MathsBeat

Term 1

Unit	NC objectives	Content
Unit 1: Number and place value	• Count in multiples of 6, 7, 9, 25 and 1000. • Find 1000 more or less than a given number. • Recognize the place value of each digit in a 4-digit number (thousands, hundreds, tens, and ones). • Identify, represent and estimate numbers using different representations. • Round any number to the nearest 10, 100 or 1000.	**Week 1: Represent and round numbers up to 10 000** • Identify and represent numbers using different representations. • Find 1000 more or less than a given number. • Count in multiples of 25 and 1000. • Round any number to the nearest 1000. • Round any number to the nearest 100 or 10.
		Week 2: Read, write and compare numbers up to 10 000 • Recognize the place value of each digit in a 4-digit number (thousands, hundreds, tens and ones). • Order and compare numbers beyond 1000. • Identify and represent numbers using different representations.
Unit 2: Addition and subtraction	• Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate. • Estimate and use inverse operations to check answers to a calculation. • Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.	**Week 3: Reasoning and problem-solving with addition (3-digit numbers)** • Add numbers with up to 4 digits using the formal written methods of columnar addition where appropriate. • Estimate answers to a calculation. • Solve addition two-step problems in contexts, deciding which operations and methods to use and why.
		Week 4: Reasoning and problem-solving with addition and subtraction (3-digit numbers) • Subtract numbers with up to 4 digits using the formal written methods of columnar subtraction where appropriate. • Estimate answers to a calculation. • Use inverse operations to check answers to a calculation. • Solve addition two-step problems in contexts, deciding which operations and methods to use and why. • Solve subtraction two-step problems in contexts, deciding which operations and methods to use and why.
Unit 3: Geometry: properties of shapes	• Compare and classify geometric shapes, including quadrilaterals and triangles, based on their properties and sizes.	**Week 5: Making and comparing 2D shapes** • Compare and classify geometric shapes, including quadrilaterals, based on their properties and sizes.

	• Identify lines of symmetry in 2D shapes presented in different orientations. • Complete a simple symmetric figure with respect to a specific line of symmetry.	• Compare and classify geometric shapes, including triangles, based on their properties and sizes.
		Week 6: Making symmetrical shapes • Identify lines of symmetry in 2D shapes presented in different orientations. • Complete a simple symmetric figure with respect to a specific line of symmetry.
Unit 4: Multiplication and division	• Recall multiplication and division facts for multiplication tables up to 12 × 12. • Multiply 2-digit and 3-digit numbers by a 1-digit number using formal written layout. • Solve problems involving multiplying and adding, including using the distributive law to multiply 2-digit numbers by one digit, integer scaling problems and harder correspondence problems such as *n* objects are connected to *m* objects.	**Week 7: Making connections between multiplication facts** • Recall and use multiplication and division facts for the 2, 4, 8, 10 and 5 multiplication tables. • Recall and use multiplication and division facts for the 3, 6, 9, 11, 12 and 7 multiplication tables.
		Week 8: Multiplying larger numbers • Multiply 2-digit numbers by a 1-digit number using formal written layout. • Solve problems involving multiplying and adding, including using the distributive law to multiply 2-digit numbers by one digit.
Unit 5: Fractions	• Count up and down in hundredths; recognize that hundredths arise when dividing an object by one hundred and dividing tenths by ten. • Recognize and write decimal equivalents of any number of tenths or hundredths. • Recognize and write decimal equivalents to ¼, ½ and ¾. • Round decimals with one decimal place to the nearest whole number. • Compare numbers with the same number of decimal places up to two decimal places. • Solve simple measure and money problems involving fractions and decimals to two decimal places.	**Week 9: Decimals as numbers** • Count up and down in hundredths. • Recognize that hundredths arise when dividing an object by one hundred and dividing tenths by ten. • Recognize and write decimal equivalents of any number of tenths or hundredths. • Recognize and write decimal equivalents to ¼, ½ and ¾. • Round decimals with one decimal place to the nearest whole number. • Compare numbers with the same number of decimal places up to two decimal places. • Solve simple measure and money problems involving fractions and decimals to two decimal places.
		Week 10: Decimals in context • Solve simple measure and money problems involving fractions and decimals to two decimal places. • Compare numbers with the same number of decimal places up to two decimal places.
Unit 6: Measurement	• Convert between different units of measure (e.g kilometre to metre; hour to minute).	**Week 11: Solving problems involving mixed measures** • Convert between different units of measure (e.g. kilometre to metre; millilitre to litre).

• Estimate, compare and calculate different measures, including money in pounds and pence. • Read, write and convert time between analogue and digital 12- and 24-hour clocks • Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.	• Estimate, compare and calculate different measures.
	Week 12: Solving problems involving time • Read, write and convert time between analogue and digital 12- and 24-hour clocks. • Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.
ASSESSMENT AND CONSOLIDATION	

Term 2

Unit	NC objectives	Content
Unit 7: Number and place value	• Count in multiples of 6, 7, 9, 25 and 1000. • Count backwards through zero to include negative numbers. • Round any number to the nearest 10, 100 or 1000. • Solve number and practical problems that involve all of the above and with increasingly large positive numbers.	**Week 1: Rounding and solving word problems with our counting skills** • Count in multiples of 6, 7, 9. • Count backwards through zero to include negative numbers. • Round any number to the nearest 10 or 100. • Round any number to the nearest 1000. • Solve number and practical problems that involve all of the above and with increasingly large positive numbers.
Unit 8: Addition and subtraction	• Add and subtract numbers with up to 4 digits using the formal written methods of columnar addition and subtraction where appropriate. • Estimate and use inverse operations to check answers to a calculation. • Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.	**Week 2: Reasoning and problem solving with addition (4-digit numbers)** • Add numbers with up to four digits using the formal written methods of columnar addition where appropriate. • Estimate answers to a calculation. • Solve addition two-step problems in contexts, deciding which operations and methods to use and why.
		Week 3: Reasoning and problem solving with addition and subtraction (4-digit numbers) • Subtract numbers with up to four digits using the formal written methods of columnar subtraction where appropriate. • Estimate answers to a calculation. • Use inverse operations to check answers to a calculation. • Solve addition two-step problems in contexts, deciding which operations and methods to use and why. • Solve subtraction two-step problems in contexts, deciding which operations and methods to use and why.
Unit 9: Geometry: position and direction	• Describe positions on a 2D grid as coordinates in the first quadrant. • Describe movements between positions as translations of a given unit to the left/right and up/down.	**Week 4: Positions and translations on coordinate grids of labelled squares** • Describe positions on a 2D grid as coordinates in the first quadrant (on coordinate grids with the spaces between the grid lines labelled). • Describe movements between positions as translations of a given unit to the left/right and up/down (on coordinate grids with the spaces between the grid lines labelled).

Unit 10: Measurement	• Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres. • Find the area of rectilinear shapes by counting squares .	**Week 5: Area and perimeter of rectangles and rectilinear shapes** • Measure and calculate the perimeter of a rectilinear figure (including squares) in centimetres and metres. • Find the area of rectilinear shapes by counting squares.
Unit 11: Multiplication and division	• Recall multiplication and division facts for multiplication tables up to 12 × 12. • Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers. • Recognize and use factor pairs and commutativity in mental calculations. • Multiply 2-digit and 3-digit numbers by a 1-digit number using formal written layout. • Solve problems involving multiplying and adding, including using the distributive law to multiply 2-digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.	**Week 6: Developing multiplication strategies** • Recall and use multiplication and division facts for the 2, 4, 8, 10 and 5 multiplication tables. • Recall and use multiplication and division facts for the 3, 6, 9, 11, 12 and 7 multiplication tables. • Use place value, known and derived facts to multiply and divide mentally, including: multiplying by 0 and 1; dividing by 1; multiplying together three numbers. • Recognize and use factor pairs in mental calculations.
		Week 7: Using the distributive law • Multiply 2-digit numbers by a 1-digit number using formal written layout. • Multiply 3-digit numbers by a 1-digit number using formal written layout. • Solve problems involving multiplying and adding, including using the distributive law to multiply 2-digit numbers by one digit.
Unit 12: Fractions	• Recognize and show, using diagrams, families of common equivalent fractions. • Add and subtract fractions with the same denominator.	**Week 8: Are these fractions equal?** • Recognize and show, using diagrams, families of common equivalent fractions.
		Week 9: Adding and subtracting fractions with the same denominator (within and beyond one whole) • Add fractions with the same denominator. • Subtract fractions with the same denominator.
Unit 13: 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 and tables.	**Week 10: Representing and summarizing data collected over time** • 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 and tables.
ASSESSMENT AND CONSOLIDATION		

Term 3

Unit	NC objectives	Content
Unit 14: Number and place value	• Order and compare numbers beyond 1000. • Identify, represent and estimate numbers using different representations. • Solve number and practical problems that involve all of the above and with increasingly large positive numbers.	**Week 1: Comparing and ordering numbers** • Order and compare numbers beyond 1000. • Identify, represent and estimate numbers using different representations. • Solve number and practical problems that involve ordering and comparing, and with increasingly large positive numbers.
Unit 15: Measurement	• Convert between different units of measure (e.g. kilometre to metre; hour to minute). • Estimate, compare and calculate different measures, including money in pounds and pence. • Read, write and convert time between analogue and digital 12-and 24-hour clocks. • Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.	**Week 2: Converting between units of measurement and solving problems** • Convert between different units of measure (e.g. kilometre to metre; millilitre to litre). • Convert hours to minutes and vice versa. • Estimate, compare and calculate different measures. • Estimate, compare and calculate money in pounds and pence. • Read, write and convert time between analogue and digital 12- and 24-hour clocks. • Solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.
Unit 16: Addition and subtraction	• Add and subtract numbers with up to four digits using the formal written methods of columnar addition and subtraction where appropriate. • Estimate and use inverse operations to check answers to a calculation. • Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why.	**Week 3: Reasoning and problem solving with addition and subtraction** • Add numbers with up to four digits using the formal written methods of columnar addition where appropriate. • Subtract numbers with up to four digits using the formal written methods of columnar subtraction where appropriate. • Estimate answers to a calculation. • Use inverse operations to check answers to a calculation. • Solve addition two-step problems in contexts, deciding which operations and methods to use and why. • Solve subtraction two-step problems in contexts, deciding which operations and methods to use and why.
Unit 17: Multiplication and division	• Recognize and use factor pairs and commutativity in mental calculations.	**Week 4: Factors and commutativity**

	• Solve problems involving multiplying and adding, including using the distributive law to multiply 2-digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.	• Solve problems involving multiplying and adding, including using the distributive law to multiply 2- digit numbers by one digit. • Recognize and use factor pairs in mental calculations. • Recognize and use commutativity in mental calculations.
Unit 18: Geometry: properties of shapes	• Identify acute and obtuse angles and compare and order angles up to two right angles by size.	**Week 5: Identifying, ordering and comparing angles** • Identify acute and obtuse angles. • Compare and order angles up to two right angles by size.
Unit 19: 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.	**Week 6: Collecting, representing and summarizing data** • 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 and tables. • Solve comparison, sum and difference problems using information presented in other graphs.
Unit 20: Geometry: position and direction	• Describe positions on a 2D grid as coordinates in the first quadrant. • Describe movements between positions as translations of a given unit to the left/right and up/down. • Plot specified points and draw sides to complete a given polygon.	**Week 7: Using coordinate grids** • Describe positions on a 2D grid as coordinates in the first quadrant (on coordinate grids with the grid lines labelled). • Describe movements between positions as translations of a given unit to the left/right and up/down (on coordinate grids with the grid lines labelled). • Plot specified points and draw sides to complete a given polygon (on coordinate grids with the grid lines labelled).
Unit 21: Fractions	• Solve problems involving increasingly harder fractions to calculate quantities, and fractions to divide quantities, including non-unit fractions where the answer is a whole number. • Find the effect of dividing a 1- or 2-digit number by 10 and 100, identifying the value of the digits in the answer as ones, tenths and hundredths.	**Week 8: Calculating fractional amounts of a whole** • Solve problems involving increasingly harder fractions to calculate quantities. • Solve problems involving fractions to divide quantities, including non-unit fractions where the answer is a whole number.
		Week 9: Decimals and dividing by 10 or 100 • Find the effect of dividing a 1- or 2-digit number by 10, identifying the value of the digits in the answer as ones and tenths. • Find the effect of dividing a 1- or 2-digit number by 100, identifying the value of the digits in the answer as tenths and hundredths.

Unit 22: Problem solving	• Solve addition and subtraction two-step problems in contexts, deciding which operations and methods to use and why. • Solve problems involving multiplying and adding, including using the distributive law to multiply 2-digit numbers by one digit, integer scaling problems and harder correspondence problems such as n objects are connected to m objects.	**Week 10: Problem solving in contexts** • Solve addition two-step problems in contexts, deciding which operations and methods to use and why. • Solve subtraction two-step problems in contexts, deciding which operations and methods to use and why. • Solve problems involving multiplying and adding, including using the distributive law to multiply 2-digit numbers by one digit. • Solve integer scaling problems and harder correspondence problems, such as *n* objects are connected to *m* objects.
ASSESSMENT AND CONSOLIDATION		