Years 1 and 2

	Autumn A	Spring A	Summer A	Autumn B	Spring B	Summer B
Maths National Curriculum Progression supported by Abacus Framework	**Year 1** **Number and Place Value** Recite the numbers in order counting to 100, forwards and backwards, beginning with 0 or 1, or from any given number. Estimate a set of objects and count to check how many (up to 50). Identify and represent numbers using objects and pictorial representations including the number line, images, sounds and actions up to 20, matching the number to the object or image (one-to-one correspondence). Read and write numbers from 1 to 20 in numerals and words. Understand and use 0 to represent the empty set. Compare and order numbers up to 20 and say a number between two numbers up to 20; begin to understand ordinal numbers. Recognise and understand that teen numbers are 10 and some 1s and begin to use this knowledge to compare numbers. **Addition and Subtraction** Subitise numbers to 6. Given a number, identify one more and one less, any number up to 20. Begin to know number bonds to 5, 6 and 7. Know bonds to 10 and use known addition facts for 10 to solve subtractions. Find the missing number in number sentences. Read, write and interpret mathematical statements involving addition (+), subtraction (−) and equals (=) signs. Use number facts and concrete objects to solve simple word problems. Understand that you do not need to count the first number when adding. Add 1-digit and 2-digit numbers to 20, including adding 1, 2 and 3 by counting on. Subtract 1-digit and 2-digit numbers to 20, including subtracting 1, 2 and 3 by counting back. **Multiplication and Division** Find doubles to double 5 using fingers to help. **Fractions, Decimals, Ratio and Percentages** **Measures** Compare, measure and begin to record lengths and heights using uniform non-standard units. Measure and begin to record lengths and heights, beginning to use standard units, e.g. cm, m. Recognise and know the value of different denominations of coins. Find different combinations of small amounts up to 20p. **Geometry** Recognise, name and sort common 2D shapes. For example, rectangles (including squares), circles and triangles.	**Year 1** **Number and Place Value** Locate 2-digit numbers on a bead string. Use the language of equal to, more than, less than (fewer), most, least to compare numbers. Count, read and write numbers to 100 in numerals. Estimate a quantity by choosing an appropriate range; count a quantity by grouping in 10s and 5s. Begin to see 2-digit numbers as some 10s and some 1s. Given a number, identify one more and one less, any number up to 100. Count in multiples of 2s to 20. Count in multiples of 5s to 50. Count in multiples of 10s from 10 to 100, and back again, recognising that the multiples end in 0. Count on and back in multiples of 10s, to and from any number up to 100. **Addition and Subtraction** Represent and use number bonds and related subtraction facts within 20. Solve missing number problems and understand a symbol being used for an unknown. Use number facts to solve problems in number stories. Know number bonds to 5, 6 and 7 and derive related subtraction facts. Add 1-digit and 2-digit numbers to 20, including adding a 1-digit number to a 2-digit number by counting on. Subtract 1-digit and 2-digit numbers to 20, including subtracting a 1-digit number from a 2-digit number by counting back. Begin to know number bonds to 8 and 9. Add by putting the larger number first. **Multiplication and Division** Find doubles to double 10. **Fractions, Decimals, Ratio and Percentages** Divide shapes into halves and quarters and recognise that a half is one of two equal pieces and that a quarter is one of four equal pieces. Read 1/2 , 1/4 and 3/4 . **Measures** Measure and record lengths and heights using uniform non-standard units and begin to use standard units. Consolidate knowledge of days of the week and the seasons and begin to know months of the year." Compare, describe and solve practical problems for time. Measure and begin to record time. Sequence events in chronological order using language. For example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening. Begin to tell the time to the hour and half past the hour on digital and analogue clocks	**Year 1** **Number and Place Value** Compare and order 2-digit numbers and say a number between two numbers. Say the number 1 or 10 more or 1 or 10 less than any number up to 100. Identify patterns on a 100-square. Locate 2-digit numbers on a 1-100 grid and beaded line. Count in multiples of 2s to 20 and beyond, spotting patterns. Count in multiples of 5s to 50 and beyond and know that multiples of 5 end in 0 or 5. Identify 10s and 1s in 2-digit numbers, and say how many 10s and 1s in a given 2-digit number. **Addition and Subtraction** Solve 1-step problems that involve addition or subtraction using concrete objects and pictorial representations. Find 10 more than any number to 90 by counting on in 10s rather than counting on in 1s. Find 10 less than any number to 100 by counting back in 10s rather than counting back in 1s. Know pairs of numbers which make the numbers to 9 and derive related subtraction facts. Bridge 10 when adding pairs of 1-digit numbers. Sort additions into those you 'just know' and those you work out. Add 1-digit and 2-digit numbers to 20, including using number facts to add 1-digit numbers to 2-digit numbers. Subtract 1-digit and 2-digit numbers to 20, including using number facts to subtract 1-digit numbers from 2-digit numbers. Add 1-digit and 2-digit numbers to 20, including adding three small numbers using pairs to 10 and doubles. **Multiplication and Division** Know doubles to double 10 and find related halves. Begin to multiply by 2, 5 and 10 by counting in 2s, 5s and 10s, using repeated addition and spotting patterns. Count in 2s, 5s and 10s to solve grouping problems. Solve 1-step problems involving multiplication by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher. **Fractions, Decimals, Ratio and Percentages** Recognise, find and name a quarter as one of four equal parts of an object or shape. Recognise, find and name a half as one of two equal parts of an object, shape or quantity. Begin to halve odd numbers to 10. **Measures**	**Year 1** **Number and Place Value** Recite the numbers in order counting to 100, forwards and backwards, beginning with 0 or 1, or from any given number. Estimate a set of objects and count to check how many (up to 50). Identify and represent numbers using objects and pictorial representations including the number line, images, sounds and actions up to 20, matching the number to the object or image (one-to-one correspondence). Read and write numbers from 1 to 20 in numerals and words. Understand and use 0 to represent the empty set. Compare and order numbers up to 20 and say a number between two numbers up to 20; begin to understand ordinal numbers. Recognise and understand that teen numbers are 10 and some 1s and begin to use this knowledge to compare numbers. **Addition and Subtraction** Subitise numbers to 6. Given a number, identify one more and one less, any number up to 20. Begin to know number bonds to 5, 6 and 7. Know bonds to 10 and use known addition facts for 10 to solve subtractions. Find the missing number in number sentences. Read, write and interpret mathematical statements involving addition (+), subtraction (−) and equals (=) signs. Use number facts and concrete objects to solve simple word problems. Understand that you do not need to count the first number when adding. Add 1-digit and 2-digit numbers to 20, including adding 1, 2 and 3 by counting on. Subtract 1-digit and 2-digit numbers to 20, including subtracting 1, 2 and 3 by counting back. **Multiplication and Division** Find doubles to double 5 using fingers to help. **Fractions, Decimals, Ratio and Percentages** **Measures** Compare, measure and begin to record lengths and heights using uniform non-standard units. Measure and begin to record lengths and heights, beginning to use standard units, e.g. cm, m. Recognise and know the value of different denominations of coins. Find different combinations of small amounts up to 20p. **Geometry** Recognise, name and sort common 2D shapes. For example, rectangles (including squares), circles and triangles.	**Year 1** **Number and Place Value** Locate 2-digit numbers on a bead string. Use the language of equal to, more than, less than (fewer), most, least to compare numbers. Count, read and write numbers to 100 in numerals. Estimate a quantity by choosing an appropriate range; count a quantity by grouping in 10s and 5s. Begin to see 2-digit numbers as some 10s and some 1s. Given a number, identify one more and one less, any number up to 100. Count in multiples of 2s to 20. Count in multiples of 5s to 50. Count in multiples of 10s from 10 to 100, and back again, recognising that the multiples end in 0. Count on and back in multiples of 10s, to and from any number up to 100. **Addition and Subtraction** Represent and use number bonds and related subtraction facts within 20. Solve missing number problems and understand a symbol being used for an unknown. Use number facts to solve problems in number stories. 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Sequence events in chronological order using language. For example, before and after, next, first, today, yesterday, tomorrow, morning, afternoon and evening. Begin to tell the time to the hour and half past the hour on digital and analogue clocks	**Year 1** **Number and Place Value** Compare and order 2-digit numbers and say a number between two numbers. Say the number 1 or 10 more or 1 or 10 less than any number up to 100. Identify patterns on a 100-square. Locate 2-digit numbers on a 1-100 grid and beaded line. Count in multiples of 2s to 20 and beyond, spotting patterns. Count in multiples of 5s to 50 and beyond and know that multiples of 5 end in 0 or 5. Identify 10s and 1s in 2-digit numbers, and say how many 10s and 1s in a given 2-digit number. **Addition and Subtraction** Solve 1-step problems that involve addition or subtraction using concrete objects and pictorial representations. Find 10 more than any number to 90 by counting on in 10s rather than counting on in 1s. Find 10 less than any number to 100 by counting back in 10s rather than counting back in 1s. Know pairs of numbers which make the numbers to 9 and derive related subtraction facts. Bridge 10 when adding pairs of 1-digit numbers. Sort additions into those you 'just know' and those you work out. Add 1-digit and 2-digit numbers to 20, including using number facts to add 1-digit numbers to 2-digit numbers. Subtract 1-digit and 2-digit numbers to 20, including using number facts to subtract 1-digit numbers from 2-digit numbers. Add 1-digit and 2-digit numbers to 20, including adding three small numbers using pairs to 10 and doubles. **Multiplication and Division** Know doubles to double 10 and find related halves. Begin to multiply by 2, 5 and 10 by counting in 2s, 5s and 10s, using repeated addition and spotting patterns. Count in 2s, 5s and 10s to solve grouping problems. Solve 1-step problems involving multiplication by calculating the answer using concrete objects, pictorial representations and arrays with the support of the teacher. **Fractions, Decimals, Ratio and Percentages** Recognise, find and name a quarter as one of four equal parts of an object or shape. Recognise, find and name a half as one of two equal parts of an object, shape or quantity. Begin to halve odd numbers to 10. **Measures**

Describe position, direction and movement, including whole, half, quarter and three-quarter turns.

Statistics

Year 2
Number and Place Value
Count in steps of 2 and 5 from 0, and in tens from any number, forward and backward.
Begin to compare and order numbers from 0 to 100 using <, > and = signs, and work systematically to find all possible inequalities.
Locate and place 1- and 2-digit numbers on a beaded and landmarked line and a 1-100 square.
Begin to recognise the place value of each digit in a 2-digit number and find and record all possible amounts using a given number of 10p and 1p coins.

Addition and Subtraction
Know all the pairs of numbers which make the numbers up to 10.
Begin to understand the inverse relationship between addition and subtraction.
Solve problems with addition and subtraction applying their increasing knowledge of mental and written methods.
Say all bonds to 10 and know them by heart.
Use number facts to solve related subtractions.
Begin to write word problems and relate known number bonds to context-based problems.
Recognise and work out multiple of 10 bonds to 100, using bonds to 10.
Show that addition of two numbers can be done in any order (commutative).
Recall and use addition and subtraction facts to 20 fluently.
Use number facts to solve related additions and begin to think and record systematically.
Add and subtract mentally a 2-digit number and tens, including adding or subtracting 10 to and from any number up to 100 (positive answers only).
Solve problems with addition and subtraction using concrete objects and pictorial representations.
Begin to add and subtract two 2-digit numbers by counting on or back in 10s and 1s.

Multiplication and Division
Begin to find doubles and near doubles of numbers to 15.
Count in 2s, 5s and 10s from 0 to learn multiples of 2, 5 and 10.

Fractions, Decimals, Ratio and Percentages

Measures
Understand the need for a standard unit.
Begin to know whether to measure in cm or m.
Begin to estimate and measure in cm.
Begin to estimate and measure in m.
Combine amounts to make a particular value up to £1·00.

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and draw the hands on a clock face to show these times.

Geometry
Recognise, name and sort common 3D shapes. For example, cuboids (including cubes), pyramids and spheres.

Statistics
Sort objects in a variety of ways, including using Carroll and Venn diagrams.

Year 2
Number and Place Value
Estimate a quantity, less than 100, within given ranges.
Locate and place 2-digit numbers on a landmark line and a 1-100 square and use this knowledge to compare and order numbers.
Recognise the place value of each digit in a 2-digit number.
Round 2-digit numbers to the nearest 10.

Addition and Subtraction
Use bonds to 10 and 20 to subtract from 10 and 20.
Solve missing number problems involving the inverse relationship between addition and subtraction.
Add numbers using concrete objects and pictorial representations, e.g. number lines, to add 1- and 2-digit numbers.
Add mentally two 2-digit numbers by counting on in 10s and 1s.
Add and subtract 10 in order to add or subtract 9 or 11 to and from a 2-digit number.
Use place value and number facts to solve problems, for example using bonds to 10 to find complements to the next multiple of 10.

Multiplication and Division
Double numbers to double 15 and find related halves.
Recognise odd and even numbers.
Begin to know the 2, 5 and 10 times tables and investigate multiplications with the same answer.
Calculate mathematical statements for multiplication within the multiplication tables, to go with hops on number lines and with arrays, and write them using the multiplication (×), division (÷) and equals (=) signs.
Arrange objects into arrays, write the corresponding multiplication and investigate all possible arrays for a given number of cubes.
Begin to write divisions as multiplications with a missing number.
Understand division as grouping.
Solve problems involving multiples of 2, 5 and 10 in a practical context, using coins and objects.

Fractions, Decimals, Ratio and Percentages
Recognise, find, name and write fractions 1/3 and 2/3 of a shape.
Recognise, find, name and write fractions 1/4 and 2/4 (1/2) of a shape.

Compare, describe and solve practical problems, e.g. by direct comparisons, for lengths and heights, weight and capacity.
Recognise and know the value of different denominations of coins and notes.
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 on digital and analogue clocks and draw the hands on a clock face to show these times.
Measure and begin to record mass/weight.
Measure and begin to record capacity.
Find change from 10p and 20p using counting up and number facts.

Geometry
Identify and continue a repeating pattern of shapes.
Identify and describe with reference to their properties common 2D and 3D shapes."

Statistics
Begin to create, read and interpret a block graph.
Read and interpret a simple pictogram.

Year 2
Number and Place Value
Identify, represent and estimate numbers using different representations, including the number line; beginning to move beyond 100.
Compare and order numbers from 0 up to 100; use <, > and = signs.
Use place value and number facts to solve problems.
Count in steps of 3 from 0, forward and backward.
Begin to see that when counting from 100–200, the numbers replicate the pattern from 0–100.
Begin to recognise the place value of each digit in a 3-digit number.
Read and write numbers to at least 100 in numerals and in words.

Addition and Subtraction
Solve problems with addition and subtraction using concrete objects and pictorial representations, including those involving quantities and measures.
Subtract numbers using concrete objects and pictorial representations, e.g. number lines, to subtract 1- and 2-digit numbers (positive answers only).
Add mentally a 2-digit number and ones, including adding any 1-digit number to a 2-digit number using number facts or bridging 10.
Subtract mentally a 2-digit number and ones, including subtracting any 1-digit number from a 2-digit number using number facts or bridging 10.
Add mentally two 2-digit numbers, using partitioning and number facts.
Subtract mentally two 2-digit numbers, including subtracting one 2-digit number from another by counting back in 10s and 1s, not crossing 10s.

Describe position, direction and movement, including whole, half, quarter and three-quarter turns.

Statistics

Year 2
Number and Place Value
Count in steps of 2 and 5 from 0, and in tens from any number, forward and backward.
Begin to compare and order numbers from 0 to 100 using <, > and = signs, and work systematically to find all possible inequalities.
Locate and place 1- and 2-digit numbers on a beaded and landmarked line and a 1-100 square.
Begin to recognise the place value of each digit in a 2-digit number and find and record all possible amounts using a given number of 10p and 1p coins.

Addition and Subtraction
Know all the pairs of numbers which make the numbers up to 10.
Begin to understand the inverse relationship between addition and subtraction.
Solve problems with addition and subtraction applying their increasing knowledge of mental and written methods.
Say all bonds to 10 and know them by heart.
Use number facts to solve related subtractions.
Begin to write word problems and relate known number bonds to context-based problems.
Recognise and work out multiple of 10 bonds to 100, using bonds to 10.
Show that addition of two numbers can be done in any order (commutative).
Recall and use addition and subtraction facts to 20 fluently.
Use number facts to solve related additions and begin to think and record systematically.
Add and subtract mentally a 2-digit number and tens, including adding or subtracting 10 to and from any number up to 100 (positive answers only).
Solve problems with addition and subtraction using concrete objects and pictorial representations.
Begin to add and subtract two 2-digit numbers by counting on or back in 10s and 1s.

Multiplication and Division
Begin to find doubles and near doubles of numbers to 15.
Count in 2s, 5s and 10s from 0 to learn multiples of 2, 5 and 10.

Fractions, Decimals, Ratio and Percentages

Measures
Understand the need for a standard unit.
Begin to know whether to measure in cm or m.
Begin to estimate and measure in cm.
Begin to estimate and measure in m.
Combine amounts to make a particular value up to £1·00.

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and draw the hands on a clock face to show these times.

Geometry
Recognise, name and sort common 3D shapes. For example, cuboids (including cubes), pyramids and spheres.

Statistics
Sort objects in a variety of ways, including using Carroll and Venn diagrams.

Year 2
Number and Place Value
Estimate a quantity, less than 100, within given ranges.
Locate and place 2-digit numbers on a landmark line and a 1-100 square and use this knowledge to compare and order numbers.
Recognise the place value of each digit in a 2-digit number.
Round 2-digit numbers to the nearest 10.

Addition and Subtraction
Use bonds to 10 and 20 to subtract from 10 and 20.
Solve missing number problems involving the inverse relationship between addition and subtraction.
Add numbers using concrete objects and pictorial representations, e.g. number lines, to add 1- and 2-digit numbers.
Add mentally two 2-digit numbers by counting on in 10s and 1s.
Add and subtract 10 in order to add or subtract 9 or 11 to and from a 2-digit number.
Use place value and number facts to solve problems, for example using bonds to 10 to find complements to the next multiple of 10.

Multiplication and Division
Double numbers to double 15 and find related halves.
Recognise odd and even numbers.
Begin to know the 2, 5 and 10 times tables and investigate multiplications with the same answer.
Calculate mathematical statements for multiplication within the multiplication tables, to go with hops on number lines and with arrays, and write them using the multiplication (×), division (÷) and equals (=) signs.
Arrange objects into arrays, write the corresponding multiplication and investigate all possible arrays for a given number of cubes.
Begin to write divisions as multiplications with a missing number.
Understand division as grouping.
Solve problems involving multiples of 2, 5 and 10 in a practical context, using coins and objects.

Fractions, Decimals, Ratio and Percentages
Recognise, find, name and write fractions 1/3 and 2/3 of a shape.
Recognise, find, name and write fractions 1/4 and 2/4 (1/2) of a shape.

Compare, describe and solve practical problems, e.g. by direct comparisons, for lengths and heights, weight and capacity.
Recognise and know the value of different denominations of coins and notes.
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 on digital and analogue clocks and draw the hands on a clock face to show these times.
Measure and begin to record mass/weight.
Measure and begin to record capacity.
Find change from 10p and 20p using counting up and number facts.

Geometry
Identify and continue a repeating pattern of shapes.
Identify and describe with reference to their properties common 2D and 3D shapes."

Statistics
Begin to create, read and interpret a block graph.
Read and interpret a simple pictogram.

Year 2
Number and Place Value
Identify, represent and estimate numbers using different representations, including the number line; beginning to move beyond 100.
Compare and order numbers from 0 up to 100; use <, > and = signs.
Use place value and number facts to solve problems.
Count in steps of 3 from 0, forward and backward.
Begin to see that when counting from 100–200, the numbers replicate the pattern from 0–100.
Begin to recognise the place value of each digit in a 3-digit number.
Read and write numbers to at least 100 in numerals and in words.

Addition and Subtraction
Solve problems with addition and subtraction using concrete objects and pictorial representations, including those involving quantities and measures.
Subtract numbers using concrete objects and pictorial representations, e.g. number lines, to subtract 1- and 2-digit numbers (positive answers only).
Add mentally a 2-digit number and ones, including adding any 1-digit number to a 2-digit number using number facts or bridging 10.
Subtract mentally a 2-digit number and ones, including subtracting any 1-digit number from a 2-digit number using number facts or bridging 10.
Add mentally two 2-digit numbers, using partitioning and number facts.
Subtract mentally two 2-digit numbers, including subtracting one 2-digit number from another by counting back in 10s and 1s, not crossing 10s.

	Find different combinations of coins that equal the same amounts of money up to £1·00. Geometry Identify and describe the properties of 2D 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. Distinguish between rotation as a turn and in terms of right angles for quarter, half and three quarter turns (clockwise and anticlockwise). Statistics Sort objects using Venn diagrams and two-way Carroll diagrams and understand the overlap in a Venn diagram.	Recognise, find, name and write fractions 2/4 (1/2) of a set of objects or quantity, including finding half of odd numbers. Count in steps of 1/2 and a 1/4. Measures Find change from 10p and 20p, £10 and £20, by counting up in ones and knowing bonds to 10 and 20. Tell and write the time quarter past/to the hour on analogue and digital clocks and draw the hands on a clock face to show these analogue times. Know units of time: minutes, hours, days, weeks, months and years. Know the relationship between seconds and minutes and minutes and hours, including the number of minutes in an hour and the number of hours in a day. Recognise and use symbols for pounds (£) and pence (p) with no zeros in the 10p place and use coins to solve simple problems involving addition. Recognise and know the values of all coins and notes up to £20. Find all possible amounts using three coins (1p–£2). Geometry 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; for example, a circle on a cylinder and a triangle on a pyramid. Compare and sort common 3D shapes and everyday objects. Order and arrange combinations of mathematical objects, including 2D and 3D shapes, in repeating patterns and sequences. Statistics Interpret and construct simple pictograms, tally charts, block diagrams and simple tables.	Add mentally three 1-digit numbers, using known number facts and doubles. Understand subtraction as difference and find this by adding to the next multiple of 10, using bonds to 10. Use addition and subtraction and number bonds to 10 and 20 to solve problems in number stories. Derive and use related facts up to 100. Multiplication and Division Recall and use multiplication and division facts for the 2, 5, and 10 times-tables. Calculate mathematical statements for multiplication and division within the multiplication tables, to go with hops on number lines and with arrays, 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. Solve problems involving multiplication and division using materials, arrays, repeated addition, 'clever counting', mental methods and multiplication and division facts, including problems in contexts. Solve missing number multiplications by counting up in steps. Double and halve multiples of 10 and 5 and 2-digit numbers ending in 1, 2, 3 or 4, answers less than 100. Count in 3s, multiply and divide by 3 using arrays, representations and concrete objects, and begin to know the 3 times table. Use mathematical reasoning to identify and explain patterns and use these to predict answers. Understand that division and multiplication are inverse operations. Fractions, Decimals, Ratio and Percentages Recognise, find, name and write fractions 1/4 and 2/4 (1/2), and begin to recognise, find, name and write 1/3 and 3/4, of a set of objects or quantity. Write simple fractions. Recognise the equivalence of 2/4 and 1/2. Find a quarter of numbers, up to 40, by halving twice. Measures Choose and use appropriate standard units to estimate and measure length/height in any direction (m/cm); mass/weight (kg/g); temperature (°C); capacity (l/ml) to the nearest appropriate unit using rulers, scales, thermometers and measuring vessels. Solve simple problems in a practical context involving addition and subtraction of money of the same unit, including giving change. Recognise and use symbols for pounds (£) and pence (p) and find more than one way to solve a money problem (£1, 10p and 1p coins). Compare and order lengths, mass and capacities and record the results using >, < and =. Tell and write the time to 5 minutes past the hour on analogue and digital clocks and draw	Find different combinations of coins that equal the same amounts of money up to £1·00. Geometry Identify and describe the properties of 2D shapes, including the number of sides and line symmetry in a vertical line. 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Use addition and subtraction and number bonds to 10 and 20 to solve problems in number stories. Derive and use related facts up to 100. Multiplication and Division Recall and use multiplication and division facts for the 2, 5, and 10 times-tables. Calculate mathematical statements for multiplication and division within the multiplication tables, to go with hops on number lines and with arrays, 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. Solve problems involving multiplication and division using materials, arrays, repeated addition, 'clever counting', mental methods and multiplication and division facts, including problems in contexts. Solve missing number multiplications by counting up in steps. Double and halve multiples of 10 and 5 and 2-digit numbers ending in 1, 2, 3 or 4, answers less than 100. 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Recognise and use symbols for pounds (£) and pence (p) and find more than one way to solve a money problem (£1, 10p and 1p coins). Compare and order lengths, mass and capacities and record the results using >, < and =. Tell and write the time to 5 minutes past the hour on analogue and digital clocks and draw

			the hands on a clock face to show these analogue times. Tell and write the time to 5 minutes to the hour on analogue and digital clocks and draw the hands on a clock face to show these analogue times. Find the time 10 minutes later; use 10 minutes as an interval of time; begin to compare and sequence intervals of time. Geometry Statistics Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity, and ask and answer questions about totalling and comparing categorical data.			the hands on a clock face to show these analogue times. Tell and write the time to 5 minutes to the hour on analogue and digital clocks and draw the hands on a clock face to show these analogue times. Find the time 10 minutes later; use 10 minutes as an interval of time; begin to compare and sequence intervals of time. Geometry Statistics Ask and answer simple questions by counting the number of objects in each category and sorting the categories by quantity, and ask and answer questions about totalling and comparing categorical data.

Years 3 and 4

	Autumn A	Spring A	Summer A	Autumn B	Spring B	Summer B
Maths National Curriculum Progression supported by Abacus Framework	**Year 3** Number and Place Value Read and write numbers up to 1000 in numerals and in words. Recognise the place value of each digit in a 3-digit number (100s, 10s, 1s). Addition and Subtraction Recall or quickly find multiples of 5 bonds to 100. Use number bonds and number patterns to add and subtract 1-digit numbers from 2-digit numbers. Add several numbers, spotting doubles and bonds. Add and subtract multiples and near multiples of 10 by counting on and back or by using number facts and place value. Work systematically, using logical reasoning and deduction, to find number pairs that total a 2-digit number. Spot patterns to add any pair of 2-digit numbers, choosing an appropriate strategy, for example using bonds. Spot patterns to subtract any pair of 2-digit numbers, choosing an appropriate strategy, for example using bonds. Use knowledge of bonds to add to the next multiple of 10 and then on to 100. Begin to derive pairs of numbers that total 100. Multiplication and Division Recall doubles of numbers 1 to 20, derive the related halves and apply reasoning skills to choose numbers that will give the longest halving chains. Double 2-digit numbers to 50 and halve 2-digit numbers up to 100. Recall and use multiplication and division facts for the 2, 3, 4, 5 and 10 multiplication tables. Understand that division is the inverse of multiplication. Understand that a remainder is the amount left over after a division and begin to understand the patterns of remainders.	**Year 3** Number and Place Value Understand 2- and 3-digit numbers; find 1, 10 or 100 more or less than a given number without difficulty. Round numbers to the nearest 10 and 100, using a number line. Identify, represent and estimate numbers using different representations including a number line. Multiply and divide by 10 (whole-number answers). Count from 0, in steps of 10, 50 and 100, and find 10 or 100 more or less than a given number; spot patterns in both systems to solve problems. Begin to compare and order numbers up to 1000, using < and > signs. Work systematically and make generalisations. Addition and Subtraction Find pairs with a total of 100 or a maximum total of £1·00. Add numbers mentally, including 2-digit and 3-digit numbers. Subtract 2-digit numbers from 3-digit numbers, and begin to subtract 3-digit numbers from 3-digit numbers, using counting up and by looking for patterns in the digits. Count up to find change from £5 and £10 (multiples of 5p). Solve simple word problems using addition or subtraction. Begin to add numbers with up to 3 digits, using formal written methods of columnar addition (1s greater than 10s or 10s greater than 100s). Investigate patterns when adding numbers, estimate the answer to a calculation and begin to use a systematic approach, including using inverse operations, to check answers. Multiplication and Division Understand the relationship between doubling and halving.	**Year 3** Number and Place Value Count from 0 in multiples of 4, 8, 10, 50 and 100; find 10 or 100 more or less than a give number. Compare and order numbers up to 1000, using < and > signs. Solve number problems and practical problems involving these ideas. Addition and Subtraction Subtract a 2-digit or 3-digit number using place value. Find change from £10 and begin to find change from £20. Subtract numbers with up to 3 digits by counting up (difference less than 100); work systematically to find possibilities and begin to explain mathematical patterns. Estimate the answer to a calculation and use inverse operations to check answers (use addition to check subtraction). Use number facts to add and subtract numbers mentally, including a 3-digit number and 1s, a 3-digit number and 10s, and a 3-digit number and 100s, and explain their methods. Choose an appropriate strategy (mental or written) to solve addition of 3-digit numbers. Add numbers with up to 3 digits using column addition and using reasoning and trial and improvement. Use reasoning skills to invent appropriate addition questions. Multiplication and Division Recall and use multiplication and division facts for the 2, 3, 4, 5, 8 and 10 multiplication tables. Understand the relationship between multiplication and division. Write and calculate mathematical statements for multiplication using multiplication tables, including for 2-digit numbers times 1-digit numbers, using mental and progressing to formal written methods, for example using grid methods to multiply 2-digit numbers by 3, 4, 5, and 8.	**Year 3** Number and Place Value Read and write numbers up to 1000 in numerals and in words. Recognise the place value of each digit in a 3-digit number (100s, 10s, 1s). Addition and Subtraction Recall or quickly find multiples of 5 bonds to 100. Use number bonds and number patterns to add and subtract 1-digit numbers from 2-digit numbers. Add several numbers, spotting doubles and bonds. Add and subtract multiples and near multiples of 10 by counting on and back or by using number facts and place value. Work systematically, using logical reasoning and deduction, to find number pairs that total a 2-digit number. Spot patterns to add any pair of 2-digit numbers, choosing an appropriate strategy, for example using bonds. Spot patterns to subtract any pair of 2-digit numbers, choosing an appropriate strategy, for example using bonds. Use knowledge of bonds to add to the next multiple of 10 and then on to 100. Begin to derive pairs of numbers that total 100. Multiplication and Division Recall doubles of numbers 1 to 20, derive the related halves and apply reasoning skills to choose numbers that will give the longest halving chains. Double 2-digit numbers to 50 and halve 2-digit numbers up to 100. Recall and use multiplication and division facts for the 2, 3, 4, 5 and 10 multiplication tables. Understand that division is the inverse of multiplication. Understand that a remainder is the amount left over after a division and begin to understand the patterns of remainders.	**Year 3** Number and Place Value Understand 2- and 3-digit numbers; find 1, 10 or 100 more or less than a given number without difficulty. Round numbers to the nearest 10 and 100, using a number line. Identify, represent and estimate numbers using different representations including a number line. Multiply and divide by 10 (whole-number answers). Count from 0, in steps of 10, 50 and 100, and find 10 or 100 more or less than a given number; spot patterns in both systems to solve problems. Begin to compare and order numbers up to 1000, using < and > signs. Work systematically and make generalisations. Addition and Subtraction Find pairs with a total of 100 or a maximum total of £1·00. Add numbers mentally, including 2-digit and 3-digit numbers. Subtract 2-digit numbers from 3-digit numbers, and begin to subtract 3-digit numbers from 3-digit numbers, using counting up and by looking for patterns in the digits. Count up to find change from £5 and £10 (multiples of 5p). Solve simple word problems using addition or subtraction. Begin to add numbers with up to 3 digits, using formal written methods of columnar addition (1s greater than 10s or 10s greater than 100s). Investigate patterns when adding numbers, estimate the answer to a calculation and begin to use a systematic approach, including using inverse operations, to check answers. Multiplication and Division Understand the relationship between doubling and halving.	**Year 3** Number and Place Value Count from 0 in multiples of 4, 8, 10, 50 and 100; find 10 or 100 more or less than a give number. Compare and order numbers up to 1000, using < and > signs. Solve number problems and practical problems involving these ideas. Addition and Subtraction Subtract a 2-digit or 3-digit number using place value. Find change from £10 and begin to find change from £20. Subtract numbers with up to 3 digits by counting up (difference less than 100); work systematically to find possibilities and begin to explain mathematical patterns. Estimate the answer to a calculation and use inverse operations to check answers (use addition to check subtraction). Use number facts to add and subtract numbers mentally, including a 3-digit number and 1s, a 3-digit number and 10s, and a 3-digit number and 100s, and explain their methods. Choose an appropriate strategy (mental or written) to solve addition of 3-digit numbers. Add numbers with up to 3 digits using column addition and using reasoning and trial and improvement. Use reasoning skills to invent appropriate addition questions. Multiplication and Division Recall and use multiplication and division facts for the 2, 3, 4, 5, 8 and 10 multiplication tables. Understand the relationship between multiplication and division. Write and calculate mathematical statements for multiplication using multiplication tables, including for 2-digit numbers times 1-digit numbers, using mental and progressing to formal written methods, for example using grid methods to multiply 2-digit numbers by 3, 4, 5, and 8.

Column 1

Use commutativity to find multiplication facts using known facts.

Fractions, Decimals, Ratio and Percentages
Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators, e.g. 1/2, 1/3s and 1/4s of multiples of 2, 3 and 4, using visual representations.
Understand fractions as parts of a whole and compare unit fractions.
Understand that a fraction is an equal part of a whole and that a unit fraction is one part and a non-unit fraction is several parts.
Look for patterns, make predictions and begin to see the relationship between finding fractions of amounts and division.

Measures
Tell and write the time to the nearest 5 minutes from an analogue or digital clock, including using Roman numerals from I to XII.
Know the number of days in each month, year and leap year and use this to try different approaches and find ways of overcoming difficulties.
Solve number and practical problems using place value to add and subtract amounts of money.
Measure and compare lengths; (m/cm/mm) and capacity (ml/L).

Geometry
Draw and make 3D shapes using modelling materials.
Recognise 3D shapes in different orientations and describe them.

Statistics

Year 4
Number and Place Value
Recognise the place value of each digit in a 4-digit number (1000s, 100s, 10s, and 1s); order and compare numbers with up to 4 digits.
Begin to place 4-digit numbers on number lines and round these to the nearest 10, 100 or 1000.

Addition and Subtraction
Know bonds to the next 100.
Use place value and number facts to add numbers with up to 4 digits, including fluency in adding any pair of 2-digit numbers.
Use counting up to subtract numbers with up to 3 digits crossing one multiple of 100.
Choose a method to subtract that is appropriate to the numbers in the calculation.
Solve addition and subtraction problems for numbers with up to 3-digits, including in contexts of word problems, deciding which written or mental operations and methods to use and why.
Use column addition to add 3-digit numbers; begin to add 4-digit numbers.
Use expanded column subtraction to subtract 3-digit numbers.

Column 2

Recall and use multiplication and division facts for the 2, 3, 4, 5 and 10 multiplication tables.
Multiply 2-digit numbers by 4 by doubling twice, and divide 2-digit numbers by 4 by halving twice (whole-number answers).
Solve problems, including missing number problems, involving multiplication and division.
Double numbers, and halve even numbers, up to 100 by partitioning.
Multiply numbers between 10 and 25 by 3, 4 and 5.
Multiply and divide multiples of 10 by 3, 4 and 5 (with no remainders).
Begin to use the grid method to multiply 2-digit numbers from 10 to 25 by 1-digit numbers.

Fractions, Decimals, Ratio and Percentages
Recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators, e.g. identify 1/2s, 1/3s, 1/4s, 1/5s, 1/6s and 1/8s, and say how many are needed to make a whole.
Mark and identify simple fractions on 0 to 1 lines.
Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators, for example 1/2s, 1/3s, 1/4s, and 1/5s of amounts (whole number answers only).
Recognise and show, using diagrams, equivalent fractions with small denominators.

Measures
Tell and write the time to the nearest minute from an analogue clock, including using Roman Numerals from I to XII, or a digital clock.
Calculate time intervals and compare durations of events.
Begin to measure the perimeter of simple 2D shapes.
Know the number of seconds in a minute.

Geometry
Identify and draw 2D shapes, and describe their properties.
Identify right angles, recognise that 2 right angles make a half turn, 3 make 3/4 of a turn and 4 complete a turn; identify whether angles are greater than or less than a right angle.

Statistics

Year 4
Number and Place Value
Count on and back in multiples of 6, 7, 9, 25 and 1000 and work systematically, predicting and explaining patterns.
Place 4-digit numbers on number lines, recognise the place value of each digit and round these to the nearest 10, 100 or 1000.
Explain and justify reasoning about what happens when numbers are multiplied and divided by 10.

Column 3

Begin to make generalisations and solve problems, including missing number problems and word problems, involving 2-digit by 1-digit multiplication or division.
Solve positive integer scaling problems and correspondence problems in which n objects are connected to m objects.
Write and calculate mathematical statements for division using the multiplication tables that they know, using mental and progressing to formal written methods, for example divide by 3, 4, 5, 8 with and without remainders (answers less than 20).
Divide numbers just beyond the range of known table facts by subtracting 10 times the divisor.

Fractions, Decimals, Ratio and Percentages
Add and subtract fractions with the same denominator within one whole.
Compare and order unit fractions, and fractions with the same denominators.
Solve problems with fractions that involve all of the above.
Recognise that tenths arise from dividing an object into 10 equal parts and in dividing 1-digit numbers or quantities by 10.

Measures
Add and subtract amounts of money to give change, using both £ and p in practical contexts.
Measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (L/ml).
Measure the perimeter of simple 2D shapes.
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.
Tell and write the time from 12-hour and 24-hour clocks.

Geometry
Recognise angles as a property of shape or a description of a turn.
Identify horizontal and vertical lines and pairs of perpendicular and parallel lines.

Statistics
Interpret and present data using bar charts, pictograms and tables.
Solve 1-step and 2-step questions (for example, 'How many more?' and 'How many fewer?') using information presented in scaled bar charts and pictograms and tables.

Year 4
Number and Place Value
Find 1, 10, 100 and 1000 more or less than a given number.
Count backwards through zero to include negative numbers; use knowledge of factors and reasoning to solve problems.
Order and compare numbers beyond 1000.
Identify, represent and estimate numbers using different representations.
Solve number and practical problems with increasingly large positive numbers.

Column 1

Use logical thinking to look for patterns in numbers.

Multiplication and Division
Use the distributive law to multiply 2-digit numbers by a 1-digit number using formal written layout or mental methods.
Use table facts and commutativity to perform multiplications involving multiples of 10.
Recall multiplication and division facts for multiplication tables, for 2, 5, 10, 3, 4, 8, 6 and 9 times tables.
Use the distributive law to multiply 2-digit and 3-digit numbers by a 1-digit number using formal written layout (grid).
Double and halve 3-digit numbers using partitioning and be able to describe, explain and predict patterns.
Begin to use place value and known and derived facts to divide numbers above tables facts.
Work systematically and predict patterns.

Fractions, Decimals, Ratio and Percentages
Find unit fractions of amounts.
Begin to recognise and show families of common equivalent fractions.
Count in fractions, expressing each fraction in its simplest form.
Recognise and write decimal and fraction equivalents of tenths and a 1/2.
Find the effect of dividing a 1-digit or 2-digit number by 10, and recognise that the first place after the decimal point is a tenth.

Measures
Read, write and convert time between analogue and digital 12-hour clocks.
Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.
Solve simple measures problems and convert between different units of measure – mm, cm, m; ml, l; g, kg.

Geometry

Statistics
Use mathematical reasoning to answer a question by collecting, displaying and interpreting data in a frequency table and bar chart, choosing an appropriate scale.

Column 2

Explain rules and patterns when dividing 2-digit numbers and 3-digit multiples of 10 × 10.
Add amounts of money mentally using place value and number facts.

Addition and Subtraction
Add and subtract 1s, 10s or 100s from numbers with up to 4 digits crossing multiples of 10, 100, or 1000.
Use counting up subtraction to subtract 3-digit numbers and 4-digit numbers from multiples of 1000 and describe and explain patterns in digit sums.
Use compact column subtraction to subtract 3-digit numbers.
Read and interpret addition word problems.
Add 2 numbers with up to 4 digits using the formal written method of columnar addition, including answers that are greater than 10 000.
Use column addition to add several 2-digit numbers.
Investigate and reason methodically and systematically.
Add and subtract numbers with up to 4 digits using formal columnar addition and subtraction methods.
Identify the calculation(s) needed to solve a word problem.
Solve addition and subtraction 2-step problems in context.

Multiplication and Division
Recognise and use factor pairs and commutativity in mental calculations, to solve multiplications and divisions involving 2-digit and 3-digit multiples of 10.
Recall multiplication and division facts for multiplication tables, for 2, 3, 4, 5, 6, 7, 8, 9 and 10 times tables.
Use doubling and halving to multiply and divide by 4, and to multiply by 5 and 20.
Multiply 2-digit and 3-digit numbers by a 1-digit number using a formal written layout (vertical algorithm – ladder).
Notice patterns; make and test predictions.
Predict and explain the patterns.
Use place value and known and derived facts to divide numbers above table facts.

Fractions, Decimals, Ratio and Percentages
Recognise and show families of common equivalent fractions and begin to compare fractions with non-like denominators.
Begin to multiply and divide numbers by 10 and 100, understanding that this involves a shift of the digits on a place-value grid and identify the value of the digits in the answer as ones, tenths and hundredths.
Solve simple problems involving fractions and find non-unit fractions of amounts where the answer is a whole number.
Compare two 1-place decimals, place on a line and round decimals with 1 decimal place to the nearest whole number.

Measures
Begin to convert between metric units of length, e.g. kilometres to metres, and solve problems involving different measures.

Column 3

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.

Addition and Subtraction
Add and subtract 1s, 10s or 100s from numbers with up to 4 digits crossing multiples of 10, 100, or 1000.
Confidently add numbers with up to 4 digits using place value and number facts, including fluency in adding any pairs of 2-digit numbers.
When appropriate, use counting up to subtract numbers with up to 4 digits.
Use counting up and subtraction to find change or solve money problems.
Add numbers with up to 4 digits using the formal written method of columnar addition.
Subtract numbers with up to 4 digits using the formal written method of expanded or compact columnar subtraction.
Use inverse operations to check answers to a calculation.
Use logical reasoning to create additions of 4-digit numbers to a given total.

Multiplication and Division
Recognise and use factor pairs and commutativity in mental calculations, to solve multiplications and divisions involving 2-digit and 3-digit multiples of 10.
Use place value and known and derived facts to multiply 2-digit and 3-digit numbers by a 1-digit number (including
multiplying by 0 and 1) and to multiply three 1-digit numbers.
Use a written method to multiply amounts of money by 1-digit numbers.
Estimate and use inverse operations to check answer to a multiplication or division calculation.
Multiply 2- and 3-digit numbers by a 1-digit number using formal written layout where appropriate.
Multiply 2-digit numbers by 2-digit numbers using the distributive law (grid method).
Use place value and known and derived facts to divide larger numbers (answers up to 50) including dividing by 1.
Use doubling and halving to multiply and divide mentally.
Recall multiplication and division facts for multiplication tables up to 12 × 12 and describe patterns in the tables.
Solve problems involving multiplying and adding, including integer scaling and correspondence.
Sustain a line of enquiry; make and test a hypothesis.
Look for patterns and write rules.

Fractions, Decimals, Ratio and Percentages
Recognise and show families of common equivalent fractions and begin to compare fractions with non-like denominators.
Use equivalent fractions to simplify and compare fractions with non-like denominators.

Column 4

Use logical thinking to look for patterns in numbers.

Multiplication and Division
Use the distributive law to multiply 2-digit numbers by a 1-digit number using formal written layout or mental methods.
Use table facts and commutativity to perform multiplications involving multiples of 10.
Recall multiplication and division facts for multiplication tables, for 2, 5, 10, 3, 4, 8, 6 and 9 times tables.
Use the distributive law to multiply 2-digit and 3-digit numbers by a 1-digit number using formal written layout (grid).
Double and halve 3-digit numbers using partitioning and be able to describe, explain and predict patterns.
Begin to use place value and known and derived facts to divide numbers above tables facts.
Work systematically and predict patterns.

Fractions, Decimals, Ratio and Percentages
Find unit fractions of amounts.
Begin to recognise and show families of common equivalent fractions.
Count in fractions, expressing each fraction in its simplest form.
Recognise and write decimal and fraction equivalents of tenths and a 1/2.
Find the effect of dividing a 1-digit or 2-digit number by 10, and recognise that the first place after the decimal point is a tenth.

Measures
Read, write and convert time between analogue and digital 12-hour clocks.
Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.
Solve simple measures problems and convert between different units of measure – mm, cm, m; ml, l; g, kg.

Geometry

Statistics
Use mathematical reasoning to answer a question by collecting, displaying and interpreting data in a frequency table and bar chart, choosing an appropriate scale.

Column 5

Explain rules and patterns when dividing 2-digit numbers and 3-digit multiples of 10 × 10.
Add amounts of money mentally using place value and number facts.

Addition and Subtraction
Add and subtract 1s, 10s or 100s from numbers with up to 4 digits crossing multiples of 10, 100, or 1000.
Use counting up subtraction to subtract 3-digit numbers and 4-digit numbers from multiples of 1000 and describe and explain patterns in digit sums.
Use compact column subtraction to subtract 3-digit numbers.
Read and interpret addition word problems.
Add 2 numbers with up to 4 digits using the formal written method of columnar addition, including answers that are greater than 10 000.
Use column addition to add several 2-digit numbers.
Investigate and reason methodically and systematically.
Add and subtract numbers with up to 4 digits using formal columnar addition and subtraction methods.
Identify the calculation(s) needed to solve a word problem.
Solve addition and subtraction 2-step problems in context.

Multiplication and Division
Recognise and use factor pairs and commutativity in mental calculations, to solve multiplications and divisions involving 2-digit and 3-digit multiples of 10.
Recall multiplication and division facts for multiplication tables, for 2, 3, 4, 5, 6, 7, 8, 9 and 10 times tables.
Use doubling and halving to multiply and divide by 4, and to multiply by 5 and 20.
Multiply 2-digit and 3-digit numbers by a 1-digit number using a formal written layout (vertical algorithm – ladder).
Notice patterns; make and test predictions.
Predict and explain the patterns.
Use place value and known and derived facts to divide numbers above table facts.

Fractions, Decimals, Ratio and Percentages
Recognise and show families of common equivalent fractions and begin to compare fractions with non-like denominators.
Begin to multiply and divide numbers by 10 and 100, understanding that this involves a shift of the digits on a place-value grid and identify the value of the digits in the answer as ones, tenths and hundredths.
Solve simple problems involving fractions and find non-unit fractions of amounts where the answer is a whole number.
Compare two 1-place decimals, place on a line and round decimals with 1 decimal place to the nearest whole number.

Measures
Begin to convert between metric units of length, e.g. kilometres to metres, and solve problems involving different measures.

Column 6

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.

Addition and Subtraction
Add and subtract 1s, 10s or 100s from numbers with up to 4 digits crossing multiples of 10, 100, or 1000.
Confidently add numbers with up to 4 digits using place value and number facts, including fluency in adding any pairs of 2-digit numbers.
When appropriate, use counting up to subtract numbers with up to 4 digits.
Use counting up and subtraction to find change or solve money problems.
Add numbers with up to 4 digits using the formal written method of columnar addition.
Subtract numbers with up to 4 digits using the formal written method of expanded or compact columnar subtraction.
Use inverse operations to check answers to a calculation.
Use logical reasoning to create additions of 4-digit numbers to a given total.

Multiplication and Division
Recognise and use factor pairs and commutativity in mental calculations, to solve multiplications and divisions involving 2-digit and 3-digit multiples of 10.
Use place value and known and derived facts to multiply 2-digit and 3-digit numbers by a 1-digit number (including
multiplying by 0 and 1) and to multiply three 1-digit numbers.
Use a written method to multiply amounts of money by 1-digit numbers.
Estimate and use inverse operations to check answer to a multiplication or division calculation.
Multiply 2- and 3-digit numbers by a 1-digit number using formal written layout where appropriate.
Multiply 2-digit numbers by 2-digit numbers using the distributive law (grid method).
Use place value and known and derived facts to divide larger numbers (answers up to 50) including dividing by 1.
Use doubling and halving to multiply and divide mentally.
Recall multiplication and division facts for multiplication tables up to 12 × 12 and describe patterns in the tables.
Solve problems involving multiplying and adding, including integer scaling and correspondence.
Sustain a line of enquiry; make and test a hypothesis.
Look for patterns and write rules.

Fractions, Decimals, Ratio and Percentages
Recognise and show families of common equivalent fractions and begin to compare fractions with non-like denominators.
Use equivalent fractions to simplify and compare fractions with non-like denominators.

		Estimate, compare and calculate different measures, including solving simple money problems involving decimals to 2 decimal places. Solve simple problems involving finding the perimeter of rectilinear shapes. Read, write and convert time between analogue and digital 12- and 24-hour clocks. Geometry Identify acute and obtuse angles and compare and order angles up to 2 right angles by size. Draw shapes with given properties and explain reasoning. Identify lines of symmetry in 2D shapes presented in different orientations. Complete a simple symmetric figure with respect to a specific line of symmetry. Statistics	Find non-unit fractions of amounts and solve problems involving harder fractions to calculate quantities. Recognise that tenths and hundredths arise when dividing by 10 and 100; multiply decimal numbers by 10 and 100, understanding that this involves a shift of the digits on a place-value grid. Count up and down in tenths and hundredths. Compare numbers with up to 2 decimal places, identify the value of the digits as ones, tenths and hundredths, and round decimal numbers to the nearest whole. "Solve simple measure and money problems using fractions and decimals to 2 decimal places. Add and subtract 0·1 and 0·01. Recognise and write decimal and fraction equivalents of tenths, hundredths, 1/4, 1/2 and 3/4. Write additions of fractions with different denominators with a total of 1. Add and subtract fractions with the same denominator, including totals greater than 1. Measures Begin to convert between metric units of length, e.g. kilometres to metres, and solve problems involving different measures. Convert between different metric units of measure, e.g. km to m; solve problems involving different measures. Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres. Solve problems involving money. Find the area of rectilinear shapes. Geometry Identify acute and obtuse angles and compare and order angles up to 2 right angles by size. Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes. Describe positions on a 2D grid as coordinates in the first quadrant. Describe movements between positions as translations of a unit left/right and up/down. Plot specified points and draw sides to complete a given polygon. Statistics Interpret and present discrete and continuous 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.		Estimate, compare and calculate different measures, including solving simple money problems involving decimals to 2 decimal places. Solve simple problems involving finding the perimeter of rectilinear shapes. Read, write and convert time between analogue and digital 12- and 24-hour clocks. Geometry Identify acute and obtuse angles and compare and order angles up to 2 right angles by size. Draw shapes with given properties and explain reasoning. Identify lines of symmetry in 2D shapes presented in different orientations. Complete a simple symmetric figure with respect to a specific line of symmetry. Statistics	Find non-unit fractions of amounts and solve problems involving harder fractions to calculate quantities. Recognise that tenths and hundredths arise when dividing by 10 and 100; multiply decimal numbers by 10 and 100, understanding that this involves a shift of the digits on a place-value grid. Count up and down in tenths and hundredths. Compare numbers with up to 2 decimal places, identify the value of the digits as ones, tenths and hundredths, and round decimal numbers to the nearest whole. "Solve simple measure and money problems using fractions and decimals to 2 decimal places. Add and subtract 0·1 and 0·01. Recognise and write decimal and fraction equivalents of tenths, hundredths, 1/4, 1/2 and 3/4. Write additions of fractions with different denominators with a total of 1. Add and subtract fractions with the same denominator, including totals greater than 1. Measures Begin to convert between metric units of length, e.g. kilometres to metres, and solve problems involving different measures. Convert between different metric units of measure, e.g. km to m; solve problems involving different measures. Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres. Solve problems involving money. Find the area of rectilinear shapes. Geometry Identify acute and obtuse angles and compare and order angles up to 2 right angles by size. Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes. Describe positions on a 2D grid as coordinates in the first quadrant. Describe movements between positions as translations of a unit left/right and up/down. Plot specified points and draw sides to complete a given polygon. Statistics Interpret and present discrete and continuous 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.

Years 5 and 6

	Autumn A	Spring A	Summer A	Autumn B	Spring B	Summer B
Maths National Curriculum Progression	Year 5 Number and Place Value Read and write numbers to at least 100 000.	Year 5 Number and Place Value Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000. Read and write numbers to at least	Year 5 Number and Place Value Interpret negative numbers in context; count forwards and backwards with positive and negative whole numbers, including through	Year 5 Number and Place Value Read and write numbers to at least 100 000.	Year 5 Number and Place Value Count forwards or backwards in steps of powers of 10 for any given number up to 1 000 000. Read and write numbers to at least	Year 5 Number and Place Value Interpret negative numbers in context; count forwards and backwards with positive and negative whole numbers, including through

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	Determine the value of each digit in numbers to at least 100 000 and use to solve place-value additions and subtractions. Order and compare numbers to at least 100 000. Count forward or backwards in steps of powers of 10 for any number up to 100 000. Round any number up to 100 000 to the nearest 10, 100 and 1000. Addition and Subtraction Sustain a line of enquiry; make and test a hypothesis. Add whole numbers with 4 digits, including using the formal written method of columnar addition (answers > 10 000). Use place value and number facts to add and subtract 2-, 3- and 4-digit numbers. Use inverse operations to create new calculations or check answers. "Subtract whole numbers with 4 digits, including using the formal written method of columnar subtraction. Begin to add and subtract numbers mentally with increasingly large numbers. Use mathematical reasoning to work out a function (single operation +/–). Multiplication and Division Use mental strategies to multiply and divide by 4, 9, 20 and 25. Solve problems involving multiplication and division using knowledge of factors, doubles and halves, and times-tables. Choose a mental or a written method to solve problems, including word problems, involving multiplication (including 2-/3-digit × 1-digit; 2-digit × 2-digit). Choose a mental or written method to solve problems, including word problems, involving division (including 2-/3-digit ÷ 1-digit), and spot and explain patterns and relationships. Recognise which numbers are divisible by 2, 3, 4, 5, 9 and 10. Use mathematical reasoning to work out a function; use the inverse operation to find answers. Use multiplication facts and place value to multiply and divide multiples of 10 and 100, including answers with 1 and 2 decimal places. Fractions, Decimals, Ratio and Percentages Add and subtract 0·1 to/from a number with 1 or 2 decimal places. Compare and order fractions with the same denominator. Identify, name and write equivalent fractions, including simplest forms, of a given fraction, represented visually, including tenths and hundredths. Recognise and use tenths and hundredths and relate them to decimal equivalents. Read, write, order and compare numbers with up to 2 decimal places. Measures Convert between different units of metric measure (length: mm/cm/ m/km). Understand the 24-hour clock, convert times, calculate time intervals and use timetables.	1 000 000. Order and compare numbers to at least 1 000 000. Determine the value of each digit in numbers to at least 1 000 000 and use to solve place value additions and subtractions. Order and compare 6-digit numbers and place on a number line. Find square numbers and square roots; find a pattern; write and test a rule. Addition and Subtraction Add whole numbers and 1-place decimals using appropriate mental strategies. Add 1- and 2-place decimal numbers (including money) choosing and using an appropriate method (including columnar addition and mental methods). Count up to solve 4-digit minus 4-digit subtractions from near multiples of 1000, where column subtraction is awkward; use column subtraction where appropriate. Add and subtract numbers mentally with increasingly large numbers. Solve addition 1- step and multi-step problems using mental addition. Use counting on and bonds to 100 to add to any 2-place decimal to find the next whole number. Subtract amounts of money and other 1- and 2-place decimal numbers in the context of measures. Investigate patterns in addition using knowledge of bonds and a systematic approach. Use columnar addition to add more than 2 numbers with up to 4 digits. Identify patterns and make predictions. Multiplication and Division Identify multiples and factors, including finding all factor pairs of a number, and common factors of 2 numbers. Multiply and divide numbers mentally drawing upon known facts. Use a written method to multiply pairs of 2-digit numbers. Multiply and divide numbers by 10 and 100, including decimal numbers and those leading to decimal answers. 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 their notation (2). Choose an appropriate method to divide one number by another, including for larger numbers requiring a written procedure. Choose an appropriate method to multiply numbers, including for those larger numbers requiring written procedure. Use short division to divide 3-digit numbers by 1-digit numbers (including those that leave a remainder). Use short multiplication to multiply 3-digit numbers by 1-digit numbers, rounding to estimate answers. Fractions, Decimals, Ratio and Percentages	0; solve problems in the context of temperature. 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 all of the above. Read Roman numerals to 1000 (M) and recognise years written in Roman numerals. Addition and Subtraction Use rounding to check answers to calculations and determine, in the context of a problem, level of accuracy; use addition to check subtraction. Subtract 2-place decimal numbers (including money) using counting up or mental methods. Solve addition and subtraction problems, including multi-step and word problems; decide which operations and methods to use and why. Add whole numbers with more than 4 digits, including using formal written methods such as columnar addition. Subtract whole numbers with more than 4 digits, including using formal written methods such as columnar subtraction. Multiplication and Division Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000. Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes. Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign. Divide numbers up to 4 digits by a 1-digit number using the formal written method of short division and interpret remainders appropriately for the context. Use short multiplication to multiply 4-digit numbers by 1-digit numbers, rounding to estimate answers. Multiply numbers up to 4 digits by a 1- or 2-digit number using a formal written method, including long multiplication for 2-digit numbers. Identify factors of 2-digit numbers, pursue a line of enquiry and solve problems involving multiplication using their knowledge of factors. Recognise and use cube numbers and their notation (3). Solve problems (including word problems and problems about measure) involving multiplication and division, including scaling by simple fractions and problems involving simple rates. Multiply numbers up to 4 digits by a 1- or 2-digit number using a formal written method, including long multiplication for 2-digit numbers. Use multiplication to check division. Fractions, Decimals, Ratio and Percentages Add and subtract 0·1, 0·01 or 0·001 to/from numbers with up to three decimal places.	Determine the value of each digit in numbers to at least 100 000 and use to solve place-value additions and subtractions. Order and compare numbers to at least 100 000. Count forward or backwards in steps of powers of 10 for any number up to 100 000. Round any number up to 100 000 to the nearest 10, 100 and 1000. Addition and Subtraction Sustain a line of enquiry; make and test a hypothesis. Add whole numbers with 4 digits, including using the formal written method of columnar addition (answers > 10 000). Use place value and number facts to add and subtract 2-, 3- and 4-digit numbers. Use inverse operations to create new calculations or check answers. "Subtract whole numbers with 4 digits, including using the formal written method of columnar subtraction. Begin to add and subtract numbers mentally with increasingly large numbers. Use mathematical reasoning to work out a function (single operation +/–). Multiplication and Division Use mental strategies to multiply and divide by 4, 9, 20 and 25. Solve problems involving multiplication and division using knowledge of factors, doubles and halves, and times-tables. Choose a mental or a written method to solve problems, including word problems, involving multiplication (including 2-/3-digit × 1-digit; 2-digit × 2-digit). Choose a mental or written method to solve problems, including word problems, involving division (including 2-/3-digit ÷ 1-digit), and spot and explain patterns and relationships. Recognise which numbers are divisible by 2, 3, 4, 5, 9 and 10. Use mathematical reasoning to work out a function; use the inverse operation to find answers. Use multiplication facts and place value to multiply and divide multiples of 10 and 100, including answers with 1 and 2 decimal places. Fractions, Decimals, Ratio and Percentages Add and subtract 0·1 to/from a number with 1 or 2 decimal places. Compare and order fractions with the same denominator. Identify, name and write equivalent fractions, including simplest forms, of a given fraction, represented visually, including tenths and hundredths. Recognise and use tenths and hundredths and relate them to decimal equivalents. Read, write, order and compare numbers with up to 2 decimal places. Measures Convert between different units of metric measure (length: mm/cm/ m/km). Understand the 24-hour clock, convert times, calculate time intervals and use timetables.	1 000 000. Order and compare numbers to at least 1 000 000. Determine the value of each digit in numbers to at least 1 000 000 and use to solve place value additions and subtractions. Order and compare 6-digit numbers and place on a number line. Find square numbers and square roots; find a pattern; write and test a rule. Addition and Subtraction Add whole numbers and 1-place decimals using appropriate mental strategies. Add 1- and 2-place decimal numbers (including money) choosing and using an appropriate method (including columnar addition and mental methods). Count up to solve 4-digit minus 4-digit subtractions from near multiples of 1000, where column subtraction is awkward; use column subtraction where appropriate. Add and subtract numbers mentally with increasingly large numbers. Solve addition 1- step and multi-step problems using mental addition. Use counting on and bonds to 100 to add to any 2-place decimal to find the next whole number. Subtract amounts of money and other 1- and 2-place decimal numbers in the context of measures. Investigate patterns in addition using knowledge of bonds and a systematic approach. Use columnar addition to add more than 2 numbers with up to 4 digits. Identify patterns and make predictions. Multiplication and Division Identify multiples and factors, including finding all factor pairs of a number, and common factors of 2 numbers. Multiply and divide numbers mentally drawing upon known facts. Use a written method to multiply pairs of 2-digit numbers. Multiply and divide numbers by 10 and 100, including decimal numbers and those leading to decimal answers. 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 their notation (2). Choose an appropriate method to divide one number by another, including for larger numbers requiring a written procedure. Choose an appropriate method to multiply numbers, including for those larger numbers requiring written procedure. Use short division to divide 3-digit numbers by 1-digit numbers (including those that leave a remainder). Use short multiplication to multiply 3-digit numbers by 1-digit numbers, rounding to estimate answers. Fractions, Decimals, Ratio and Percentages	0; solve problems in the context of temperature. 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 all of the above. Read Roman numerals to 1000 (M) and recognise years written in Roman numerals. Addition and Subtraction Use rounding to check answers to calculations and determine, in the context of a problem, level of accuracy; use addition to check subtraction. Subtract 2-place decimal numbers (including money) using counting up or mental methods. Solve addition and subtraction problems, including multi-step and word problems; decide which operations and methods to use and why. Add whole numbers with more than 4 digits, including using formal written methods such as columnar addition. Subtract whole numbers with more than 4 digits, including using formal written methods such as columnar subtraction. Multiplication and Division Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000. Solve problems involving multiplication and division including using their knowledge of factors and multiples, squares and cubes. Solve problems involving addition, subtraction, multiplication and division and a combination of these, including understanding the meaning of the equals sign. Divide numbers up to 4 digits by a 1-digit number using the formal written method of short division and interpret remainders appropriately for the context. Use short multiplication to multiply 4-digit numbers by 1-digit numbers, rounding to estimate answers. Multiply numbers up to 4 digits by a 1- or 2-digit number using a formal written method, including long multiplication for 2-digit numbers. Identify factors of 2-digit numbers, pursue a line of enquiry and solve problems involving multiplication using their knowledge of factors. Recognise and use cube numbers and their notation (3). Solve problems (including word problems and problems about measure) involving multiplication and division, including scaling by simple fractions and problems involving simple rates. Multiply numbers up to 4 digits by a 1- or 2-digit number using a formal written method, including long multiplication for 2-digit numbers. Use multiplication to check division. Fractions, Decimals, Ratio and Percentages Add and subtract 0·1, 0·01 or 0·001 to/from numbers with up to three decimal places.

Begin to calculate the perimeter of rectilinear shapes in cm. Geometry Use a ruler to measure lines in centimetres and millimetres. Know angles are measured in degrees. Estimate and compare acute, obtuse and reflex angles. Draw given angles, and measure them in degrees (°) using a protractor. Identify angles at a point on a straight line and half a turn (total 180°); use mathematical reasoning to explain findings. Identify 90° and other multiples of 90°. Statistics Complete, read and interpret information in timetables using 24-hour times. Year 6 Number and Place Value Read, write, order and compare numbers up to 1 000 000 and determine the value of each digit. Use negative numbers in context, and calculate intervals across zero and give generalisations to describe what happens when adding and subtracting with positive and negative numbers. Addition and Subtraction Choose and use an appropriate method to add whole numbers with up to 5 digits. Choose and use an appropriate mental or written method, including column addition and subtraction, to add and subtract decimal numbers with 1, 2 or 3 decimal places, including in the context of measures and money. Use knowledge of the order of operations to carry out calculations involving the four operations. Use knowledge of the order of operations and brackets to carry out multi-step calculations involving addition, subtraction, multiplication and division. Choose and use an appropriate method to subtract whole numbers with up to 5 digits. Multiplication and Division Multiply multi-digit numbers up to 4 digits by numbers between 10 and 40 using the formal written method of long multiplication. Use short multiplication to multiply numbers with up to 4 digits, including amounts of money, by 1-digit numbers and solve word problems involving multiplication including two-step problems and finding change. Use knowledge of the order of operations to carry out calculations involving the four operations. Use knowledge of the order of operations and brackets to carry out multi-step calculations involving addition, subtraction, multiplication and division. Divide numbers up to 4 digits by numbers up to 12 using the formal written method of short division, where appropriate interpret remainders according to the context and use reasoning to find a solution.	Add and subtract 0·1 or 0·01 to/from numbers with up to 2 decimal places. Round decimals with 2 decimal places to the nearest whole number and to 1 decimal place. Solve problems involving numbers with up to 3 decimal places, including in the context of measures. Compare and order fractions, including mixed numbers, whose denominators are all multiples of the same number. Place fractions on a number line and count in steps of a given fraction, using equivalence. Recognise mixed numbers and improper fractions and convert from one form to the other; look for patterns and write rules. Multiply proper fractions by whole numbers in a practical or real-life context. Measures Convert between different units of metric measure (km / m; cm / m; cm / mm; g / kg; L / ml). Add 2-digit numbers with 2-place decimals, including money, using column addition. Understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints. Geometry Know that the angles in a triangle add up to 180° and devise and test rules to find a missing angle. Describe the properties of triangles (including scalene, right-angled, isosceles and equilateral). Use mathematical reasoning to identify properties of different polygons, including equal sides and angles and explain findings. Identify and define a polygon; distinguish between regular and irregular polygons based on reasoning about equal sides and angles. Identify and define a polygon; distinguish between regular and irregular polygons based on reasoning about equal sides and angles. Statistics Sort using a Venn diagram or a table. Begin to read and interpret line graphs, including reading intermediate values. Year 6 Number and Place Value Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit. Round any whole number to a required degree of accuracy. Solve number and practical problems involving place value, comparison and rounding of integers. Addition and Subtraction Choose and use an appropriate method, including column addition, to add whole numbers with up to 7 digits, and identify patterns in the number of steps required to generate palindromic numbers.	Write equivalent fractions and use equivalence to reduce fractions to their simplest form, including writing improper fractions as mixed numbers. Compare and order fractions whose denominators are all multiples of the same number. Read, write, order and compare numbers with up to 3 decimal places. Read and write decimal numbers as fractions. Solve problems involving numbers with up to 3 decimal places. Multiply proper fractions by whole numbers, supported by materials and diagrams, spot patterns and make generalisations. Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents. Add and subtract fractions with the same denominator and denominators that are multiples of the same whole number, including answers > 1. Recognise the per cent symbol (%) and understand that it relates to 'number of parts per hundred'; 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. Measures Measure and calculate the perimeter of composite rectilinear shapes in cm and m. Solve problems involving time, telling the time using 12- and 24-hour clocks, and converting between units of time. Calculate and compare the area of rectangles (including squares), including using standard units, cm2 and m2, and pursue a line of enquiry. Estimate the area of irregular shapes. Estimate and begin to find volume and capacity. Use all 4 operations to solve problems involving measure using decimal notation, including scaling. Geometry Draw given angles and straight lines to given lengths to create a triangle. Identify 3D shapes, including cubes and other cuboids, from 2D representations. "Recognise and use the properties of rectangles to deduce related facts and find missing lengths and angles. Example: Draw a rectangle 6 cm × 12 cm and its diagonals. What are the angles where they cross? Identify, describe and represent the position of a shape following a reflection or translation using the appropriate language; know that the shape has not changed; describe the relationship between the shapes' co-ordinates. Read and mark coordinates in the first two quadrants and plot and join coordinates to create a polygon.			

Fractions, Decimals, Ratio and Percentages
Convert decimals (up to 3 places) to fractions and vice versa using thousandths, hundredths and tenths.
Identify the value of each digit in numbers with up to 3 decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers to up to 3 decimal places; use this knowledge to compare and order numbers, and round numbers, with up to 3 decimal places.
Compare and order fractions, including fractions > 1.
Use common factors to simplify fractions; use common multiples to express fractions in the same denomination.
Use equivalence to add and subtract proper fractions and mixed numbers with related or unrelated denominators, and spot and test a rule.
Convert improper fractions to mixed numbers; convert mixed numbers to improper fractions.
Find non-unit fractions of amounts.
Express a remainder after division as a fraction, simplifying where possible.
Use knowledge of equivalence between fractions and percentages and mental strategies to solve problems involving the calculation of percentages, including amounts of money and other measures.
Solve problems involving the calculation of percentages and the use of percentages for comparison.
Multiply fractions less than 1 by whole numbers.
Divide proper fractions by whole numbers.

Measures
Solve problems involving the calculation and conversion of units of measure, using decimal notation up to 3 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 to up to 3 decimal places.
Begin to convert between miles and kilometres.
Recognise that shapes with the same areas can have different perimeters and vice versa; begin to measure area and perimeter.
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 volume of cubes and cuboids using standard units, including cubic centimetres (cm3) and cubic metres (m3), and extending to other units (for example, mm3 and km3).

Geometry
Recognise, describe and build simple 3D shapes, including making nets.

Statistics

Choose and use an appropriate method, including counting up, to add and subtract numbers with up to 2 decimal places, including in the context of measures and money and finding change, and use mathematical reasoning to investigate and solve problems.
Choose and use an appropriate method to subtract whole numbers with up to 7 digits.
Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.
Solve problems involving addition, subtraction, multiplication and division.

Multiplication and Division
Use appropriate strategies to multiply and divide mentally, including by multiples of 10, 100 and 1000.
Perform mental calculations, including with mixed operations and large numbers.
Multiply multi-digit numbers up to 4 digits by a 1- or 2-digit whole number using the formal written method of long multiplication.
Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.
Solve problems involving addition, subtraction, multiplication and division.
Use short multiplication to multiply 4-digit amounts of money by 1-digit numbers, and use estimation to check answers.
Use short division to divide 4-digit numbers by 1-digit numbers, including those which leave a remainder; spot patterns, make and test general rules, and check when an answer does not fit the predicted pattern.
Identify common factors, common multiples and prime numbers.
Divide numbers up to 4 digits by a 2-digit whole number using the formal written method of long division, making an estimate using multiples of 10 or 100 of the divisor, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context.

Fractions, Decimals, Ratio and Percentages
Associate a fraction with division and calculate decimal fraction equivalents for a simple fraction.
Compare and order numbers with 1, 2 or 3 decimal places.
Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts, and use mental strategies to solve problems involving simple percentages of amounts.
Multiply pairs of unit fractions by reading the × sign as 'of'.
Multiply unit fractions by non-unit fractions, writing the answer in its simplest form.
Use mental strategies to multiply 2-digit numbers with one decimal place by 1-digit whole numbers.
Multiply 1- and 2-digit numbers with up to 2 decimal places by whole numbers.
Use written division methods in cases where the answer has up to 2 decimal places.

Statistics
Draw line graphs; solve comparison, sum and difference problems using information presented in a line graph.
Estimate intermediate values on line graphs.

Year 6
Number and Place Value
Solve number and practical problems that involve place value in large numbers, rounding, comparison and negative numbers.
Use negative numbers in context, and calculate intervals across zero.
Round any whole number to a required degree of accuracy.
Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit.

Addition and Subtraction
Consolidate adding and subtracting whole numbers with more than 4 digits, including using column addition and subtraction.
Consolidate adding and subtracting numbers mentally with increasingly larger numbers.
Solve addition and subtraction multi-step problems in contexts, including money, deciding which operations and methods to use and why.
Solve problems involving addition, subtraction, multiplication and division.
Use knowledge of the order of operations, including using brackets, to carry out calculations involving the four operations.
Perform mental calculations, including with mixed operations and large numbers, and use inverse operations to solve missing number problems.

Multiplication and Division
Use appropriate strategies to multiply and divide mentally, including by multiples of 10, 100 and 1000, and solve scaling problems and problems involving rate.
Multiply multi-digit numbers up to 4 digits by a 2-digit whole number using the formal written method of long multiplication and solve problems involving multiplication of money and measures.
Multiply 2-, 3-, and 4-digit numbers by numbers up to 12 using short multiplication or another appropriate formal written method and solve word problems involving multiplication of money and measures.
Solve problems involving addition, subtraction, multiplication and division.
Use knowledge of the order of operations, including using brackets, to carry out calculations involving the four operations.
Perform mental calculations, including with mixed operations and large numbers, and use inverse operations to solve missing number problems.
Divide numbers up to 4 digits by a 2-digit whole number using the formal written method of long division, making approximations, and interpret remainders as whole number remainders, fractions (simplifying where possible or writing the fractional part of the answer as a decimal

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Fractions, Decimals, Ratio and Percentages
Convert decimals (up to 3 places) to fractions and vice versa using thousandths, hundredths and tenths.
Identify the value of each digit in numbers with up to 3 decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers to up to 3 decimal places; use this knowledge to compare and order numbers, and round numbers, with up to 3 decimal places.
Compare and order fractions, including fractions > 1.
Use common factors to simplify fractions; use common multiples to express fractions in the same denomination.
Use equivalence to add and subtract proper fractions and mixed numbers with related or unrelated denominators, and spot and test a rule.
Convert improper fractions to mixed numbers; convert mixed numbers to improper fractions.
Find non-unit fractions of amounts.
Express a remainder after division as a fraction, simplifying where possible.
Use knowledge of equivalence between fractions and percentages and mental strategies to solve problems involving the calculation of percentages, including amounts of money and other measures.
Solve problems involving the calculation of percentages and the use of percentages for comparison.
Multiply fractions less than 1 by whole numbers.
Divide proper fractions by whole numbers.

Measures
Solve problems involving the calculation and conversion of units of measure, using decimal notation up to 3 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 to up to 3 decimal places.
Begin to convert between miles and kilometres.
Recognise that shapes with the same areas can have different perimeters and vice versa; begin to measure area and perimeter.
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 volume of cubes and cuboids using standard units, including cubic centimetres (cm3) and cubic metres (m3), and extending to other units (for example, mm3 and km3).

Geometry
Recognise, describe and build simple 3D shapes, including making nets.

Statistics

Choose and use an appropriate method, including counting up, to add and subtract numbers with up to 2 decimal places, including in the context of measures and money and finding change, and use mathematical reasoning to investigate and solve problems.
Choose and use an appropriate method to subtract whole numbers with up to 7 digits.
Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.
Solve problems involving addition, subtraction, multiplication and division.

Multiplication and Division
Use appropriate strategies to multiply and divide mentally, including by multiples of 10, 100 and 1000.
Perform mental calculations, including with mixed operations and large numbers.
Multiply multi-digit numbers up to 4 digits by a 1- or 2-digit whole number using the formal written method of long multiplication.
Use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy.
Solve problems involving addition, subtraction, multiplication and division.
Use short multiplication to multiply 4-digit amounts of money by 1-digit numbers, and use estimation to check answers.
Use short division to divide 4-digit numbers by 1-digit numbers, including those which leave a remainder; spot patterns, make and test general rules, and check when an answer does not fit the predicted pattern.
Identify common factors, common multiples and prime numbers.
Divide numbers up to 4 digits by a 2-digit whole number using the formal written method of long division, making an estimate using multiples of 10 or 100 of the divisor, and interpret remainders as whole number remainders, fractions, or by rounding, as appropriate for the context.

Fractions, Decimals, Ratio and Percentages
Associate a fraction with division and calculate decimal fraction equivalents for a simple fraction.
Compare and order numbers with 1, 2 or 3 decimal places.
Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts, and use mental strategies to solve problems involving simple percentages of amounts.
Multiply pairs of unit fractions by reading the × sign as 'of'.
Multiply unit fractions by non-unit fractions, writing the answer in its simplest form.
Use mental strategies to multiply 2-digit numbers with one decimal place by 1-digit whole numbers.
Multiply 1- and 2-digit numbers with up to 2 decimal places by whole numbers.
Use written division methods in cases where the answer has up to 2 decimal places.

Statistics
Draw line graphs; solve comparison, sum and difference problems using information presented in a line graph.
Estimate intermediate values on line graphs.

Year 6
Number and Place Value
Solve number and practical problems that involve place value in large numbers, rounding, comparison and negative numbers.
Use negative numbers in context, and calculate intervals across zero.
Round any whole number to a required degree of accuracy.
Read, write, order and compare numbers up to 10 000 000 and determine the value of each digit.

Addition and Subtraction
Consolidate adding and subtracting whole numbers with more than 4 digits, including using column addition and subtraction.
Consolidate adding and subtracting numbers mentally with increasingly larger numbers.
Solve addition and subtraction multi-step problems in contexts, including money, deciding which operations and methods to use and why.
Solve problems involving addition, subtraction, multiplication and division.
Use knowledge of the order of operations, including using brackets, to carry out calculations involving the four operations.
Perform mental calculations, including with mixed operations and large numbers, and use inverse operations to solve missing number problems.

Multiplication and Division
Use appropriate strategies to multiply and divide mentally, including by multiples of 10, 100 and 1000, and solve scaling problems and problems involving rate.
Multiply multi-digit numbers up to 4 digits by a 2-digit whole number using the formal written method of long multiplication and solve problems involving multiplication of money and measures.
Multiply 2-, 3-, and 4-digit numbers by numbers up to 12 using short multiplication or another appropriate formal written method and solve word problems involving multiplication of money and measures.
Solve problems involving addition, subtraction, multiplication and division.
Use knowledge of the order of operations, including using brackets, to carry out calculations involving the four operations.
Perform mental calculations, including with mixed operations and large numbers, and use inverse operations to solve missing number problems.
Divide numbers up to 4 digits by a 2-digit whole number using the formal written method of long division, making approximations, and interpret remainders as whole number remainders, fractions (simplifying where possible or writing the fractional part of the answer as a decimal

	Algebra Use letters to represent missing numbers in number sentences. Find pairs of numbers that satisfy an equation with two unknowns. Enumerate possibilities of combinations of two variables.	Solve problems which require answers to be rounded to specified degrees of accuracy. Solve problems involving simple ratios, i.e. unequal sharing and grouping using knowledge of fractions and multiples. Measures Solve problems involving the calculation and conversion of units of measure. Convert between miles and kilometres. Geometry Draw 2D shapes using given dimensions and angles. Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius. Compare and classify geometric shapes based on their properties and sizes and use mathematical reasoning to find unknown angles in any triangles, quadrilaterals, and regular polygons. Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles. Describe positions on the full coordinate grid (all four quadrants). Draw and translate simple shapes on the coordinate plane, and reflect them in the axes. Statistics Interpret and construct pie charts and use these to solve problems. Interpret and construct line graphs and use these to solve problems. Read and interpret a range of tables, graphs, pictograms and bar charts and answer questions relating to data displayed in these. Calculate and interpret the mean as an average. Algebra Use simple formulae. Continue, generate and describe linear number sequences.	where the equivalent is known) or by rounding as appropriate for the context. Know all multiplication and division facts up to 12 × 12; identify common factors, common multiples and prime numbers. Use a systematic approach to solve problems involving multiplication and division. Divide numbers up to 4 digits by a 2-digit number using the formal written method of short division where appropriate, estimating answers and interpreting remainders according to the context, including money problems that require answers to be rounded. Fractions, Decimals, Ratio and Percentages Identify the value of each digit in numbers given to 3 decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to 3 decimal places; round decimal numbers to the nearest tenth and whole number. Add several decimal numbers using mental or written addition. Subtract decimal numbers using mental or written counting up or other mental strategies. Use common factors to simplify fractions; use common multiples to express fractions in the same denomination. Use knowledge of equivalence to compare and order fractions. Add and subtract fractions, with different denominators and mixed numbers, using the concept of equivalent fractions. Solve problems involving the calculation of percentages and the use of percentages for comparison. Divide proper fractions by whole numbers. Multiply simple pairs of proper fractions writing the answer in its simplest form; understand that if two numbers less than 1 are multiplied, the answer is smaller than either. Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts. Associate a fraction with division to find an unknown number using inverse operations. Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. Multiply decimals by whole numbers by multiplying by 10/100 to make whole number calculations then dividing by 10/100 to find the answer. Solve problems involving similar shapes where the scale factor is known or can be found. Measures Solve problems using standard units; read scales with accuracy. Consolidate using 12 and 24-hour clocks; use counting up to calculate time intervals and count on and back in hours and minutes, bridging the hour, to find start and finish times; use timetables. Measure areas and perimeters; understand that area is a measurement of covering and is	Algebra Use letters to represent missing numbers in number sentences. Find pairs of numbers that satisfy an equation with two unknowns. Enumerate possibilities of combinations of two variables.	Solve problems which require answers to be rounded to specified degrees of accuracy. Solve problems involving simple ratios, i.e. unequal sharing and grouping using knowledge of fractions and multiples. Measures Solve problems involving the calculation and conversion of units of measure. Convert between miles and kilometres. Geometry Draw 2D shapes using given dimensions and angles. Illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius. Compare and classify geometric shapes based on their properties and sizes and use mathematical reasoning to find unknown angles in any triangles, quadrilaterals, and regular polygons. Recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles. Describe positions on the full coordinate grid (all four quadrants). Draw and translate simple shapes on the coordinate plane, and reflect them in the axes. Statistics Interpret and construct pie charts and use these to solve problems. Interpret and construct line graphs and use these to solve problems. Read and interpret a range of tables, graphs, pictograms and bar charts and answer questions relating to data displayed in these. Calculate and interpret the mean as an average. Algebra Use simple formulae. Continue, generate and describe linear number sequences.	where the equivalent is known) or by rounding as appropriate for the context. Know all multiplication and division facts up to 12 × 12; identify common factors, common multiples and prime numbers. Use a systematic approach to solve problems involving multiplication and division. Divide numbers up to 4 digits by a 2-digit number using the formal written method of short division where appropriate, estimating answers and interpreting remainders according to the context, including money problems that require answers to be rounded. Fractions, Decimals, Ratio and Percentages Identify the value of each digit in numbers given to 3 decimal places and multiply and divide numbers by 10, 100 and 1000 giving answers up to 3 decimal places; round decimal numbers to the nearest tenth and whole number. Add several decimal numbers using mental or written addition. Subtract decimal numbers using mental or written counting up or other mental strategies. Use common factors to simplify fractions; use common multiples to express fractions in the same denomination. Use knowledge of equivalence to compare and order fractions. Add and subtract fractions, with different denominators and mixed numbers, using the concept of equivalent fractions. Solve problems involving the calculation of percentages and the use of percentages for comparison. Divide proper fractions by whole numbers. Multiply simple pairs of proper fractions writing the answer in its simplest form; understand that if two numbers less than 1 are multiplied, the answer is smaller than either. Solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts. Associate a fraction with division to find an unknown number using inverse operations. Recall and use equivalences between simple fractions, decimals and percentages, including in different contexts. Multiply decimals by whole numbers by multiplying by 10/100 to make whole number calculations then dividing by 10/100 to find the answer. 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			measured in square units and that perimeter is a length measured in mm, cm, m or km, for example; recognise that shapes with the same areas can have different perimeters and vice versa. Calculate the area of rectangles, parallelograms and triangles. Calculate, estimate and compare volumes of cubes and cuboids. Geometry Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons; find missing angles at a point, vertically opposite, or on a straight line. Consolidate classifying angles as acute, right, obtuse or reflex. Find pairs of numbers that satisfy an equation with two unknowns and list in order the possibilities of combinations of two variables. Identify, illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius. Identify coordinates on the full coordinate grid; find missing coordinates for a vertex on a polygon or line. Statistics Calculate and interpret the mean as an average. Read, interpret and construct tables, bar charts, pictograms, pie charts and line graphs and use these to solve problems. Algebra Express missing number problems algebraically and identify appropriate methods in order to solve them. Solve mathematical puzzles and justify their reasoning; spot patterns and make and test predictions.			measured in square units and that perimeter is a length measured in mm, cm, m or km, for example; recognise that shapes with the same areas can have different perimeters and vice versa. Calculate the area of rectangles, parallelograms and triangles. Calculate, estimate and compare volumes of cubes and cuboids. Geometry Compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons; find missing angles at a point, vertically opposite, or on a straight line. Consolidate classifying angles as acute, right, obtuse or reflex. Find pairs of numbers that satisfy an equation with two unknowns and list in order the possibilities of combinations of two variables. Identify, illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius. Identify coordinates on the full coordinate grid; find missing coordinates for a vertex on a polygon or line. Statistics Calculate and interpret the mean as an average. Read, interpret and construct tables, bar charts, pictograms, pie charts and line graphs and use these to solve problems. Algebra Express missing number problems algebraically and identify appropriate methods in order to solve them. Solve mathematical puzzles and justify their reasoning; spot patterns and make and test predictions.