪ Compare and order numbers to 50 ▪ Read and write numbers to 50 in numerals and words ▪ Use number facts to solve problems	**Number – Number and Place Value** ▪ Count in steps of 2 and 5 from 0 and in tens from any two-digit number both forwards and backwards ▪ Recognise the place value of each digit in a two-digit number to 50 (tens, ones) ▪ Identify and represent numbers using different representations including the number line ▪ Compare and order numbers from 0 to 100 ▪ Read and write numbers to 100 in numerals and in words ▪ Use place value to solve problems	**Number – Number and Place Value** ▪ Count in steps of 2, 3 and 5 from 0 and in tens from any number both forwards and backwards ▪ Recognise the place value of each digit in a two-digit number (tens, ones) ▪ Identify, represent and estimate numbers using different representations including the number line ▪ Compare and order numbers from 0 to 100; use <, > and = signs ▪ Read and write numbers to at least 100 in numerals and in words ▪ Use place value and number facts to solve problems
Number – Addition and Subtraction ▪ Solve simple problems to 20 with addition and subtraction ▪ Use concrete objects including those involving numbers and quantities ▪ Applying simple practical methods in a range of different contexts ▪ Recall and use addition and subtraction facts to 20 ▪ Add and subtract numbers using concrete objects and pictorial representations including two-digit number to 20 and ones ▪ Show that the addition of two one-digit numbers can be done in any order (commutative) ▪ Check written calculations and recognise errors that might have been made	**Number – Addition and Subtraction** ▪ Solve simple problems with addition and subtraction ▪ Use concrete objects including those involving numbers, quantities and measures ▪ Applying simple written and mental methods in a range of different contexts ▪ Recall and use addition and subtraction facts to 20 fluently ▪ Add and subtract numbers using concrete objects, pictorial representations and mentally including two-digit number and ones and adding three one-digit numbers ▪ Show that the addition of two numbers can be done in any order (commutative) ▪ Check written and mental calculations and recognise errors that might have been made	**Number – Addition and Subtraction** ▪ Solve problems with addition and subtraction ▪ Use concrete objects and pictorial representations, including those involving numbers, quantities and measures ▪ Applying their increasing knowledge of mental and written methods in a range of different contexts ▪ Recall and use addition and subtraction facts to 20 fluently, derive and use related facts up to 100 ▪ Add and subtract numbers using concrete objects, pictorial representations and mentally including two-digit number and ones, a two-digit number and tens, two two-digit numbers and adding three one-digit numbers ▪ Show that the addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot ▪ Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems
Number – Multiplication and Division ▪ Count on in twos, fives and tens from zero to 100 and recognise that all of the numbers in the two times table are even ▪ Recite two, five and ten times table ▪ Recognise that some numbers appear in the two, five and ten times table more than once ▪ Solve simple practical multiplication problems using a range of familiar classroom resources	**Number – Multiplication and Division** ▪ Recall and use multiplication facts for the 2, 5 and 10 multiplication tables including recognising odd and even numbers ▪ Calculate mathematical statements for multiplication within the multiplication tables and write them using the multiplication and equals signs ▪ Show that the multiplication of 2 numbers in the 2, 5 or 10 times table can be done in any order (commutative) ▪ Solve simple problems involving multiplication using materials, arrays, repeated addition, mental methods, multiplication facts, including problems in different contexts	**Number – Multiplication and Division** ▪ Recall and use multiplication and division facts for the 2, 5 and 10 multiplication tables including recognising odd and even numbers ▪ Calculate mathematical statements for multiplication and division within the multiplication tables and write them using the multiplication, division and equals signs ▪ Show that the multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot ▪ Solve problems involving multiplication and division, using materials, arrays, repeated addition, mental methods and multiplication and division facts, including problems in contexts
Number - Fractions ▪ Recognise, find, name and write fractions (quarters and halves) of a shape or number ▪ Read simple fraction statements e.g. Half of 4 is 2 etc.	**Number - Fractions** ▪ Recognise, find, name and write fractions (quarters and halves) of a number, length or shape ▪ Write simple fraction statements e.g. $\frac{1}{2}$ of ten = 5 etc.	**Number - Fractions** ▪ Recognise, find, name and write fractions (one third, one quarter, two quarters, three quarters) of a length, shape, set of objects or quantity ▪ Write simple fractions e.g. $\frac{1}{2}$ of 6 = 3 and recognise the equivalence of 2/4

		and ½
Measurement ▪ Measure the length/height/mass of a variety of familiar objects using non-standard units ▪ Order measurements taken from smallest to largest and begin to use comparative language and statements ▪ To recognise and use symbols for pounds (£) and pence (p) ▪ Find combinations of coins that equal the same amount (below 10p) ▪ Solve simple problems in a practical context involving addition of money of the same unit ▪ Recognise that measures of time are different ▪ Tell and write the time to include o'clock, half past and quarter past and draw the hands on a clock face to show these times ▪ Know the number of seconds in a minute	**Measurement** ▪ Choose and use appropriate standard units to measure length/height in any direction (m/cm); mass (kg/g) to the nearest appropriate unit using rulers, scales and balances ▪ Compare and order lengths and mass using appropriate technical mathematical language ▪ To recognise and use symbols for pounds (£) and pence (p), ordering amounts ▪ Find combinations of coins that equal the same amount (below 20p) ▪ Solve simple problems in a practical context involving addition and subtraction of money of the same unit ▪ Compare intervals of time ▪ Tell the time to include o'clock, half past, quarter past and quarter to and draw the hands on a clock face to show these times ▪ Know the number of minutes in an hour	**Measurement** ▪ Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g) temperature (degrees C); capacity (litres/ml) to the nearest appropriate unit using rulers, scales, thermometers and measuring vessels ▪ Compare and order lengths, mass, volume/capacity and record the results using >, < and = ▪ 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 is a practical context involving addition and subtraction of money of the same unit, including giving change ▪ Compare and sequence intervals of time ▪ Tell and write the time to five minutes including quarter past/to the hour and draw the hands on a clock face to show these times ▪ Know the number of minutes in an hour and the number of hours in a day
Geometry – Properties of Shape ▪ Identify and describe the properties of designated 2D shapes including the number of corners and sides ▪ Name common 3D shapes and understand that they all have different properties ▪ Recognise that each face on a designated 3D shape can be named ▪ Compare common 2D shapes and everyday objects	**Geometry – Properties of Shape** ▪ Identify and describe the properties of designated 2D shapes including the number of sides and lines of symmetry ▪ Identify and describe the properties of designated 3D shapes including the number of edges, vertices and faces ▪ Recognise that each face on a 3D shape can be named ▪ Compare common 2D and 3D shapes and everyday objects	**Geometry – Properties of Shape** ▪ Identify and describe the properties of 2D shapes including the number of sides and lines of symmetry ▪ Identify and describe the properties of 3D shapes including the number of edges, vertices and faces ▪ Identify 2D shapes on the surface of 3D shapes e.g. a circle on a cylinder and a triangle on a pyramid ▪ Compare and sort common 2D and 3D shapes and everyday objects
Geometry – Position and Direction ▪ Arrange designated mathematical objects into patterns and describe how this has been done ▪ Use mathematical vocabulary to describe position, direction and movement in a straight line	**Geometry – Position and Direction** ▪ Arrange simple mathematical objects into patterns and sequences and be able to describe how this has been done ▪ Use mathematical vocabulary to describe position, direction and movement in a straight line and distinguishing between rotation as a turn in either a clockwise or anti-clockwise direction	**Geometry – Position and Direction** ▪ Order and arrange patterns of mathematical objects in patterns and sequences ▪ Use mathematical vocabulary to describe position, direction and movement including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half, three-quarter turns (clockwise and anti-clockwise)
Statistics ▪ Interpret and construct simple pictograms using familiar data ▪ Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity ▪ Ask and answer simple questions that use the terms 'most' and 'least'	**Statistics** ▪ Interpret and construct simple pictograms and block diagrams ▪ Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity ▪ Ask and answer questions simple questions that compare different amounts	**Statistics** ▪ 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

Sutton St James CP School

Assessment without Levels - Maths
Age Expectations Year 3 Pupils

Year 3		
Autumn Term	**Spring Term**	**Summer Term**
Number – Number and Place Value ▪ Count from 0 in multiples of 50 and 100; find 10 or 100 more or less than a given number ▪ Recognise that numbers above 99 contain more than 2 digits ▪ Order numbers to 200 ▪ Identify and represent numbers to 100 using different representations ▪ Read and write numbers up to 500 in numerals ▪ Solve number problems and practical problems involving these ideas	**Number – Number and Place Value** ▪ Count from 0 in multiples of 4, 50 and 100; find 10 or 100 more or less than a given number ▪ Recognise that each digit in a three digit number has a different value ▪ Order numbers to 1,000 ▪ Identify and represent numbers using different representations ▪ Read and write numbers up to 1,000 in numerals ▪ Solve number problems and practical problems involving these ideas	**Number – Number and Place Value** ▪ Count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number ▪ Recognise the place value of each digit in a three-digit number (hundreds, tens, ones) ▪ Compare and order numbers up to 1,000 ▪ Identify, represent and estimate numbers using different representations ▪ Read and write numbers up to 1,000 in numerals and words ▪ Solve number problems and practical problems involving these ideas
Number – Addition and Subtraction ▪ Add and subtract numbers mentally including a two-digit number and ones and a two-digit number ad tens ▪ Add numbers with two-digits using formal written methods of columnar addition ▪ Make a sensible estimate of an answer	**Number – Addition and Subtraction** ▪ Add and subtract numbers mentally including a two-digit number and ones, a two-digit number and tens and a three-digit number and ones ▪ Add and subtract numbers with two-digits using formal written methods of columnar additional and subtraction ▪ Make a sensible estimate of an answer and use this to check results	**Number – Addition and Subtraction** ▪ 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 with up to three-digits, using formal written methods of columnar addition and subtraction ▪ Estimate the answer to a calculation and use inverse operations to check answers
Number – Multiplication and Division ▪ Recall and use multiplication facts for the 3 and 4 multiplication tables ▪ Write and calculate mathematical statements for multiplication using multiplication tables that they know ▪ Solve problems involving multiplication that rely on known times tables	**Number – Multiplication and Division** ▪ Recall and use multiplication facts for the 3, 4 and 8 multiplication tables ▪ Write and calculate mathematical statements for multiplication using multiplication tables that they know, including two-digit numbers times one-digit numbers, using mental and progressing to formal written methods ▪ Solve problems, including missing number problems, involving multiplication, including positive integer scaling problems	**Number – Multiplication and Division** ▪ Recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables ▪ Write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods ▪ 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
Number - Fractions ▪ Recognise that tenths arise from dividing an object into 10 equal parts ▪ Recognise and use fractions as numbers ▪ Recognise simple fractions with equivalence e.g. one half = two quarters, two halves = four quarters etc. ▪ Understand that fractions can be added together to make a larger quantity ▪ Recognise which fraction is the largest and which is the smallest ▪ Solve problems that involve all of the above	**Number - Fractions** ▪ 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 ▪ Recognise and show, using diagrams, simple fractions with equivalence e.g. one half = two quarters, two eighths = one quarter etc. ▪ Add fractions with the same denominator within one whole e.g. $\frac{1}{4} + \frac{1}{4} = \frac{1}{2}$ etc. ▪ Order fractions with the same denominator ▪ Solve problems that involve all of the above	**Number - Fractions** ▪ Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10 ▪ Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators ▪ Recognise and show, using diagrams, equivalent fractions with small denominators ▪ Add and subtract fractions with the same denominator within one whole e.g. 5/7 + 1/7 = 6/7 ▪ Compare and order unit fractions and fractions with the same denominators ▪ Solve problems that involve all of the above
Measurement ▪ Measure, compare and add simple lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)	**Measurement** ▪ Measure, compare, add and subtract simple lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)	**Measurement** ▪ Measure, compare, add and subtract lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)

▪ Measure the perimeter of a square or rectangle ▪ Add and subtract smaller amounts of money and give change up to 50 pence ▪ Tell and write the time from a variety of different analogue clocks ▪ Read the time with increasing accuracy to the nearest five minute interval, record and compare simple times; use vocabulary such as o'clock, minutes past, minutes to, morning and afternoon ▪ Know the 12 months in order ▪ Compare the duration of familiar events and stating which is the longest and which is the shortest	▪ Measure the perimeter of regular 2D shapes ▪ Add and subtract amounts of money to give change using p in practical contexts ▪ Tell and write the time from an analogue clock, including using Roman numerals from I to XII and 12 hour clocks ▪ Read the time with increasing accuracy to the nearest minute, record and compare time in terms of minutes and hours; use vocabulary such as o'clock, morning, afternoon, noon and midnight ▪ Know the number of days in each month and that a leap year occurs every 4 years ▪ Compare the duration of familiar events, calculating elapsed time in hours and minutes	▪ Measure the perimeter of simple 2D shapes ▪ Add and subtract amounts of money to give change using both £ and p in practical contexts ▪ Tell and write the time from an analogue clock, including using Roman numerals from I to XII and 12/24 hour clocks ▪ Estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes and hours; use vocabulary such as o'clock, am/pm, morning, afternoon, noon and midnight ▪ Know the number of seconds in a minute and the number of days in each month, year and leap year ▪ Compare durations of events e.g. calculating the time taken by particular events or tasks
Geometry – Properties of Shape ▪ Draw 2D and make familiar 3D shapes (cube, cuboid, pyramid) and describe them in terms of their properties ▪ Recognise right angles in familiar 2D shapes ▪ Identify right angles in a broader context including the classroom setting ▪ Identify which turn is the greatest and which is the smallest ▪ Identify horizontal and vertical lines	**Geometry – Properties of Shape** ▪ Draw 2D and make simple 3D shapes using modelling materials; recognise simple 3D shapes in different orientations and describe them ▪ Recognise angles as a property of a shape, including a right angle ▪ Identify right angles and recognise that two right angles make a half turn ▪ Identify which angle is the greatest and which is the smallest ▪ Identify horizontal and vertical lines and pairs of parallel lines	**Geometry – Properties of Shape** ▪ Draw 2D and make 3D shapes using modelling materials; recognise 3D shapes in different orientations and describe them ▪ Recognise angles as a property of a 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 horizontal and vertical lines and pairs of perpendicular and parallel lines
Statistics ▪ Present familiar data using bar charts and pictograms ▪ Answer simple questions about data that has been presented within a bar chart or pictogram using appropriate mathematical vocabulary	**Statistics** ▪ Present familiar data using bar charts, pictograms and tables ▪ Solve one-step and two-step questions e.g. 'How many more?' and 'How many fewer?' using information presented in bar charts, pictograms and tables	**Statistics** ▪ Interpret and present data using bar charts, pictograms and tables ▪ Solve one-step and two-step questions e.g. 'How many more?' and 'How many fewer?' using information presented in scaled bar charts, pictograms and tables

Sutton St James CP School

Assessment without Levels - Maths
Age Expectations Year 4 Pupils

Year 4		
Autumn Term	**Spring Term**	**Summer Term**
Number – Number and Place Value ▪ Count in multiples of 6, 25 and 1,000 ▪ Find 100 more than any number ▪ Count backwards from any given number to 1,000 including interval jumps of 10 and 100 ▪ Recognise the place value of each digit in a four digit number (thousands, hundreds, tens and ones) ▪ Order and compare numbers beyond 100 ▪ Identify, represent and estimate given numbers to 1,000 using defined representations ▪ Round any number to the nearest 10 or 100 ▪ Solve number and practical problems that involve all of the above and with increasingly large positive numbers ▪ Read Roman numerals to 30 (I to XXX) and know that over time, the numeral system changed to include the concept of zero and place value	**Number – Number and Place Value** ▪ Count in multiples of 6, 9, 25 and 1,000 ▪ Find 100 more or less than any number ▪ Count backwards from any given number to 1,000 and understand that some numbers can be less than zero ▪ Recognise the place vale of each digit in a four-digit number (thousands, hundreds, tens and ones) ▪ Order and compare numbers to 1,000 ▪ Identify, represent and estimate numbers to 1,000 using defined representations ▪ Round a given number to the nearest 10, 100 or 1,000 ▪ Solve number and practical problems that involve all of the above and with increasingly large positive numbers ▪ Read Roman numerals to 50 (I to L) and know that over time, the numeral system changed to include the concept of zero and place value	**Number – Number and Place Value** ▪ Count in multiples of 6, 7, 9, 25 and 1,000 ▪ Find 1,000 more or less than a given number ▪ Count backwards through zero to include negative numbers ▪ Recognise the place value of each digit in a four-digit number (thousands, hundreds, tens and ones) ▪ Order and compare numbers beyond 1,000 ▪ Identify, represent and estimate numbers using different representations ▪ Round any number to the nearest 10, 100 or 1,000 ▪ Solve number and practical problems that involve all of the above and with increasingly large positive numbers ▪ Read Roman numerals to 100 (I to C) and know that over time, the numeral system changed to include the concept of zero and place value
Number – Addition and Subtraction ▪ Add numbers with up to 3 digits using formal written methods of columnar addition ▪ To use the inverse operation to check the answers to a calculation ▪ Solve two-step addition problems using a range of given operations and methods	**Number – Addition and Subtraction** ▪ Add and subtract numbers with up to 3 digits using formal written methods of columnar addition and subtraction where appropriate ▪ To use estimation to check the answers to a calculation ▪ Solve addition and subtraction two-step problems in different contexts, using given operations and methods	**Number – Addition and Subtraction** ▪ Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate ▪ Estimate and use inverse operations to check answers to a calculation ▪ Solve addition and subtraction two-step problems in different contexts, deciding which operations and methods to use and why
Number – Multiplication and Division ▪ Recall multiplication and division facts for multiplication tables up to 8 x 8 ▪ Use place value to 3 digits and known facts to multiply and divide mentally, including multiplying by 0 and 1 and dividing by 1 ▪ Recognise and use factor pairs and commutability in mental calculations to 8 x 8 ▪ Multiply two-digit numbers by a one-digit number using chosen method ▪ Solve problems involving multiplying and dividing, integer scaling problems and simple correspondence problems such as n objects are connected to m objects	**Number – Multiplication and Division** ▪ Recall multiplication and division facts for multiplication tables up to 10 x 10 ▪ Use place value to 3 digits, known and derived facts to multiply and divide mentally, including multiplying by 0 and 1 and dividing by 1 ▪ Recognise and use factor pairs and commutability in mental calculations to 10 x 10 ▪ Multiply two-digit numbers by a one-digit number using formal written layout ▪ Solve problems involving multiplying and dividing, integer scaling problems and more complex correspondence problems such as n objects are connected to m objects	**Number – Multiplication and Division** ▪ Recall multiplication and division facts for multiplication tables up to 12 x 12 ▪ Use place value to 4 digits, known and derived facts to multiply and divide mentally, including multiplying by 0 and 1, dividing by 1 and multiplying together three numbers ▪ Recognise and use factor pairs and commutability in mental calculations to 12 x 12 ▪ Multiply two-digit and three-digit numbers by a one-digit number using formal written layout ▪ Solve problems involving multiplying and dividing, including using the distributive law to multiply two-digit numbers by one-digit, integer scaling problems and more complex correspondence problems such as n objects are connected to m objects
Number – Fractions (and decimals) ▪ Recognise and show, using diagrams, families of common equivalent fractions ▪ Recognise that hundredths arise when dividing an object or number by one hundred and dividing tenths by ten ▪ Solve problems involving common fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the	**Number – Fractions (and decimals)** ▪ Recognise and show, using diagrams, families of all common equivalent fractions ▪ Count up in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten ▪ Solve problems involving some complex fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the	**Number – Fractions (and decimals)** ▪ Recognise and show, using diagrams, families of common equivalent fractions with larger denominators ▪ Count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten ▪ Solve problems involving increasingly complex fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions

answer is a whole number ▪ Add simple fractions with the same denominator where the answer is more than one ▪ Recognise and write simple decimal equivalents ▪ Find the effect of dividing a one-digit number by 10, identifying the value of the digits as ones and tenths ▪ Round decimals with one decimal place to the nearest whole number (below 5) ▪ Compare numbers and recognise that the same number to one decimal place is more than the whole number ▪ Solve simple measure and money problems involving fractions and decimals	answer is a whole number ▪ Add more complex fractions with the same denominator where the answer is more than one ▪ Recognise and write common decimal equivalents ▪ Find the effect of dividing a one-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths ▪ Round decimals with one decimal place to the nearest whole number (below 10) ▪ Compare numbers with the same number of decimal places up to one decimal place ▪ Solve simple measure and money problems involving fractions and decimals	where the answer is a whole number ▪ Add and subtract fractions with the same denominator ▪ Recognise and write decimal equivalents to $\frac{1}{4}$, $\frac{1}{2}$ and $\frac{3}{4}$ ▪ 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 ▪ Round decimals with one decimal place to the nearest whole number (above 10) ▪ Compare numbers with the same number of decimal places up to two decimal places ▪ Solve simple measure and money problems involving fractions and decimals to two decimal places
Measurement ▪ Recognise all equivalencies in measure e.g. 10mm = 1cm, 100cm = 1m etc ▪ Calculate different measures including money in pounds and pence ▪ Measure the perimeter of a rectilinear figure (including squares) in centimetres ▪ Find the area of rectilinear shapes by counting squares ▪ Read, write and convert simple times between analogue and digital clocks ▪ Solve problems involving converting from hours to minutes and minutes to seconds	**Measurement** ▪ Convert between simple units of measure e.g. mm to cm, cm to m, hour to minute etc ▪ Estimate and calculate different measures including money in pounds and pence ▪ Measure the perimeter of a rectilinear figure (including squares) in centimetres and metres ▪ Find the area of rectilinear shapes by counting squares and half squares ▪ Read, write and convert time between analogue and digital clocks ▪ Solve problems involving converting from hours to minutes, minutes to seconds and weeks to days	**Measurement** ▪ Convert between different units of measure e.g. kilometre to metre, hour to minute, cm to mm, ml to cl/l etc ▪ Estimate, compare and calculate different measures including money in pounds and pence ▪ Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres ▪ Find the area of rectilinear shapes using multiplication facts ▪ 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 and weeks to days
Geometry – Properties of Shape ▪ Compare and classify simple geometric shapes based on their properties and sizes ▪ Identify acute and obtuse angles ▪ Identify lines of symmetry in common 2D shapes ▪ Compare a simple symmetric figure with respect to a chosen line of symmetry	**Geometry – Properties of Shape** ▪ Compare and classify familiar geometric shapes based on their properties and sizes ▪ Identify acute and obtuse angles in a range of familiar geometric shapes ▪ Identify lines of symmetry in a range of 2D shapes presented in standard orientation ▪ Compare a simple symmetric figure with respect to a given line of symmetry	**Geometry – Properties of Shape** ▪ Compare and classify geometric shapes including quadrilaterals and triangles based on their properties and sizes ▪ Identify acute and obtuse angles and compare and order angles up to two right angles by size ▪ Identify lines of symmetry in 2D shapes presented in different orientations ▪ Compare a simple symmetric figure with respect to a specific line of symmetry
Geometry – Position and Direction ▪ Describe positions on a 2D grid as co-ordinates in the 1st quadrant ▪ Describe movements between positions as a simple translation ▪ Plot specified points and draw sides to complete a simple polygon	**Geometry – Position and Direction** ▪ Describe positions on a 2D grid as co-ordinates in the 1st and 2nd quadrant ▪ Describe movements between positions as translations of a given unit to the left/right ▪ Plot specified points and draw sides to complete a familiar polygon	**Geometry – Position and Direction** ▪ Describe positions on a 2D grid as co-ordinates in the 1st, 2nd, 3rd and 4th 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
Statistics ▪ Interpret and present discrete data using appropriate graphical methods including bar charts and time graphs ▪ Solve a range of increasingly challenging problems using information presented in bar charts, pictograms, tables and other graphs	**Statistics** ▪ Interpret and present discrete and continuous data using appropriate graphical methods including bar charts and time graphs ▪ Solve a range of different problems using information presented in bar charts, pictograms, tables and other graphs	**Statistics** ▪ Interpret and present discrete, continuous and increasingly complex data using appropriate graphical methods including bar charts and time graphs ▪ Solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs

Sutton St James CP School

Assessment without Levels - Maths
Age Expectations Year 5 Pupils

Year 5		
Autumn Term	**Spring Term**	**Summer Term**
Number – Number and Place Value ▪ Read, write, order and compare numbers to at least 10,000 and determine the value of each digit ▪ Count forwards or backwards in steps of powers of 10 for any given number up to 10,000 ▪ Interpret negative numbers in contexts (see above), count forwards and backwards with positive and negative whole numbers, including through zero ▪ Round any number up/down to 10,000 to the nearest 10, 100 or 1,000 ▪ Solve number problems and practical problems that involve all of the above ▪ Read Roman numerals to 300 (CCC) and recognise years written in this way	**Number – Number and Place Value** ▪ Read, write, order and compare numbers to at least 100,000 and determine the value of each digit ▪ Count forwards or backwards in steps of powers of 10 for any given number up to 100,000 ▪ Interpret negative numbers in context (see above), count forwards and backwards with positive and negative whole numbers, including through zero ▪ Round any number up/down to 100,000 to the nearest 10, 100, 1,000 or 10,000 ▪ Solve number problems and practical problems that involve all of the above ▪ Read Roman numerals to 500 (D) and recognise years written in this way	**Number – Number and Place Value** ▪ Read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit ▪ Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000 ▪ Interpret negative numbers in context (see above), count forwards and backwards with positive and negative whole numbers, including through zero ▪ Round any number up/down to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000 ▪ Solve number problems and practical problems that involve all of the above ▪ Read Roman numerals to 1,000 (M) and recognise years written in this way
Number – Addition and Subtraction ▪ Add and subtract numbers with four-digits including using formal written methods (columnar addition and subtraction) ▪ Add and subtract numbers mentally with increasingly large numbers ▪ Use rounding to check answers to calculations (see above) and determine, in the context of a problem, levels of accuracy ▪ Solve addition and subtraction multi-step problems in defined contexts deciding which operations and methods to use and why	**Number – Addition and Subtraction** ▪ Add whole numbers with more than four-digits including using formal written methods (columnar addition) ▪ Add and subtract numbers mentally with increasingly large numbers ▪ Use rounding to check answers to calculations (see above) and determine, in the context of a problem, levels of accuracy ▪ Solve addition and subtraction multi-step problems in familiar contexts deciding which operations and methods to use and why	**Number – Addition and Subtraction** ▪ Add and subtract whole numbers with more than four-digits including using formal written methods (columnar addition and subtraction) ▪ Add and subtract numbers mentally with increasingly large numbers ▪ Use rounding to check answers to calculations (see above) and determine, in the context of a problem, levels of accuracy ▪ Solve addition and subtraction multi-step problems in different contexts deciding which operations and methods to use and why
Number – Multiplication and Division ▪ Identify multiples and factors, including all factor pairs of given numbers to 64, and common factors of two numbers ▪ Know and use the vocabulary of prime numbers, prime factors and composite (no-prime) numbers in this context ▪ Establish whether a number up to 20 is prime and recall prime numbers to 11 ▪ Multiply numbers up to four digits by a one digit number using a formal written method ▪ Multiply and divide numbers (see above) mentally drawing upon known facts ▪ Divide numbers up to three-digits by a one-digit number using a formal written method of short division to include remainders ▪ Multiply and divide whole numbers by 10 and 100 ▪ Recognise the squared number sequence from 1 to 144 ▪ Solve problems involving multiplication and division (see above) including using knowledge of factors and multiples ▪ Solve problems involving addition, subtraction, multiplication and division and a combination of these within the context above, including understanding the meaning of the equals sign (=) ▪ Solve problems involving multiplication and division within the context	**Number – Multiplication and Division** ▪ Identify multiples and factors, including finding all factor pairs of given numbers to 100, and common factors of two numbers ▪ Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers in this context ▪ Establish whether a number up to 50 is prime and recall prime numbers to 19 ▪ Multiply numbers up to three-digits by one or two-digit numbers using a formal written method, including grid method for two digit numbers ▪ Multiply and divide numbers (see above) mentally drawing upon known facts ▪ Divide numbers up to three-digits by a one digit-number using the formal written method of short-division and interpret remainders appropriately for the context ▪ Multiply and divide whole numbers by 10, 100 and 1,000 ▪ Recognise and use square numbers and the correct notation ▪ Solve problems involving multiplication and division (see above) including using knowledge of factors and multiples ▪ Solve problems involving addition, subtraction, multiplication and division and a combination of these within the context above, including understanding the meaning of the equals sign (=) ▪ Solve problems involving multiplication and division within the context	**Number – Multiplication and Division** ▪ Identify multiples and factors, including finding all factor pairs of given numbers above 144, and common factors of two numbers ▪ Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers in this context ▪ Establish whether a number up to 100 is prime and recall prime numbers up to 47 ▪ Multiply numbers up to four-digits by one or two-digit numbers using a formal written method, including long multiplication for two-digit numbers ▪ Multiply and divide numbers (see above) mentally drawing upon known facts ▪ Divide numbers up to four-digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context ▪ Multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000 ▪ Recognise and use square numbers and cube numbers and the notation for squared and cubed ▪ Solve problems involving multiplication and division (see above) including using knowledge of factors and multiples, squares and cubes ▪ Solve problems involving addition, subtraction, multiplication and division and a combination of these within the context above, including

above, including scaling by simple fractions and problems involving simple rates	above, including scaling by simple fractions and problems involving simple rates	understanding the meaning of the equals sign (=) ▪ Solve problems involving multiplication and division within the context above, including scaling by simple fractions and problems involving simple rates
Number – Fractions (including Decimals and Percentages) ▪ Recognise equivalent fractions with denominators that are multiples of the same number ▪ Name and write equivalent fractions of a given fraction, represented visually, including tenths ▪ Recognise given mixed numbers and improper fractions and convert from one form to the other and write simple mathematical statements ▪ Add and subtract fractions and mixed numbers with the same denominator ▪ Multiply given proper fractions and mixed numbers by whole numbers, supported by materials and diagrams ▪ Read and write simple decimal numbers to 1 as fractions e.g. 0.3=3/10, 0.9=9/10 ▪ Recognise the number of thousandths in a number to three decimal places ▪ Round decimals to one decimal place to the nearest whole number (above 100)] ▪ Read, write, order and compare numbers with up to one decimal place ▪ Solve problems involving numbers up to one decimal place ▪ Recognise the percent symbol (%) and understand that percent relates to the 'number of parts per hundred' ▪ Solve problems which require an understanding of given percentages and their decimal equivalents (0.75, 0.5 and 0.25)	**Number – Fractions (including Decimals and Percentages)** ▪ Convert different fractions into equivalent fractions with denominators that are multiples of the same number ▪ Name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths ▪ Recognise simple mixed numbers and improper fractions and convert from one form to the other and write simple mathematical statements ▪ Add fractions with the same denominator and denominators that are multiples of the same number ▪ Multiply simple proper fractions and mixed numbers by whole numbers, supported by materials and diagrams ▪ Read and write simple decimal numbers as fractions e.g. 0.7=7/10, 3.1=3 and 1/10 ▪ Recognise and use thousandths and relate them to tenths and hundredths ▪ Round decimals with two decimal places to the nearest whole number ▪ Read, write, order and compare numbers with up to two decimal places ▪ Solve problems involving numbers up to two decimal places ▪ Recognise the percent symbol (%) and understand that percent relates to the 'number of parts per hundred' and write percentages as a fraction with a denominator of 100 ▪ Solve problems which require an understanding of simple percentages and their decimal equivalents (half, quarter, tenth and hundredth)	**Number – Fractions (including Decimals and Percentages)** ▪ Compare and order fractions whose denominators are all multiples of the same number ▪ Identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths ▪ 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 and 1/5 ▪ Add and subtract fractions with the same denominator and denominators that are multiples of the same number ▪ Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams ▪ Read and write decimal numbers as fractions e.g. 0.71=71/100 ▪ Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents ▪ Round decimals with two decimal places to the nearest whole number and to one decimal place ▪ Read, write, order and compare numbers with up to three decimal places ▪ Solve problems involving numbers up to three decimal places ▪ Recognise the percent symbol (%) and understand that percent relates to the 'number of parts per hundred' and write percentages as a fraction with a denominator of 100 and as a decimal ▪ Solve problems which require an understanding of percentages and their decimal equivalents of $\frac{1}{2}$, $\frac{1}{4}$, 1/5, 2/5, 4/5 and those fractions with a denominator of a multiple of 10 or 25
Measurement ▪ Convert between given units of metric measure using knowledge of place value, multiplication and decimal notation ▪ Understand that imperial units of measurement are different to metric units of measurements and when they are used ▪ Measure the perimeter of composite rectilinear shapes in centimetres and millimetres ▪ Calculate and compare the area of rectangles (including squares) and including standards units of measure (square centimetres) ▪ Understand the difference between volume (the measure of the space taken up by something) and capacity (the amount a container can hold) ▪ Solve problems that involve conversion between simple units of time ▪ Use all four operations within the context above to solve problems involving measure e.g. length, mass, volume, money using decimal notation including scaling	**Measurement** ▪ Convert between familiar units of metric measure using knowledge of place value, multiplication and decimal notation ▪ Understand the basic unit of imperial measure including inches, pounds and pints ▪ Measure the perimeter of composite rectilinear shapes in millimetres, centimetres and metres ▪ Calculate and compare the area of rectangles (including squares) and including using standard units, square centimetres and square metres ▪ Measure volume and understand how a square centimetre is used to represent capacity ▪ Solve problems that involve conversion between familiar units of time ▪ Use all four operations within the context above to solve problems involving measure e.g. length, mass, volume, money using decimal notation including scaling	**Measurement** ▪ Convert between different units of metric measure e.g. kilometre and metre, centimetre and metre, centimetre and millimetre, gram and kilogram, litre and millilitre ▪ Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints ▪ Measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres ▪ Calculate and compare the area of rectangles (including squares) and including using standard units, square centimetres and square metres and estimate the area of irregular shapes ▪ Estimate and measure volume e.g. centimetre cubes to build cuboids and capacity e.g. using water ▪ Solve problems that involve conversion between complex units of time ▪ Use all four operations within the context above to solve problems involving measure e.g. length, mass, volume, money using decimal notation including scaling
Geometry – Properties of Shape ▪ Identify familiar 3D shapes from 2D representations ▪ Know that angles are measured in degrees, identify acute and obtuse angles ▪ Draw and give acute angle and measure accurately in degrees ▪ Identify angles at a point and one quarter turn (90 degrees/right angle) ▪ Use the properties of rectangles to deduce related facts and find	**Geometry – Properties of Shape** ▪ Identify 3D shapes including cubes and other cuboids from 2D representations ▪ Know that angles are measured in degrees, estimate and compare acute and obtuse angles ▪ Draw any given acute or obtuse angle and measure them accurately in degrees	**Geometry – Properties of Shape** ▪ Identify more complex 3D shapes including cubes and other cuboids from 2D representations ▪ Know that angles are measured in degrees, estimate and compare acute, obtuse and reflex angles ▪ Draw any given angle and measure them accurately in degrees ▪ Identify angles at a point and one whole turn (360 degrees)

missing length and angles ▪ Distinguish between simple regular and irregular polygons based on reasoning about equal sides and angles	▪ Identify angles at a point and one half turn (180 degrees/straight line) ▪ Use the properties of common quadrilaterals to deduce related facts and find missing lengths and angles ▪ Distinguish between common regular and irregular polygons based on reasoning about equal sides and angles	▪ Use the properties of common quadrilaterals and triangles to deduce related facts and find missing lengths and angles ▪ Distinguish between regular and irregular polygons based on reasoning about equal sides and angles
Geometry – Position and Direction ▪ Identify, describe and represent the position of a simple shape following a reflection or translation, using the appropriate language and know that the shape has not changed	**Geometry – Position and Direction** ▪ 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	**Geometry – Position and Direction** ▪ 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 including the use of algebraic expressions (x+1, y-4 etc)
Statistics ▪ Solve comparison, sum and difference problems using information presented in a simple line graph ▪ Read information in tables, including timetables	**Statistics** ▪ Solve comparison, sum and difference problems using information presented in a line graph ▪ Read and interpret information in tables, including timetables	**Statistics** ▪ Solve comparison, sum and difference problems using information presented in a complex line graph ▪ Complete, read and interpret information in tables including timetables

Sutton St James CP School

Assessment without Levels - Maths
Age Expectations Year 6 Pupils

Year 6		
Autumn Term	**Spring Term**	**Summer Term**
Number – Number and Place Value ▪ Read, write, order and compare numbers above 1,000,000 and determine the value of each digit ▪ Round any whole number to a required degree of accuracy (see above) ▪ Use negative numbers in context (see above) and calculate intervals across zero ▪ Solve number and practical problems that involve all of the above	**Number – Number and Place Value** ▪ Read, write, order and compare numbers to 10,000,000 and determine the value of each digit ▪ Round any whole number to a required degree of accuracy (see above) ▪ Use negative numbers in context (see above) and calculate intervals across zero ▪ Solve number and practical problems that involve all of the above	**Number – Number and Place Value** ▪ Read, write, order and compare numbers beyond 10,000,000 and determine the value of each digit ▪ Round any whole number to a required degree of accuracy (see above) ▪ Use negative numbers in context (see above) and calculate intervals across zero ▪ Solve number and practical problems that involve all of the above
Number – Addition, Subtraction, Multiplication and Division ▪ Multiply multi-digit numbers up to four-digits by a two-digit whole number using a preferred method ▪ Divide numbers up to four-digits by a two-digit whole number using a preferred method and interpret remainders as whole number remainders, fractions or rounding, as appropriate for the context ▪ Divide numbers up to three-digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context ▪ Identify common factors, common multiples and prime numbers within the context above ▪ Perform mental calculations within the context outlined above, including with mixed operations and large numbers ▪ Within the context outlined above, use knowledge of the order of operations to carry out calculations involving the four operations ▪ Solve addition and subtraction multi-step problems in a range of different contexts (see above), deciding which operations and methods to use and why ▪ Solve problems within the context outlined above involving addition, subtraction, multiplication and division ▪ Within the context outlined above, use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy	**Number – Addition , Subtraction, Multiplication and Division** ▪ Multiply multi-digit numbers up to four-digits by a two-digit whole number using the formal written method of long multiplication ▪ Divide numbers up to four-digits by a two-digit whole number using the formal written method of long division and interpret remainders as whole number remainders, fractions or rounding, as appropriate for the context ▪ Divide numbers up to four-digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context ▪ Identify common factors, common multiples and prime numbers within the context above ▪ Perform mental calculations within the context outlined above, including with mixed operations and large numbers ▪ Within the context outlined above, use knowledge of the order of operations to carry out calculations involving the four operations ▪ Solve addition and subtraction multi-step problems in a range of different contexts (see above), deciding which operations and methods to use and why ▪ Solve problems within the context outlined above involving addition, subtraction, multiplication and division ▪ Within the context outlined above, use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy	**Number – Addition, Subtraction, Multiplication and Division** ▪ Multiply multi-digit numbers up to four-digits by a two-digit or three-digit whole number using the formal written method of long multiplication ▪ Divide numbers up to four-digits by a two-digit or three-digit whole number using the formal written method of long division and interpret remainders as whole number remainders, fractions or rounding, as appropriate for the context ▪ Divide numbers with more than four-digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context ▪ Identify common factors, common multiples and prime numbers within the context above ▪ Perform mental calculations within the context outlined above, including with mixed operations and large numbers ▪ Within the context outlined above, use knowledge of the order of operations to carry out calculations involving the four operations ▪ Solve addition and subtraction multi-step problems in a range of different contexts (see above), deciding which operations and methods to use and why ▪ Solve problems within the context outlined above involving addition, subtraction, multiplication and division ▪ Within the context outlined above, use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy
Number – Fractions (including Decimals and Percentages) ▪ Use understanding of division to simplify fractions ▪ Compare and order familiar fractions ▪ Add and subtract familiar fractions with different denominators ▪ Multiply simple pairs of proper fractions writing the answer in its simplest form e.g. $\frac{1}{2} \times \frac{1}{2} = \frac{1}{4}$ ▪ Using pictorial methods, understand that simple fractions can be divided by whole numbers ▪ To read fractions as division equations (7/12 is the same as 7 divided by 12) ▪ Identify the value of each digit in numbers given to three decimal places	**Number – Fractions (including Decimals and Percentages)** ▪ Use understanding of division to simplify fractions; use multiplication to convert fractions so that their denominators are the same ▪ Compare and order fractions including those that do not share a common denominator ▪ Add and subtract fractions with different denominators using the concept of equivalent fractions ▪ Multiply common pairs of proper fractions writing the answer in its simplest form e.g. $\frac{1}{4} \times \frac{1}{2} = 1/8$ ▪ Divide common fractions by whole numbers $\frac{1}{4}$ divided by 2 = 1/8 ▪ Understand how fractions relate to division and calculate the decimal	**Number – Fractions (including Decimals and Percentages)** ▪ Use common factors to simplify fractions; use common multiples to express fractions in the same denomination ▪ Compare and order fractions including fractions that are greater than 1 (>1) ▪ Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions ▪ Multiply pairs of proper fractions, writing the answer in its simplest form ▪ Divide proper fractions by whole numbers e.g. 1/3 divided by 3 = 1/9 ▪ Understand how to convert fractions into decimals using division ▪ Identify the value of each digit in numbers given to three decimal places

using the vocabulary of tenth, hundredth and thousandth ▪ Multiply one-digit numbers up to one decimal place by whole numbers ▪ Use written division methods in cases where the answer has up to one decimal place ▪ Solve problems which require answers to be rounded to specified degrees of accuracy ▪ Recall and use equivalences between simple fractions, decimals and percentages including in a range of different contexts (see above)	fraction equivalents e.g. 0.375 for a simple fraction (3/8) ▪ Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10 and 100 giving answers up to two decimal places ▪ Multiply one-digit numbers with up to two decimal places by whole numbers ▪ Use written division methods in cases where the answer has up to two decimal places ▪ Solve problems which require answers to be rounded to specified degrees of accuracy ▪ Recall and use equivalences between simple fractions, decimals and percentages including in a range of different contexts (see above)	and multiply and divide numbers by 10, 100 and 1,000 giving answers up to three decimal places ▪ Multiply two-digit numbers with up to two decimal places by whole numbers ▪ Use written division methods in cases where the answer has up to three decimal places ▪ Solve problems which require answers to be rounded to specified degrees of accuracy ▪ Recall and use equivalences between simple fractions, decimals and percentages including in a range of different contexts (see above)
Ratio and Proportion ▪ Solve problems in a real context (see below) involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts ▪ Solve problems involving calculation of percentages e.g. of measures such as 10% of 360, and the use of percentages for comparison ▪ Solve problems involving similar simple shapes where the scale factor is known or can be found ▪ Solve problems using the context established above involving unequal sharing and grouping using knowledge of fractions and multiples	**Ratio and Proportion** ▪ Solve problems in a real context (see below) involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts ▪ Solve problems involving calculation of percentages e.g. of measures such as 15% of 360, and the use of percentages for comparison ▪ Solve problems involving similar familiar shapes where the scale factor is known or can be found ▪ Solve problems using the context established above involving unequal sharing and grouping using knowledge of fractions and multiples	**Ratio and Proportion** ▪ Solve problems in a real context (see below) involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts ▪ Solve problems involving calculation of percentages e.g. of measures such as 18% of 360, and the use of percentages for comparison ▪ Solve problems involving similar complex shapes where the scale factor is known or can be found ▪ Solve problems using the context established above involving unequal sharing and grouping using knowledge of fractions and multiples
Algebra ▪ Use simple formulae ▪ Describe linear number sequences ▪ Express simple missing number problems algebraically ▪ Find simple pairs of numbers that satisfy equations with two unknowns ▪ Understand that different answers can satisfy an algebraic equation	**Algebra** ▪ Use and interpret simple formulae ▪ Generate and describe linear number sequences ▪ Express missing number problems algebraically ▪ Find pairs of numbers that satisfy equations with two unknowns ▪ Enumerate possibilities of combinations of two variables	**Algebra** ▪ Use formulae within a familiar context ▪ Generate and describe complex linear number sequences ▪ Express missing number problems within a familiar context algebraically ▪ Find pairs of numbers that satisfy a range of different equations with two unknowns ▪ Enumerate possibilities of combinations of at least two variables
Measurement ▪ Solve problems (see below) involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate ▪ 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 up to one decimal place ▪ Convert between metric and imperial units of length and temperature ▪ Use formulae to calculate the area of familiar shapes including triangles and circles ▪ Calculate the area of right-angled triangles ▪ Calculate and compare the volume of cubes and cuboids using standard units including cubic centimetres and cubic metres	**Measurement** ▪ Solve problems (see below) involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate ▪ 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 up to two decimal places ▪ Convert between metric and imperial units of length and temperature, volume and capacity ▪ Recognise when it is possible to use formulae for the area of shapes ▪ Calculate the area of different types of triangle ▪ Calculate, estimate and compare the volume of cubes and cuboids using standard units including cubic centimetres and cubic metres	**Measurement** ▪ Solve problems (see below) involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate ▪ 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 up to three decimal places ▪ Convert between standard metric and imperial units ▪ Recognise when it is possible to use formulae for area and volume of shapes ▪ Calculate the area of parallelograms and triangles ▪ Calculate, estimate and compare the volume of cubes and cuboids using standard units including cubic centimetres and cubic metres and extending to other units e.g. cubic millimetres and cubic kilometres
Geometry – Properties of Shape ▪ Accurately draw 2D shapes using given dimensions and angles ▪ Recognise, describe and build simple 3D shapes including making their equivalent nets ▪ Compare and classify geometric shapes (see above) based on their properties and sizes and find unknown angles in any triangles, quadrilaterals and regular polygons ▪ Illustrate and name parts of a circle including radius, diameter and circumference and know that the diameter is twice the radius ▪ Recognise angles where they meet at a point, are on a straight line or	**Geometry – Properties of Shape** ▪ Accurately draw a range of 2D shapes using given dimensions and angles ▪ Recognise, describe and build familiar 3D shapes including making their equivalent nets ▪ Compare and classify geometric shapes (see above) based on their properties and sizes and find unknown angles in any triangles, quadrilaterals and regular polygons ▪ Illustrate and name parts of a circle including radius, diameter and circumference and know that the diameter is twice the radius and understand the relationship between the circumference and diameter (Pi)	**Geometry – Properties of Shape** ▪ Accurately draw complex 2D shapes using given dimensions and angles ▪ Recognise, describe and build 3D shapes including making their equivalent nets ▪ Compare and classify geometric shapes (see above) based on their properties and sizes and find unknown angles in any triangles, quadrilaterals and regular polygons ▪ Illustrate and name parts of a circle including radius, diameter and circumference and know that the diameter is twice the radius and understand the relationship between the circumference and diameter (Pi);

are vertically opposite	▪ Recognise angles where they meet at a point, are on a straight line or are vertically opposite and find missing angles	use Pi to calculate the area of a circle ▪ Recognise angles where they meet at a point, are on a straight line or are vertically opposite and find missing angles within familiar and complex 2D shapes
Geometry – Position and Direction ▪ Describe positions on the full co-ordinate grid (all four quadrants) ▪ Draw and translate simple shapes on the co-ordinate plane and reflect them in the axes	**Geometry – Position and Direction** ▪ Describe positions on the full co-ordinate grid (across all four quadrants) ▪ Draw and translate simple and compound shapes on the co-ordinate plane and reflect them in the axes	**Geometry – Position and Direction** ▪ Describe positions on the full co-ordinate grid (all four quadrants) ▪ Draw and translate simple, compound and complex shapes on the co-ordinate plane and reflect them in the x and y axes
Statistics ▪ Interpret pie charts and line graphs and use these to solve problems ▪ Calculate and interpret the mean as an average and display this graphically	**Statistics** ▪ Interpret pie charts and line graphs and use these to solve a range of different problems ▪ Calculate the interpret and mean as an average and the mode as the most frequently appearing outcome/number and display this graphically	**Statistics** ▪ Interpret and construct pie charts and line graphs and use these to solve complex problems ▪ Calculate and interpret the mean, median, mode and range