Year 5/6 yearly overview

Note: Shaded colours refer to the strand colours used in the textbooks.

Year 5	Year 6	Number of lessons
Autumn term		**60**
Unit 1: Place value within 100,000 • read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit • count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000 • round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000 • solve number problems and practical problems that involve all of the above • read Roman numerals to 1,000 (M) and recognise years written in Roman numerals	**Unit 12: Ratio and proportion** • solve problems involving unequal sharing and grouping using knowledge of fractions and multiples • solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts • solve problems involving similar shapes where the scale factor is known or can be found	**9**

Unit 2: Place value within 1,000,000 • read, write, order and compare numbers to at least 1,000,000 and determine the value of each digit • solve number problems and practical problems that involve all of the above • round any number up to 1,000,000 to the nearest 10, 100, 1,000, 10,000 and 100,000 • interpret negative numbers in context, count forwards and backwards with positive and negative whole numbers, including through zero • count forwards or backwards in steps of powers of 10 for any given number up to 1,000,000 • solve number problems and practical problems that involve all of the above	**Unit 1: Place value within 10,000,000** • read, write, order and compare numbers up to 10,000,000 and determine the value of each digit • solve number and practical problems that involve all of the above • round any whole number to a required degree of accuracy • use negative numbers in context, and calculate intervals across zero	**8**

Unit 3: Addition and subtraction • add and subtract whole numbers with more than 4 digits, including using formal written methods (columnar addition and subtraction) • use rounding to check answers to calculations and determine, in the context of a problem, levels of accuracy • add and subtract numbers mentally with increasingly large numbers • solve addition and subtraction multi-step problems in context, deciding which operations and methods to use and why • estimate and use inverse operations to check answers to a calculation	**Unit 9: Algebra** • generate and describe linear number sequences • use simple formulae • express missing number problems algebraically • use simple formulae • find pairs of numbers that satisfy an equation with two unknowns • enumerate possibilities of combinations of two variables	**10**

Unit 5: Multiplication and division (1) • identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers • solve problems involving multiplication and division, including using their knowledge of factors and multiples, squares and cubes • 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 cube numbers, and the notation for squared (^{2}) and cubed (^{3}), identify multiples and factors, including finding all factor pairs of a number, and common factors of two numbers • solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates • multiply and divide whole numbers and those involving decimals by 10, 100 and 1,000	**Unit 3: Four operations (2)** • identify common factors, common multiples and prime numbers • recognise and use square numbers and cube numbers, and the notation for squared (^{2}) and cubed (^{3}) (Year 5) • use their knowledge of the order of operations to carry out calculations involving the four operations • perform mental calculations, including with mixed operations and large numbers • solve problems involving addition, subtraction, multiplication and division	**10**

Unit 7: Multiplication and division (2) • multiply and divide numbers mentally drawing upon known facts • multiply numbers up to 4 digits by a one- or two-digit number using a formal written method, including long multiplication for two-digit numbers • divide numbers up to 4 digits by a one-digit number using the formal written method of short division and interpret remainders appropriately for the context	**Unit 2: Four operations (1)** • solve addition and subtraction multi-step problems in context, deciding which operations and methods to use and why • multiply multi-digit numbers up to 4 digits by a two-digit whole number using the formal written method of long multiplication • divide numbers up to 4 digits by a two-digit number using the formal written method of short division, where appropriate, interpreting remainders according to the context divide numbers up to 4 digits by a two-digit whole number using the formal written method of long division, and interpret remainders as whole number remainders, fractions or by rounding, as appropriate for the context	**11**

Unit 8: Fractions (1) • identify, name and write equivalent fractions of a given fraction, represented visually, including tenths and hundredths • recognise mixed numbers and improper fractions and convert from one form to the other • and write mathematical statements > 1 as a mixed number [for example, 2/5 + 4/5 = 6/5 = 1 1/5] • compare and order fractions whose denominators are all multiples of the same number	**Unit 4: Fractions (1)** • use common factors to simplify fractions; use common multiples to express fractions in the same denomination • compare and order fractions, including fractions > 1 • add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions	**12**

Year 5	Year 6	Number of lessons
Spring Term		**59**
Unit 9: Fractions (2) • add and subtract fractions with the same denominator and denominators that are multiples of the same number • recognise mixed numbers and improper fractions and convert from one form to the other • and write mathematical statements > 1 as a mixed number [for example, 2/5 + 4/5 = 6/5 = 1 1/5]	**Unit 14: Problem solving lessons 1-6; 9-11** • 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 • solve addition and subtraction multi-step problems in context, deciding which operations and methods to use and why • use knowledge of the order of operations to carry out calculations involving the four operations • solve problems involving unequal sharing and grouping using knowledge of fractions and multiples • solve problems involving the relative sizes of two quantities where missing values can be found by using integer multiplication and division facts	**21**

Unit 10: Fractions (3) • multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams • recognise mixed numbers and improper fractions and convert from one form to the other • write mathematical statements > 1 as a mixed number [for example, 2/5 + 4/5 = 6/5 = 1 1/5]	**Unit 5: Fractions (2)** • multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams • multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, 1/4 × 1/2 = 1/8] • divide proper fractions by whole numbers [for example, 1/3 ÷ 2 = 1/6] • add and subtract fractions with different denominators and mixed numbers, using the concept of equivalent fractions • use their knowledge of the order of operations to carry out calculations involving the four operations • use written division methods in cases where the answer has up to two decimal places	

Unit 11: Decimals and percentages • read, write, order and compare numbers with up to three decimal places • recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents • round decimals with two decimal places to the nearest whole number and to one decimal place • recognise the per cent symbol (%) and understand that per cent relates to 'number of parts per hundred', • write percentages as fractions with a denominator of 100, and as decimals	**Unit 8: Percentages** • recall and use equivalences between simple fractions, decimals and percentages, including in different contexts • solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison • multiply simple pairs of proper fractions, writing the answer in its simplest form [for example, 1/4 × 1/2 = 1/8] • multiply one-digit numbers with up to two decimal places by whole numbers • compare and order fractions, including fractions > 1 • solve problems that require answers to be rounded to specified degrees of accuracy • solve problems involving the calculation of percentages [for example, of measures, and such as 15% of 360] and the use of percentages for comparison	**12**

Unit 12: Decimals • add and subtract decimals with up to three decimal places • solve problems involving addition and subtraction of decimals • use addition and subtraction to complete decimal sequences • multiply and divide decimals and whole numbers by 10, 100 and 1,000	**Unit 7: Decimals** • identify the value of each digit in numbers given to three decimal places and multiply and divide numbers by 10, 100 and 1,000 giving answers up to three decimal places • associate a fraction with division and calculate decimal fraction equivalents [for example, 0·375] for a simple fraction [for example, 3/8] • use written division methods in cases where the answer has up to two decimal places • multiply one-digit numbers with up to two decimal places by whole numbers • solve problems that require answers to be rounded to specified degrees of accuracy	**15**
	Unit 14: Problem solving Lessons 7-8 • use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy • recall and use equivalences between simple fractions, decimals and percentages, including in different contexts	

Unit 6: Area and perimeter • measure and calculate the perimeter of composite rectilinear shapes in centimetres and metres • calculate and compare the area of rectangles (including squares), and including using standard units, square centimetres (cm^2) and square metres (m^2) and estimate the area of irregular shapes	**Unit 11: Perimeter. Area and volume** • recognise that shapes with the same areas can have different perimeters and vice versa • 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 (cm^3) and cubic metres (m^3), and extending to other units [for example, mm^3 and km^3]	**11**
Unit 17: Measure – volume and capacity • estimate volume [for example, using 1 cm^3 blocks to build cuboids (including cubes)] and capacity [for example, using water]		

Year 5	Year 6	Number of lessons
Summer term		**38**
Unit 4: Graphs and tables • complete, read and interpret information in tables, including timetables • solve comparison, sum and difference problems using information presented in a line graph	**Unit 15: Statistics** • calculate and interpret the mean as an average • interpret and construct pie charts and line graphs and use these to solve problems	**10**

Unit 16: Measure – converting units • convert between different units of metric measure (for example, kilometre and metre; centimetre and metre; centimetre and millimetre; gram and kilogram; litre and millilitre) • use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling • understand and use approximate equivalences between metric units and common imperial units such as inches, pounds and pints • solve problems involving converting between units of time	**Unit 10: Measure – imperial and metric** • use, read, write and convert between standard units, converting measurements of length, mass, volume and time from a smaller unit of measure to a larger unit, and vice versa, using decimal notation up to three decimal places • solve problems involving the calculation and conversion of units of measure, using decimal notation up to three decimal places, where appropriate • convert between miles and kilometres	**9**

Unit 13: Geometry – properties of shapes (1)
• identify:
  ○ angles at a point and one whole turn (total 360°)
  ○ angles at a point on a straight line and 1/2 a turn (total 180°)
  ○ other multiples of 90°
• know angles are measured in degrees; estimate and compare acute, obtuse and reflex angles
	Unit 13: Geometry – properties of shapes
	• draw 2D shapes using given dimensions and angles
	• compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals and regular polygons
		12

• draw given angles, and measure them in degrees (°)
• use the properties of rectangles to deduce related facts and find missing lengths and angles
 	
Unit 14: Geometry – properties of shapes (2)
 	
• identify:
  ○ angles at a point and one whole turn (total 360°)
  ○ angles at a point on a straight line and 1/2 a turn (total 180°)
  ○ other multiples of 90°
• draw given angles, and measure them in degrees (°)
• use the properties of rectangles to deduce related facts and find missing lengths and angles
• distinguish between regular and irregular polygons based on reasoning about equal sides and angles
• identify 3D shapes, including cubes and other cuboids, from 2D representations
• identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed
	• recognise angles where they meet at a point, are on a straight line or are vertically opposite, and find missing angles
	• illustrate and name parts of circles, including radius, diameter and circumference and know that the diameter is twice the radius
	• recognise, describe and build simple 3D shapes, including making nets
	• identify 3D shapes, including cubes and other cuboids, from 2D representations	

Unit 15: Geometry – position and direction • identify, describe and represent the position of a shape following a reflection or translation, using appropriate language, and know that the shape has not changed	**Unit 6: Geometry – position and direction** • 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	**4**

Investigations and consolidation **Problem solving activities** **Where appropriate, begin the Year 6 schemes of work**	**Unit 14: Problem solving Lessons 12-14** • use estimation to check answers to calculations and determine, in the context of a problem, an appropriate degree of accuracy • describe positions on the full coordinate grid (all four quadrants) • recognise angles where they meet at a point, are on a straight line, or are vertically opposite, and find missing angles • compare and classify geometric shapes based on their properties and sizes and find unknown angles in any triangles, quadrilaterals, and regular polygons	**3**