

Cycle 1	Cycle 2	Cycle 3
<p>Number and Place Value</p> <ul style="list-style-type: none"> count in multiples of 4, 8, 50, 100 (Y3) and <u>6</u> find 10, 100 or 1000 more or less than a given number count backwards through zero to include negative numbers recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) compare numbers beyond 1000 identify, represent and estimate numbers using different representations round any number to the nearest 10 (two-digit numbers) solve number and practical problems that involve all of the above and with increasingly large positive numbers 	<p>Number and Place Value</p> <ul style="list-style-type: none"> count in multiples of 4, 8, 50, 100 (Y3) , 6 and <u>9</u>. find 10, 100 or 1000 more or less than a given number – including crossing 10's and 100's boundaries. count backwards through zero to include negative numbers recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) order and compare numbers beyond 1000 identify, represent and estimate numbers using different representations 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 	<p>Number and Place Value</p> <ul style="list-style-type: none"> count in multiples of 6, <u>7</u>, 9, <u>25</u> and 1000 find 10, 100 or 1000 more or less than a given number – including crossing 10's,100's and 100's boundaries. count backwards through zero to include negative numbers recognise the place value of each digit in a four-digit number (thousands, hundreds, tens, and ones) order and compare numbers beyond 1000 identify, represent and estimate numbers using different representations 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

Key learning – ch able to count in 25s for reading scales, reasoning about measures, %.

Delivered through Roman topic - 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.

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<p>Addition and Subtraction</p> <ul style="list-style-type: none"> • know pairs which total 100. (Y2) • add and subtract up to 3 digit numbers mentally and using written methods. • Add and subtract a mix of numbers – 3-digit, 2-digit and single digit. (FJS) • Add more than two numbers. (FJS) • Decide if a calculation can be done mentally or requires a written method. (FJS) • 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. 	<p>Addition and Subtraction</p> <ul style="list-style-type: none"> • add and subtract numbers with up to 4 digits using a written method if 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. 	<p>Addition and Subtraction</p> <ul style="list-style-type: none"> • add and subtract numbers with up to 4 digits using a written method if 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.

Non-Statutory Guidance:

Pupils continue to practise both mental and written methods with increasingly large numbers to aid fluency.

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<p>Multiplication and Division</p> <ul style="list-style-type: none"> recall multiplication and division facts for <u>x6</u>, 2,3,4,5,8 and 10. Use commutativity in mental calculations use place value, known and derived facts to multiply and divide mentally, by 1, 0 , 10. (FJS & Y4/5) multiply two-digit by a one-digit number using a written method. Understand and find factors of given numbers. Divide a 2-digit number by a single digit – using practical equipment and introducing written method. Solve multiplication and division problems. 	<p>Multiplication and Division</p> <ul style="list-style-type: none"> recall multiplication and division facts for <u>x9</u>, 2,3,4,5,6,8 and 10. use place value, known and derived facts to multiply and divide mentally, by 1, 0 , 10. (FJS & Y4/5) multiply two-digit and three-digit numbers by a one-digit number using a written method. Understand and find factors of given numbers. Divide a 2-digit number by a single digit using a written method if appropriate. solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects. 	<p>Multiplication and Division</p> <ul style="list-style-type: none"> recall multiplication and division facts for <u>x7</u> and all multiplication tables up to 10×10 use place value, known and derived facts to multiply and divide mentally, by 1, 0 , 10. (FJS & Y4/5) multiply two-digit and three-digit numbers by a one-digit number using a written method. recognise and use factor pairs and commutativity in mental calculations Divide a 2-digit number by a single digit using a written method if appropriate. solve problems, including missing number problems, involving multiplication and division, including positive integer scaling problems and correspondence problems in which n objects are connected to m objects.

Notes and guidance (non-statutory)

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.

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).

Year 4	Cycle 1 Sept 2014-July 2015	Cycle 2	Cycle 3
<p>Fractions</p> <ul style="list-style-type: none"> recognise and show, using diagrams, families of common equivalent fractions – use factor and multiples. Revise counting in tenths. count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. recognise and write decimal equivalents of any number of tenths or hundredths and recognise the value of the digits. compare numbers with the same number of decimal places up to two decimal places Count in decimals Find a fraction of a quantity including non-unit fractions. add and subtract fractions with the same denominator Place fractions and decimals on a number line. solve simple measure and money problems involving fractions and decimals to two decimal places. 	<p>Fractions</p> <ul style="list-style-type: none"> recognise and show, using diagrams, families of common equivalent fractions– use factor and multiples. count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. recognise and write decimal equivalents of any number of tenths or hundredths and recognise the value of the digits. recognise and write decimal equivalents to $\frac{1}{2}$, $\frac{1}{4}$, $\frac{3}{4}$. compare numbers with the same number of decimal places up to two decimal places Count in decimals Find a fraction of a quantity including non-unit fractions. add and subtract fractions with the same denominator recognise and write decimal equivalents of any number of tenths or hundredths Order fractions and decimals, and place on a number line. solve simple measure and money problems involving fractions and decimals to two decimal places. 	<p>Fractions</p> <ul style="list-style-type: none"> recognise and show, using diagrams, families of common equivalent fractions– use factor and multiples. count up and down in hundredths; recognise that hundredths arise when dividing an object by one hundred and dividing tenths by ten. recognise and write decimal equivalents of any number of tenths or hundredths and recognise the value of the digits. recognise and write decimal equivalents to $\frac{1}{2}$, $\frac{1}{4}$, $\frac{3}{4}$. 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. Count in decimals Find a fraction of a quantity including non-unit fractions. add and subtract fractions with the same denominator Order fractions and decimals, and place on a number line. solve simple measure and money problems involving fractions and decimals to two decimal places. 	

Year 4	Cycle 1	Sept 2014-July 2015	Cycle 2	Cycle 3
	<p>Measures</p> <ul style="list-style-type: none"> • measure and calculate the perimeter of a simple regular shape. • estimate, compare, calculate, convert between different measures and solve problems for capacity, mass, length. • Add and subtract amounts of money to give change using both £ and p in practical contexts. (Y3) • Tell the time to the nearest minute.(Y3) • Convert between analogue and digital time. 		<p>Measures</p> <ul style="list-style-type: none"> • measure and calculate the perimeter of a simple rectilinear shapes which aren't all regular. • find the area of rectilinear shapes by counting squares • estimate, compare, calculate, convert between different measures and solve problems for capacity, mass, length. • Add and subtract amounts of money to give change using both £ and p in practical contexts. (Y3) • solve problems involving converting from hours to minutes; 	<p>Measures</p> <ul style="list-style-type: none"> • measure and calculate the perimeter of a simple rectilinear shape. • find the area of rectilinear shapes by counting squares • estimate, compare, calculate, convert between different measures and solve problems for capacity, mass, length. • Add and subtract amounts of money to solve two-step problems. (FJS) • solve problems involving converting from hours to minutes; minutes to seconds; years to months; weeks to days.

Non-statutory: Simple rectilinear shapes – an opportunity to develop the children’s skills of reasoning about a missing measurement.

Year 4	Cycle 1	Sept 2014-July 2015	Cycle 2	Cycle 3
<p>Geometry – properties of shape</p> <ul style="list-style-type: none"> • Compare and classify shapes using geometrical properties (parallel, perpendicular, angles) extending to classifying different quadrilaterals (for example, parallelogram, rhombus, trapezium). • identify acute and obtuse angles and compare and order angles up to two right angles by size • identify lines of symmetry in 2-D shapes presented in different orientations <p>Geometry – position and direction</p> <ul style="list-style-type: none"> • describe positions on a 2-D grid as coordinates in the first quadrant • plot specified points and draw sides to complete a given polygon. 	<p>Geometry– properties of shape</p> <ul style="list-style-type: none"> • Compare and classify shapes using geometrical properties, extending to classifying different triangles (for example, isosceles, equilateral, scalene) • identify acute and obtuse angles and compare and order angles up to two right angles by size • identify lines of symmetry in 2-D shapes presented in different orientations • complete a simple symmetric figure with respect to a specific line of symmetry. <p>Geometry – position and direction</p> <ul style="list-style-type: none"> • describe positions on a 2-D grid as coordinates in the first quadrant • plot specified points and draw sides to complete a given polygon. 	<p>Geometry– properties of shape</p> <ul style="list-style-type: none"> • Compare and classify shapes using geometrical properties, extending to classifying different triangles and quadrilaterals. • identify acute and obtuse angles and compare and order angles up to two right angles by size • identify lines of symmetry in 2-D shapes presented in different orientations • complete a simple symmetric figure with respect to a specific line of symmetry in different orientations and where the shape does not touch the line of symmetry. (Teach use of tracing paper and mirror) <p>Geometry – position and direction</p> <ul style="list-style-type: none"> • describe movements between positions as translations of a given unit to the left/right and up/down and state new coordinates. 		

Y3 and 4 simple 3D shape making thro topic – name 3D shapes and describe properties.

Cycle 1	Cycle 2	Cycle 3
<p>Statistics</p> <ul style="list-style-type: none"> • <u>interpret</u> and create discrete and continuous data using appropriate graphical methods, including <u>bar charts and time graphs</u> which use different scales • solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs. <p>(1 week maximum – + use of topic time to reinforce, extend etc)</p>	<p>Statistics</p> <ul style="list-style-type: none"> • <u>interpret</u> and create discrete and continuous data using appropriate graphical methods, including <u>bar charts and time graphs</u> which use different scales • solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs. <p>(1 week maximum – + use of topic time to reinforce, extend etc)</p>	<p>Statistics</p> <ul style="list-style-type: none"> • <u>interpret</u> and create discrete and continuous data using appropriate graphical methods, including <u>bar charts and time graphs</u> which use different scales • solve comparison, sum and difference problems using information presented in bar charts, pictograms, tables and other graphs. <p>(1 week maximum – + use of topic time to reinforce, extend etc)</p>

Non – statutory Guidance

Time graphs – pupils begin to relate the graphical representation of data to recording change over time.

Year 4

Sept 2014-July 2015