Maths Curriculum 2014 - Year 3 Medium Term Planning

Unit 3.1: Number and place value up to 1000

Topic	Key Concepts	Strand	Notes/Non-statutory guidance
Number and place value	read and write numbers up to 1000 in numerals and in words	Number	Pupils now use multiples of 2, 3, 4, 5, 8, 10, 50 and 100. They use larger numbers to at least 1000, applying partitioning related to place value using varied and increasingly complex problems, building on work in year 2 (for example, 146 = 100 + 40 and 6, 146 = 130 + 16). Using a variety of representations, including those related to measure, pupils continue to count in ones, tens and hundreds, so that they become fluent in the order and place value of numbers to 1000.
Number and place value	recognise the place value of each digit in a three-digit number (hundreds, tens, ones)	Number	
Number and place value	compare and order numbers up to 1000	Number	
Number and place value	identify, represent and estimate numbers using different representations	Number	
Number and place value	solve number problems and practical problems involving these ideas	Number	

Unit 3.2: Adding and Subtracting with 3-digit Numbers

Topic	Key Concepts	Strand	Notes/Non-statutory guidance
Addition and Subtraction	add and subtract numbers mentally, including a three digit number and ones; a three-digit number and tens; a three-digit number and hundreds	Number	Pupils practise solving varied addition and subtraction questions. For mental calculations with two-digit numbers, the answers could exceed 100. Pupils use their understanding of place value and partitioning, and practise using columnar addition and subtraction with increasingly large numbers up to three digits to become fluent (see Mathematics Appendix 1).
Addition and Subtraction	add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction	Number	

Unit 3.3: Calculating with Money and Measures

Topic	Key Concepts	Strand	Notes/Non-statutory guidance
Distance, Capacity, Time And Money	add and subtract amounts of money to give change, using both £ and p in practical contexts	Geometry And Measures	measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) add and subtract amounts of money to give change, using both £ and p in practical contexts Pupils' knowledge of the properties of shapes is extended at this stage to symmetrical and non-symmetrical polygons and polyhedra. Pupils extend their use of the properties of shapes. They should be able to describe the properties of 2-D and 3-D shapes using accurate language, including lengths of lines and acute and obtuse for angles greater or lesser than a right angle. Pupils connect decimals and rounding to drawing and measuring straight lines in centimetres, in a variety of contexts.
Distance, Capacity, Time And Money	measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)	Geometry And Measures	
Distance, Capacity, Time And Money	measure the perimeter of simple 2-D shapes	Geometry And Measures	

Unit 3.4: Adding, Subtracting and Comparing Fractions

Topic	Key Concepts	Strand	Notes/Non-statutory guidance
Number and place value	count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number	Number	Pupils connect tenths to place value, decimal measures and to division by 10. They begin to understand unit and non-unit fractions as numbers on the number line, and deduce relations between them, such as size and equivalence. They should go beyond the [0, 1] interval, including relating this to measure. Pupils understand the relation between unit fractions as operators (fractions of), and division by integers. They continue to recognise fractions in the context of parts of a whole, numbers, measurements, a shape, and unit fractions as a division of a quantity. Pupils practise adding and subtracting fractions with the same denominator through a variety of increasingly complex problems to improve fluency.
Fractions	count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts and in dividing one-digit numbers or quantities by 10	Number	
Fractions	recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators	Number	
Fractions	add and subtract fractions with the same denominator within one whole (e.g. 5/7 + 1/7 = 6/7)	Number	
Fraction	compare and order unit fractions, and fractions with the same denominators	Number	

Unit 3.5: Using time accurately.

Topic	Key Concepts	Strand	Notes/Non-statutory guidance
Distance, Capacity, Time And Money	tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12- hour and 24- hour clocks	Geometry And Measures	Pupils use both analogue and digital 12-hour clocks and record their times. In this way they become fluent in and prepared for using digital 24-hour clocks in year 4.
Distance, Capacity, Time And Money	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, a.m./p.m., morning, afternoon, noon and midnight	Geometry And Measures	

Unit 3.6: Quick Recall and Use of Multiplication and Division Facts

Topic	Key Concepts	Strand	Notes/Non-statutory guidance
Multiplication and Division	write and calculate mathematical statements for multiplication and division using the multiplication tables that they know, including for two-digit numbers times one-digit numbers, using mental and progressing to formal written methods	Number	Pupils continue to practise their mental recall of multiplication tables when they are calculating mathematical statements in order to improve fluency. Through doubling, they connect the 2, 4 and 8 multiplication tables. Pupils develop efficient mental methods, for example, using commutativity and associativity (for example, $4 \times 12 \times 5 = 4 \times 5 \times 12 = 20 \times 12 = 240$) and multiplication and division facts (for example, using $3 \times 2 = 6$, $6 \div 3 = 2$ and $2 = 6 \div 3$) to derive related facts (for example, $30 \times 2 = 60$, $60 \div 3 = 20$ and $20 = 60 \div 3$). Pupils develop reliable written methods for multiplication and division, starting with calculations of two-digit numbers by one-digit numbers and progressing to the formal written methods of short multiplication and division. Pupils solve simple problems in contexts, deciding which of the four operations to use and why. These include measuring and scaling contexts, (for example, four times as high, eight times as long etc.) and correspondence problems in which m objects are connected to n objects (for example, 3 hats and 4 coats, how many different outfits?; 12 sweets shared equally between 4 children; 4 cakes shared equally between 8 children).
Multiplication and Division	recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables	Number	

Unit 3.7: Interpreting and Presenting Data

Topic	Key Concepts	Strand	Notes/Non-statutory guidance
Interpreting data	interpret and present data using bar charts, pictograms and tables	Probability and statistics	Pupils understand and use simple scales (for example, 2, 5, 10 units per cm) in pictograms and bar charts with increasing accuracy. They continue to interpret data presented in many contexts.
Interpreting data	solve one-step and two-step questions such as "How many more? and How many fewer" using information presented in scaled bar charts and pictograms and tables	Probability and statistics	

Unit 3.8: Angles, Lines and Shapes

Topic	Key Concepts	Strand	Notes/Non-statutory guidance
Properties of shape	recognise angles as a property of shape or a description of a turn	Geometry and Measures	Pupils' knowledge of the properties of shapes is extended at this stage to symmetrical and non-symmetrical polygons and polyhedra. Pupils extend their use of the properties of shapes. They should be able to describe the properties of 2-D and 3-D shapes using accurate language, including lengths of lines and acute and obtuse for angles greater or lesser than a right angle. Pupils connect decimals and rounding to drawing and measuring straight lines in centimetres, in a variety of contexts.
Properties of shape	identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn; identify whether angles are greater than or less than a right angle	Geometry and Measures	
Properties of shape	identify horizontal and vertical lines and pairs of perpendicular and parallel lines	Geometry and Measures	
Properties of shape	draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them	Geometry and Measures	

Unit 3.9: Calendars and Time

Topic	Key Concepts	Strand	Notes/Non-statutory guidance
Distance, Capacity, Time And Money	know the number of seconds in a minute and the number of days in each month, year and leap year	Geometry and Measures	Pupils use both analogue and digital 12-hour clocks and record their times. In this way they become fluent in and prepared for using digital 24-hour clocks in year 4.
Distance, Capacity, Time And Money	compare durations of events, for example to calculate the time taken by particular events or tasks	Geometry and Measures	

Unit 3.10: Working with the Four Operations

Topic	Key Concepts	Strand	Notes/Non-statutory guidance
Addition and Subtraction	solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction	Number	Pupils practise solving varied addition and subtraction questions. For mental calculations with two-digit numbers, the answers could exceed 100. Pupils use their understanding of place value and partitioning, and practise using columnar addition and subtraction with increasingly large numbers up to three digits to become fluent (see Mathematics Appendix 1).
Multiplication and Division	solve problems, including missing number problems, involving multiplication and division, including integer scaling problems and correspondence problems in which objects are connected to m objects.	Number	Pupils develop reliable written methods for multiplication and division, starting with calculations of two-digit numbers by one-digit numbers and progressing to the formal written methods of short multiplication and division. Pupils solve simple problems in contexts, deciding which of the four operations to use and why. These include measuring and scaling contexts, (for example, four times as high, eight times as long etc.) and correspondence problems in which m objects are connected to n objects (for example, 3 hats and 4 coats, how many different outfits?; 12 sweets shared equally between 4 children; 4 cakes shared equally between 8 children).
Addition and Subtraction	estimate the answer to a calculation and use inverse operations to check answers	Number	

			Pupils practise solving varied addition and subtraction questions. For mental calculations with two-digit numbers, the answers could exceed 100. Pupils use their understanding of place value and partitioning, and practise using columnar addition and subtraction with increasingly large numbers up to three digits to become fluent (see Mathematics Appendix 1).

Unit 3.11: Working with Non-Unit Fractions and Small Denominators

Topic	Key Concepts	Strand	Notes/Non-statutory guidance
Fractions	recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators	Number	Pupils connect tenths to place value, decimal measures and to division by 10. They begin to understand unit and non-unit fractions as numbers on the number line, and deduce relations between them, such as size and equivalence. They should go beyond the [0, 1] interval, including relating this to measure. Pupils understand the relation between unit fractions as operators (fractions of), and division by integers. They continue to recognise fractions in the context of parts of a whole, numbers, measurements, a shape, and unit fractions as a division of a quantity. Pupils practise adding and subtracting fractions with the same denominator through a variety of increasingly complex problems to improve fluency.
Fractions	recognise and show, using diagrams, equivalent fractions with small denominators	Number	
Fractions	solve problems that involve all of the above	Number	