Maths Curriculum Overview

Year Group	Autumn 1	Autumn 2	Spring 1	Spring 2	Summer 1	Summer 2
N White Rose	• Recite numbers by singing number rhymes • Match two objects that are the same • Sort objects by colour, shape and size • Use everyday language to compare amounts • Compare the size of objects • Recognise and describe pattern in the environment • Match a pattern to an object • Complete simple patterns	• Recognise and represent the numbers 1, 2 and 3 • Comparing the numbers 1, 2 and 3 • Exploring the numbers 1, 2 and 3 • Recognising circles and triangles in the environment and making pictures with circles • Describe circles and triangles • Explore the size of objects • Explore the weight of objects	• Understand the concept of zero • Represent numbers 4 and 5 • Compare numbers to 5 • Make 4 and 5 in different ways • Recognise shapes with 4 sides • Recognise one more and one less	• Understand positional language • Recognise number bonds to 5 • Combining two amounts • Adding More • Taking away • Time	• Consolidating key skills • Doubling • Sharing & Grouping • Even & Odd • Spatial Reasoning • Comparing Size, Mass & Capacity • 3D Shape • Pattern • Time	
R NCETM	**Subitise** • Perceptually subitise within 3 • Identify sub-groups in larger arrangements • Create their own patterns for numbers within 4 • Practice using their fingers to represent quantities which they can subitise	**Subitise** • Continue from first half-term • Subitise within 5, perceptually and conceptually, depending on the arrangements. **Cardinality, ordinality and counting** • Continue to develop their counting skills	**Subitise** • Increase confidence in subitising by continuing to explore patterns within 5, including structured and random arrangements • Explore a range of patterns made by some numbers greater than 5, including	**Subitise** • Explore symmetrical patterns, in which each side is a familiar pattern, linking this to 'doubles'. **Cardinality, ordinality and counting** • Continue to consolidate their understanding of cardinality, working	**Subitise** • Continue to practise increasingly familiar subitising arrangements, including those which expose '1 more' or 'doubles' patterns • Use subitising skills to enable them to	Consolidate their understanding of concepts previously taught through working in a variety of contexts and with different numbers. Count beyond 10

	• Experience subitising in a range of contexts, including temporal patterns made by sounds. **Cardinality, ordinality and counting** • Relate the counting sequence to cardinality, seeing that the last number spoken gives the number in the entire set • Have a wide range of opportunities to develop their knowledge of the counting sequence, including through rhyme and song • Have a wide range of opportunities to develop 1:1 correspondence, including by coordinating movement and counting • Have opportunities to develop an understanding that anything can be counted, including actions and sounds • Explore a range of strategies which support accurate counting. **Composition** • See that all numbers can be made of 1s • Compose their own collections within 4.	• Explore the cardinality of 5, linking this to dice patterns and 5 fingers on 1 hand • Begin to count beyond 5 • Begin to recognise numerals, relating these to quantities they can subitise and count. **Composition** • Explore the concept of 'wholes' and 'parts' by looking at a range of objects that are composed of parts, some of which can be taken apart and some of which cannot • Explore the composition of numbers within 5. **Comparison** • Compare sets using a variety of strategies, including 'just by looking', by subitising and by matching • Compare sets by matching, seeing that when every object in a set can be matched to one in the other set, they contain the same number and are equal amounts. Routine: Count beyond 10	structured patterns in which 5 is a clear part • Experience patterns which show a small group and '1 more' • Continue to match arrangements to finger patterns. **Cardinality, ordinality and counting** • Continue to develop verbal counting to 20 and beyond • Continue to develop object counting skills, using a range of strategies to develop accuracy • Continue to link counting to cardinality, including using their fingers to represent quantities between 5 and 10 • Order numbers, linking cardinal and ordinal representations of number. **Composition** • Continue to explore the composition of 5 and practise recalling 'missing' or 'hidden' parts for 5 • Explore the composition of 6,	with larger numbers within 10 • Become more familiar with the counting pattern beyond 20. **Composition** • Explore the composition of odd and even numbers, looking at the 'shape' of these numbers • Begin to link even numbers to doubles • Begin to explore the composition of numbers within 10. **Comparison** • Compare numbers, reasoning about which is more, using both an understanding of the 'howmanyness' of a number, and its position in the number system. Routine: Count beyond 10 Automatically recall number bonds **for numbers 0-5** and some to 10.	identify when patterns show the same number but in a different arrangement, or when patterns are similar but have a different number • Subitise structured and unstructured patterns, including those which show numbers within 10, in relation to 5 and 10 • Be encouraged to identify when it is appropriate to count and when groups can be subitised. **Cardinality, ordinality and counting** • Continue to develop verbal counting to 20 and beyond, including counting from different starting numbers • Continue to develop confidence and accuracy in both verbal and object counting. **Composition**	Select, rotate and manipulate shapes to develop spatial reasoning skills. Compose and decompose shapes so that children recognize a shape can have other shapes within it, just as numbers can. Automatically recall number bonds for numbers 0-5 and **some to 10.**

	Comparison • Understand that sets can be compared according to a range of attributes, including by their numerosity • Use the language of comparison, including 'more than' and 'fewer than' • Compare sets 'just by looking'. Routine: Count beyond 10	Compose and decompose shapes so that children recognize a shape can have other shapes within it, just as numbers can. Continue, copy and create repeating patterns.	linking this to familiar patterns, including symmetrical patterns • Begin to see that numbers within 10 can be composed of '5 and a bit'. **Comparison** • Continue to compare sets using the language of comparison, and play games which involve comparing sets • Continue to compare sets by matching, identifying when sets are equal • Explore ways of making unequal sets equal. Routine: Count beyond 10 Continue, copy and create repeating patterns. Compare **length**, **weight** and capacity	Compare **length**, **weight** and capacity	• Explore the composition of 10 **Comparison** • Order sets of objects, linking this to their understanding of the ordinal number system. Compare length, weight and **capacity** Select, rotate and manipulate shapes to develop spatial reasoning skills. Compose and decompose shapes so that children recognize a shape can have other shapes within it, just as numbers can.	
1	**Number and Place Value** Count numbers to 10 accurately – forward and backward. Count similar objects up to 10 with accuracy and fluency.	**Number and Place Value** Count numbers up to 20. Recognise, read and write numbers up to 20 in words and numerals.	**Addition and Subtraction** Represent and use number bonds within 20. Represent and use subtraction facts within 20.	**Number and Place Value** Use the making 10 strategy to count numbers above 10. Represent numbers on a number line.	Multiplication Solve word problems using equal groupings as the basis for multiplication. Division	Time Develop familiarity with the analogue clock, including the minute and hour hands.

	Write all numbers to 10 with numerals and in words; to count only objects of the same name in a group. Understand what zero represents and use it when counting. Compare different sets of objects and say which one has fewer, more or is equal. Order numbers to 10 and know which number is greater or is lesser in value. Compare numbers using the terms '1 more' and '1 less'. **Addition and Subtraction** Read and interpret mathematical statements involving addition (+), subtraction (-) and equals (=) signs. Write mathematical statements involving addition (+), subtraction (-) and equals (=) signs. Represent and use number bonds within 10.	Use the terms 'greater than' or 'less than' to compare numbers within 20. Arrange numbers up to 20 in ascending and descending order. Look for patterns with numbers up to 20, focusing on one more and one less than a number. Learn to add by counting on from the largest number. **Addition and Subtraction** Add two numbers by first making 10 and then adding on the remainder. Add by separating the ones and ten. Learn how to subtract by counting back from the largest number. Learn how to subtract by subtracting from only the ones column.	Add one-digit and two-digit numbers to 20, including zero. Subtract one-digit and two-digit numbers to 20, including zero. **Properties of Shape** Recognise four basic 3-D solid shapes: spheres, cubes, cuboids and pyramids. Recognise 2-D shapes in the everyday environment. Group shapes using different criteria. Make patterns using common 2-D shapes. **Measurement** Compare height and length by using key terminology. Measure objects using other items, such as pencils or books. Measure items using other things - parts of the body in particular.	Write numbers to 40. Understand multiple ways of counting, including counting by 2, 5 and 10. **Addition and Subtraction** Understand that digits represent tens and ones. Represent numbers using Base 10 materials and numbers. Use place value to compare two or three numbers and determine which number is bigger/smaller. Arrange three numbers in order of size. Compare numbers using number bonds, 100-squares and number lines to determine how much more/less. Observe and use number patterns.	Understand how to divide even numbers into equal groups using concrete materials. Determine how many groups will be created from sharing equally. Determine how many objects will be included in each group in order to share equally. Fractions Share and group objects into halves and quarters Determine half of a number and a quarter of a number. Number and Place Value Count in sequences of 10 followed by counting ones. Increase confidence with number lines and Base 10 materials in order to count numbers to 100.	To tell time to the hour on an analogue clock. To tell time to the half hour using the term 'half past.' Sequence events in order of time; to use the terms 'next', 'before' and 'after' to describe the order of events. Estimate an amount of time using seconds, minutes and hours. Use the terms 'quicker', 'slower', 'earlier' and 'later' when comparing time. Learn the days of the week and the months of the year and to be able to put them in the correct order. Money Recognise coins and determine their value using size, colour, markings and shape.

	Represent and use subtraction facts within 10. **Geometry: Position and Direction** Learn the appropriate positional language (ordinal numbers) for up to 10 positions. Name the positions in a queue. Name positions, including left and right.		Introduce the concept of using rulers for measuring.	Decide whether addition or subtraction is the most appropriate operation. Use and apply taught strategies to worded problems about number, addition and subtraction. **Multiplication** Identify equal groupings as the first step in multiplying. Find multiple ways of counting groups of the same quantity. Organise objects into equal rows in order to begin counting equal numbers efficiently. Understand that doubling is creating an identical number to the one you started with. Understand that doubling is the same as saying two groups of the same amount.	Understand the value of the tens and ones digits in a number. Place numbers in order from smallest to greatest and vice versa. See patterns of numbers when increasing or decreasing by 1, 2 or 5. Use a number line, a 100-chart and Base 10 materials to represent numbers.	Recognise notes and determine their value using colour and markings. Volume and Capacity Compare volume and capacity using the terms 'more than' and 'less than', 'full' and 'empty'. Find the volume and capacity of a container using non-standard ones. Describe volume using the terms 'half' and 'quarter'. Mass Compare the mass of objects using the terms 'heavy' and 'light', 'heavier than', 'lighter than' and 'as heavy as'. Find the mass of an object using non-standard ones. Geometry: Position and Direction

						Describe the position of objects in relation to one another using varied vocabulary. Describe movements of objects using varied language. Understand how to make turns using mathematical language and connect this knowledge to time.
2	**Number and Place Value** Count in steps of 2, 3, and 5 from 0, and in 10s from any number, forward and backward. Recognise the place value of each digit in a two-digit number (tens, ones). Identify, represent and estimate numbers using different representations, including the number line. Compare and order numbers from 0 up to 100; use and = signs.	**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 multiplication of two numbers can be done in any order (commutative) and division of one number by another cannot.	**Addition and Subtraction** Solve problems with addition and subtraction using concrete objects and pictorial representations, including those involving numbers, quantities and measures. Solve problems with addition and subtraction, applying his/her increasing knowledge of mental and written methods. **Statistics** Interpret and construct simple pictograms, tally	**Geometry: Shape** Identify and describe the properties of 3-D shapes, including the number of edges, vertices and faces. Identify 2-D shapes on the surface of 3-D shapes e.g. a circle on a cylinder and a triangle on a pyramid. Compare and sort common 2-D and 3-D shapes and everyday objects. Order and arrange combinations of mathematical objects in patterns and sequences.	**Measurement** Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass (kg/g); temperature (°C); capacity (litres/ml), to the nearest appropriate unit, using rulers, scales, thermometers and measuring vessels. Compare and order lengths, mass, volume/capacity and record the results using >, < and =.	Investigations and consolidation based on teacher assessment

	Read and write numbers up to at least 100 in numerals. Read and write numbers up to at least 100 in in words. Use place value and number facts to solve problems. **Addition and Subtraction** Recall and use addition and subtraction facts to 20 fluently, and derive and use related facts up to 100. Add and subtract numbers using concrete objects, pictorial representations, and mentally, including a two-digit number and ones, a two-digit number and tens, two two-digit numbers and three one-digit numbers. Show that addition of two numbers can be done in any order (commutative) and subtraction of one number from another cannot. Recognise and use the inverse relationship between addition and subtraction and use this to check calculations and solve missing number problems.	Solve problems involving multiplication and division, using concrete materials and mental methods. Solve problems involving multiplication and division using arrays, repeated addition and multiplication and division facts, including problems in contexts. **Measurement** Measure length in metres and centimetres. Compare length for objects using 'greater than' and 'less than' symbols. Compare different lengths using centimetres as the unit of measure. Compare and measure various line lengths: both straight and curvy. Solve problems involving measurement in the context of word problems.	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. **Money** Ask and answer questions about totalling and comparing categorical data. Recognise and use symbols for pounds (£) and pence (p); combine amounts to make a particular value. Find different combinations of coins that equal the same amounts of money. Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change. **Geometry: Shape** Identify and describe the properties of 2-D shapes, including the number of sides and line symmetry in a vertical line.	Use mathematical vocabulary to describe position, direction and movement, including movement in a straight line and distinguishing between rotation as a turn and in terms of right angles for quarter, half and three-quarter turns (clockwise and anti-clockwise). **Fractions** Recognise, find, name and write fractions 1/3, 1/4, 2/4 and 3/4 of a length, shape, set of objects or quantity. Write simple fractions for example, 1/2 of 6 = 3 and recognise the equivalence of 2/4 and 1/2.	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. Remember the number of minutes in an hour and the number of hours in a day.	

		Solve addition, subtraction, multiplication and division word problems involving measurement. Understand that mass is measured in kilograms and by using weighing scales. Measure mass in grams and to understand that it is a smaller unit of measure than a kilogram. Measure mass accurately in grams using weighing scales. Compare the mass of two different objects accurately. Compare the mass of three objects and use the appropriate vocabulary. Solve word problems in the context of mass. Read temperature in Celsius accurately. Estimate temperature and to read thermometers to confirm the estimate.	Compare and sort common 2-D and 3-D shapes and everyday objects.			
3	**Number and Place Value**	**Multiplication and Division**	**Measurement**	**Money**	**Statistics**	**Geometry**

	To learn to count in hundreds and understand the place value. To compose and decompose numbers consisting of hundreds, tens and ones. To understand the value of each digit in a 3-digit number. To be able to compare and order numbers. To be able to count in fifties. To recognise, describe and continue a number pattern. To be able to recognise, describe and complete more complicated number patterns. To be able to count in fours and eights. **Addition and Subtraction** To understand the commutative law of addition and the corresponding addition and subtraction facts. To add a 3-digit number to a 1-digit number with no exchanging.	To multiply and divide by 3, 4 and 8. To find relationships between multiplication and division. To solve word problems that involve multiplication and division. To solve word problems involving multiplication and division using bar models and other strategies. To multiply multiples of 10 by a 1-digit number. To multiply any 2-digit number by a 1-digit number. To multiply with regrouping. To understand simple division of a 2-digit number by a 1-digit number. To divide where there is a need to regroup.	To use metres and centimetres to measure objects. To write length in centimetres only by converting metres to centimetres. To convert kilometres to metres and metres to kilometres and metres. To compare length. To solve worded problems involving length relating to addition, subtraction, multiplication and division. To measure mass using weighing scales and compare the mass of objects using grams and kilograms. To use weighing scales to measure mass when the mass is between multiples of 100 g. To read values on a scale which are 1 kg or more. To weigh heavier items where the markers in the scales represent 200 g each.	To use simple addition to count amounts of money. To name amounts of money including coins above 100p; to regroup and rename 100p as £1 as a key strategy. To find multiple ways of showing an amount of money. To add money by adding together the pounds and pence separately. To consolidate 'making a pound' as a strategy for adding amounts of money where the coins equal more than 99p. To use multiple methods for subtracting amounts of money, including concrete materials and the column method. To use visual comparison to subtract amounts of money; to consolidate column subtraction where there is no regrouping of pence required.	To construct picture graphs from a set of data; to present data with pictures that represent more than one item. To construct bar graphs from a set of data; to use proportion to reflect precise difference in quantity. To read and interpret information from a bar graph; to use and understand vocabulary related to bar graphs. To read bar graphs where the scale is not a multiple of all quantities measured. To read bar graphs where the scale is made up of larger increments. **Fractions** To count in tenths. To make number pairs to create a whole.	To learn what makes an angle and identify angles in objects. To see angles on the inside and outside of objects. To find angles in shapes. To find right angles in every day objects. To compare angles and identify right angles, acute angles and obtuse angles. To make turns using angles vocabulary. To identify, define and create perpendicular lines; to find perpendicular lines in everyday objects. To identify, define and create parallel lines; to find parallel lines in everyday objects. To define and identify vertical and horizontal lines; to find vertical

	To add a 3-digit number to a multiple of 10 (2-digit number) without exchanging. To add multiples of 100 to a 3-digit number without exchanging. To add two 3-digit numbers without exchanging; introduction of the column method of addition. To add a 3-digit number to a 1-digit number, with exchanging. To add two 3-digit numbers with exchanging the ones and tens. To do simple subtraction by taking away a 1-digit number from a 2-digit number without exchanging. To do simple subtraction by taking away a 1-digit number from a 3-digit number without exchanging. To subtract multiples of 10, up to 90, from a 3-digit number. To subtract hundreds from a 3-digit number and to subtract		To solve worded problems involving mass relating to addition, subtraction, multiplication and division. To measure volume and capacity in millilitres and litres. To measure volume using millilitres and litres in comparison to 1 l. To measure larger capacity in litres and millilitres. To solve worded problems involving volume and capacity relating to addition, subtraction, multiplication and division.	To split pounds and pence when subtracting with money. To learn the counting on strategy when calculating change. To solve worded problems involving money. **Time** To use the terms 'a.m.' and 'p.m.' correctly to identify morning or afternoon/evening. To learn to tell time to the minute; to understand the relationship between the minute hand and hour hand. To consolidate and apply a variety of vocabulary used to express the time. To compare analogue and digital time; to represent time using both analogue and digital methods. To tell time before the hour using the hour and minute hands.	To add and subtract fractions with the same denominators. To find equivalent fractions. To find the simplest fraction. To compare ½ and ¼. To compare fractions using pictorial representations. To find fractions of a whole number using pictorial representations. To share one whole equally between more than one. To apply bar modelling to represent fractions to solve word problems.	and horizontal lines in everyday life. To describe 2-D shapes using familiar vocabulary about lines and angles. To draw 2-D shapes in proportion to their size; to identify how big a shape is. To create 3-D shapes out of nets; to use vocabulary related to 3-D shapes and their properties. To construct 3-D shapes out of clay and discuss their properties. To describe 3-D shapes using familiar terms; to identify properties of 3-D shapes. To determine the perimeter of basic shapes; to use grid paper to measure the perimeter of a shape.

	multiples of 1 and 10 from a 3-digit number. To understand simple subtraction of a 3-digit number by another 3-digit number using the column method. To subtract with exchanging in hundred, tens and ones. To subtract a 3-digit number with zeros. To solve addition and subtraction problems using the bar model.			To learn to tell time using 24-hour notation; to use analogue time and 24-hour notation interchangeably. To tell the time on an analogue clock using Roman numerals. To measure time in seconds and milliseconds. To measure time in seconds, minutes and hours using different equipment. To determine how many seconds are in a minute; to use multiplication to calculate the number of seconds in a number of minutes. To calculate the number of days in a month; to learn which months have 31, 30 and 28/29 days. To find the duration of days for different activities.		To measure the perimeter of shapes using grid paper and rulers. To calculate the perimeters of rectangles and squares using addition and multiplication.
4	**Number and Place Value**	**Multiplication and Division**	**Multiplication and Division**	**Time**	**Money**	**Geometry**

	To count in hundreds and twenty-fives. To count in thousands, hundreds, tens and ones. To use an understanding of place value to count. To understand place value in a 4-digit number. To compare and order numbers. To compare and order 4-digit numbers. To make number patterns (100, 10, 1 more and less). To count in sixes, sevens and nines. To round numbers to the nearest 10, 100 and 1000. To round numbers to estimate. **Addition and Subtraction** To find totals and sums. To add with exchanging. To subtract with exchanging.	To multiply by 6, 7, 9, 11, 12. To divide by 6, 7, 9, 11, 12. To divide with remainders. To solve worded problems involving multiplication and division, including multi-step problems and scaling and comparison problems. To multiply by 0 and 1. To divide by 1. To understand commutativity. To multiply with three numbers. To multiply with multiples of 10.	To multiply with 2-digit numbers with and without exchanging. To multiply with multiples of 100. To multiply 3-digit numbers with and without exchanging. To divide 2-digit numbers with and without remainders. To divide 3-digit numbers with and without remainders. To solve multiplication and division worded problems. **Statistics** To draw and read picture graphs and bar graphs. To draw and read bar graphs. To draw and read line graphs. **Fractions** To count in hundredths.	To tell the time on a 24-hour clock. To convert between minutes and seconds. To convert between hours and minutes. To solve time problems. To convert between units of time. To solve word problems involving duration. **Decimals** To record tenths. To write in hundredths. To write decimal numbers. To compare and order decimals. To create number sequences. To round decimal numbers. To write fractions as decimals.	To record amounts of money. To compare total amounts of money. To round to the nearest pound (whole number). To solve money problems (addition and subtraction). To solve money problems (multiplication). To solve money problems (comparison). To estimate amounts of money. **Measurement** To measure mass. To convert units of mass. To measure volume. To convert units of volume. To measure height.	To identify types of angles. To compare angles. To classify triangles. To classify quadrilaterals. To identify symmetrical figures. To draw lines of symmetry. To draw symmetrical figures. To sort shapes. To describe position. To plot coordinates. To describe movements. To describe movements (coordinates).

	To add and subtract using mental strategies. To solve addition and subtraction worded problems.		To write mixed number fractions. To show mixed number fractions on a number line. To find equivalent fractions. To simplify mixed number fractions. To simplify improper fractions. To add fractions. To add fractions (recording answers as a mixed number). To add fractions (simplest form). To subtract fractions. To subtract fractions (equivalence). To solve word problems involving fractions.	To divide whole numbers by 10 and 100.	To measure length. To convert units of length. To measure perimeter in centimetres and millimetres. To solve problems in measurement (reading scales). To find area (by measuring surface coverage). To measure area. Lesson 3 – Measuring Area To measure area (counting squares). To measure area (counting squares and half squares). To measure area (using multiplication). To measure area (shapes in different orientations).	
5	**Number and Place Value**	**Multiplication and Division**	**Multiplication and Division**	**Fractions**	**Decimals**	**Measurement**

	Count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000. Count forwards and backwards with positive and negative whole numbers, including through zero. Read, write, order and compare numbers up to at least 1,000,000 and determine the value of each digit. Read Roman numerals up to 1000 (M) and recognise years written in Roman numerals. Interpret negative numbers in context. Round any number up to 1,000,000 to the nearest 10, 100, 1000, 10,000 and 100,000. Solve number problems and practical problems that involve ordering and comparing numbers up to 1,000,000, counting forwards or backwards in steps, interpreting negative numbers and rounding. **Addition and Subtraction**	Identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers. Know and use the vocabulary of prime numbers, prime factors and composite (non-prime) numbers. Establish whether a number up to 100 is prime and recall prime numbers up to 19. Recognise and use square numbers and the notation for squared (2). Recognise and use cube numbers and the notation for cubed (3). Multiply numbers up to 4 digits by a one or two-digit number using a formal written method, including long multiplication for two-digit numbers. Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context.	Multiply numbers up to 4 digits by a one or two-digit number using a formal written method, including long multiplication for two-digit numbers. Divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context. Multiply and divide numbers mentally, drawing upon known facts. Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000. Solve problems involving multiplication and division, including using his/her knowledge of factors and multiples, squares and cubes. Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.	Identify and name 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. Compare and order fractions whose denominators are multiples of the same number. 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 with up to three decimal places. **Geometry** Identify 3-D shapes, including cubes and other cuboids, from 2-D representations. Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles.	Convert between different units of metric measure (for example, 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. Use all four operations to solve problems involving measure e.g. length, mass, volume, money, using decimal notation, including scaling. Solve problems involving converting between units of time. Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the

	Add and subtract whole numbers with more than 4 digits, using formal written methods (columnar addition and subtraction). Add and subtract numbers mentally with increasingly large numbers. Use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy. Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why. Solve problems involving addition, subtraction, and a combination of these, including understanding the meaning of the equals sign.	Multiply and divide numbers mentally, drawing upon known facts. Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000. Solve problems involving multiplication and division, including using his/her knowledge of factors and multiples, squares and cubes. Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates. **Statistics** Solve comparison, sum and difference problems using information presented in a line graph. Complete, read and interpret information in tables, including timetables.	Solve problems involving addition, subtraction, multiplication and division, and a combination of these, including understanding the meaning of the equals sign. **Fractions** Identify and name 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. Compare and order fractions whose denominators are multiples of the same number.	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. Recognise the percent symbol (%), understand that percent relates to 'number of parts per hundred', and write percentages as a fraction with denominator 100, and as a decimal. Solve problems which require knowing percentage and decimal equivalents of 1/2, 1/4, 1/5, 2/5, 4/5 and those fractions with a denominator of a multiple of 10 or 25.	Draw given angles and measure them in degrees (°). Know angles are measured in degrees: estimate and compare acute, obtuse and reflex angles. Identify angles at a point and one whole turn (total 360°). Identify angles at a point on a straight line and 1/2 a turn (total 180°). Identify other multiples of 90°. Use the properties of rectangles to deduce related facts and find missing lengths and angles. Identify 3-D shapes, including cubes and other cuboids, from 2-D representations. Distinguish between regular and irregular polygons based	shape has not changed. Estimate volume e.g. using 1cm³ blocks to build cuboids (including cubes) and capacity e.g. using water.

					on reasoning about equal sides and angles.	
6	**Number and Place Value** Read, write, order and compare numbers up to 10,000,000 and determine the value of each digit. Use negative numbers in context, and calculate intervals across zero. Round any whole number to a required degree of accuracy. Solve number and practical problems that involve ordering and comparing numbers to 10,000,000, rounding to a required degree of accuracy, using negative numbers and calculating intervals across zero. **Four Operations** Perform mental calculations with mixed operations to carry out calculations involving the four operations.	**Fractions, 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 > 1. Add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions. Multiply simple pairs of proper fractions, writing the answer in its simplest form e.g. 1/4 × 1/2 = 1/8. Divide proper fractions by whole numbers e.g. 1/3 ÷ 2 = 1/6. Associate a fraction with division and calculate decimal fraction equivalents e.g. 0.375 for a simple fraction e.g. 3/8.	**Decimals** Multiply one-digit numbers with up to two decimal places by whole numbers. **Geometry** Recognise that shapes with the same area can have different perimeters and vice versa. Recognise when it is possible to use formulae for the area and volume of shapes. Calculate the area of parallelograms and triangles. **Measurement** 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,	**Geometry** Find unknown angles in any triangles, quadrilaterals, and regular polygons. **Ratio and Proportion** Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts. Solve problems involving similar shapes where the scale factor is known or can be found. Solve problems involving unequal sharing and grouping using knowledge of fractions and multiples. **Geometry**	**Geometry** Draw 2-D shapes using given dimensions and angles. Recognise, describe and build simple 3-D shapes, including making nets. Compare and classify geometric shapes based on their properties and sizes. Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius.	Investigations and consolidation based on teacher assessment

	Solve multi-step problems in contexts, deciding which operations and methods to use and why. Solve problems involving addition and subtraction. Multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication. Divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context. Divide numbers up to 4 digits by a two-digit number using the formal written method of short division where appropriate, interpreting remainders according to the context. Solve addition and subtraction multi-step problems in contexts, deciding which operations and methods to use and why.	Identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to three decimal places. Solve problems involving the calculation of percentages e.g. of measures, such as 15% of 360 and the use of percentages for comparison. Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.	and vice versa, using decimal notation up to three decimal places. Solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places where appropriate. Convert between miles and kilometres. Calculate, estimate and compare the volume of cubes and cuboids using standard units, including cubic centimetres (cm^3) and cubic metres (m^3), and extending to other units e.g. mm^3 and km^3. **Algebra** Use simple formulae. Generate and describe linear number sequences. Express missing number problems algebraically. Find pairs of numbers that satisfy an equation with two unknowns.	Describe positions on the full coordinate grid (all four quadrants). Draw and translate simple shapes on the coordinate plane, and reflect them in the axis. **Statistics** Interpret and construct pie charts and line graphs and use these to solve problems. Calculate and interpret the mean as an average.		

	Solve problems involving addition, subtraction, multiplication and division. Use his/her knowledge of the order of operations to carry out calculations involving the four operations.		Enumerate possibilities of combinations of two variables.			