

UNIT	Maths topic	Learning objectives/expected outcomes	NC programmes of study
1	Number and place value (1)	<ul style="list-style-type: none"> • Count from and back to zero in single-digit steps or multiples of 10 • Partition two-digit numbers into multiples of 10 and 1 in different ways • Recognise the place value of each digit in a three-digit number • Read, write and order whole numbers to 1000 and position them on a number line <p><i>I can count on and back in tens from any number to 1000</i></p> <p><i>I can split a 2-digit number into tens and ones in different ways</i></p> <p><i>I can explain how the digits in a number change when I count in 10s or 100s</i></p> <p><i>I can read and write numbers to 1000 and put them in order on a number line</i></p>	<ul style="list-style-type: none"> • count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number • recognise the place value of each digit in a three-digit number (hundreds, tens, ones) • compare and order numbers up to 1000 • identify, represent and estimate numbers using different representations • read and write numbers up to 1000 in numerals and in words • solve number problems and practical problems involving these ideas
2	Addition and subtraction (1)	<ul style="list-style-type: none"> • Derive and recall all addition and subtraction facts for each number to 20, and sums and differences of multiples of 10 and 100 	<ul style="list-style-type: none"> • add and subtract numbers mentally, including: <ul style="list-style-type: none"> - a three-digit number and ones - a three-digit number and tens - a three-digit number and hundreds

		<ul style="list-style-type: none"> Use the inverse relationship between addition and subtraction to calculate the value of an unknown in a number sentence (e.g. $\square + 2 = 14$, $30 - \square = 24$) Use formal written methods to add and subtract two-digit numbers and three digit numbers Recognise the value of coins and add and subtract money, including giving change <p><i>I know and use addition and subtraction facts for all numbers to 20</i></p> <p><i>I can add and subtract multiples of 10 in my head</i></p> <p><i>I can add or subtract a one-digit number to or from a two-digit number</i></p> <p><i>I can work out the missing number in a number sentence such as $14 + \square = 35$</i></p> <p><i>I can add or subtract two-digit numbers</i></p>	<ul style="list-style-type: none"> add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction estimate the answer to a calculation and use inverse operations to check answers solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction add and subtract amounts of money to give change, using both £ and p in practical contexts
<p>3</p>	<p>Shape and symmetry (1)</p>	<ul style="list-style-type: none"> Draw 2-D shapes and make 3-D shapes using modelling materials Relate 2-D shapes and 3-D solids to drawings 	<ul style="list-style-type: none"> draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them

		<p>of them; describe, visualise and classify the shapes</p> <ul style="list-style-type: none"> Recognise, draw and complete shapes with reflective symmetry <p><i>I can name and describe 2-D and 3-D shapes</i></p> <p><i>I can recognise shapes from drawings</i></p> <p><i>I can recognise whether a 2-D shape is symmetrical or not and describe how I know</i></p> <p><i>I can draw a symmetrical shape</i></p>	
<p>4</p>	<p>Measures (1)</p>	<ul style="list-style-type: none"> Know the relationships between kilometres and metres, metres and centimetres, kilograms and grams, litres and millilitres Choose and use appropriate units to estimate, measure and record measurements Read, to the nearest division and half-division, scales that are numbered or partially numbered Read the time on a 12-hour digital clock and to the nearest 5 minutes on an analogue clock Compare durations of events and calculate the 	<ul style="list-style-type: none"> measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight know the number of seconds in a minute and the number of days in each month, year and leap year compare durations of events, for example to calculate the

		<p>time taken by particular events or tasks</p> <ul style="list-style-type: none"> • Know the number of seconds in a minute and the number of days in each month, year and leap year <p><i>I can suggest sensible units to measure lengths, mass and capacity</i></p> <p><i>I can use a ruler or a tape measure to measure a length to the nearest 1/2 cm</i></p> <p><i>I can read the time on a clock to the nearest 5 minutes</i></p> <p><i>I can find how long an activity takes if I know when it starts and when it ends</i></p>	<p>time taken by particular events or tasks</p>
<p>5</p>	<p>Multiplication and division (1)</p>	<ul style="list-style-type: none"> • Recall and use multiplication facts for the 2, 3, 4, 5 and 10 times-tables and the related division facts • Recognise multiples of 2, 3, 4, 5 and 10 beyond the 10th multiple • Understand that division is the inverse of multiplication and vice versa; use this to derive and record related multiplication and division number sentences • Use practical and informal written methods to 	<ul style="list-style-type: none"> • recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables • 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 • solve problems, including missing number problems, involving multiplication and division, including integer scaling problems and correspondence problems in which n objects are connected to m objects

		<p>multiply and divide two-digit numbers (e.g. 13×3, $48 \div 4$)</p> <p><i>I can give the multiplication fact that is linked to a division fact</i></p> <p><i>I know the 2, 3, 4, 5 and 10 times-tables</i></p> <p><i>I can use multiplication facts to answer division questions</i></p> <p><i>I can multiply a 'teen' number by 2, 3, 4, 5 or 6</i></p>	
<p>6</p>	<p>Fractions and decimals (1)</p>	<ul style="list-style-type: none"> Count up and down in tenths; recognise that tenths arise from dividing an object into 10 equal parts Recognise, find and write unit fractions of numbers and quantities (e.g. $1/2$, $1/3$, $1/4$ and $1/6$ of 12 litres) Read and write proper fractions (e.g. $3/7$, $9/10$), interpreting the denominator as the parts of a whole and the numerator as the number of parts <p><i>I can count up and down in tenths on a number line</i></p> <p><i>I can find $1/3$ and $1/4$ of different shapes and quantities</i></p>	<ul style="list-style-type: none"> 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 recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators solve problems that involve all of the above

		<i>I can find 1/2 or 1/4 of a measurement</i>	
7	Position, movement and angle (1)	<ul style="list-style-type: none"> • Recognise angles as a property of shape and associate angles with turning • Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn • Use the four compass directions to describe movement • Identify horizontal, vertical, perpendicular and parallel lines in relation to other lines. <p><i>I can follow and give instructions to make turns and movements around the classroom</i></p> <p><i>I can identify right angles in shapes</i></p> <p><i>I can say whether the angles of a 2-D shape are right angles or whether they are smaller or bigger</i></p> <p><i>I can identify and name different lines, using terms such as parallel, horizontal and vertical</i></p>	<ul style="list-style-type: none"> • recognise that angles are a property of shape or a description of a turn • 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 • identify horizontal and vertical lines and pairs of perpendicular and parallel lines
8	Shape and symmetry (2)	<ul style="list-style-type: none"> • Draw 2-D shapes and make 3-D shapes using modelling materials 	<ul style="list-style-type: none"> • draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them

		<ul style="list-style-type: none"> • Relate 2-D shapes and 3-D solids to drawings of them; describe, visualise and classify the shapes • Draw the reflection of a shape in a mirror line along one side <p><i>I can sort shapes into sets, saying what is the same about each of the shapes</i></p> <p><i>I can recognise whether a 2-D shape is symmetrical or not and describe how I know</i></p> <p><i>I can reflect a shape when the mirror line is one of its sides</i></p>	
<p>9</p>	<p>Fractions and decimals (2)</p>	<ul style="list-style-type: none"> • 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 • Read and write proper fractions (e.g. $\frac{3}{7}$, $\frac{9}{10}$), interpreting the denominator as the parts of a whole and the numerator as the number of parts • Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators • Use diagrams to recognise and show 	<ul style="list-style-type: none"> • 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 • recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators • recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators • recognise and show, using diagrams, equivalent fractions with small denominators • solve problems that involve all of the above

		<p>equivalent fractions</p> <p><i>I can find tenths by dividing an object into ten parts</i></p> <p><i>I can recognise what fraction of a shape is shaded, and say and write it</i></p> <p><i>I can find fractions of numbers</i></p> <p><i>I can use a diagram to show two equivalent fractions</i></p>	
<p>10</p>	<p>Measures (2)</p>	<ul style="list-style-type: none"> • Estimate, measure and compare lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) • Know the relationships between kilometres and metres, metres and centimetres, kilograms and grams, litres and millilitres • Read, to the nearest division and half-division, scales that are numbered or partially numbered • Estimate, read, record and compare times to the nearest 5 minutes, using analogue and digital clocks • Compare durations of events and calculate the time taken by particular events or tasks 	<ul style="list-style-type: none"> • measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) • tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks • estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight • know the number of seconds in a minute and the number of days in each month, year and leap year • compare durations of events, for example to calculate the time taken by particular events or tasks

		<p><i>I know which tools and units to use when I measure length, mass and capacity</i></p> <p><i>I can use scales to measure the mass of objects in kilograms and grams</i></p> <p><i>I can read the time on a clock and write the time using a.m. and p.m.</i></p>	
<p>11</p>	<p>Multiplication and division (2)</p>	<ul style="list-style-type: none"> • Recall and use multiplication facts for the 2, 3, 4, 5, 6 and 10 times-tables and the related division facts • Recognise multiples of 2, 3, 4, 5, 6 and 10 beyond the 10th multiple • Develop efficient mental methods to multiply larger numbers • Use reliable written methods to multiply and divide two-digit numbers (e.g. 23×3, $50 \div 4$) and round remainders up or down, depending on the context <p><i>I know the 2, 3, 4, 5, 6 and 10 times-tables</i></p> <p><i>I can multiply and divide a multiple of 10 by a one-digit number</i></p>	<ul style="list-style-type: none"> • recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables • 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 • solve problems, including missing number problems, involving multiplication and division, including integer scaling problems and correspondence problems in which n objects are connected to m objects

		<p><i>I can give the multiplication fact that is linked to a division fact</i></p> <p><i>I can use a written method to multiply a two-digit number by a one-digit number</i></p>	
<p>12</p>	<p>Number and place value (2)</p>	<ul style="list-style-type: none"> • Count on from and back to zero in single-digit steps or multiples of 10 and 100 • Partition three-digit numbers into multiples of 100, 10 and 1 in different ways • Read, write, compare and order whole numbers to at least 1000 • Round two-digit or three-digit numbers to the nearest 10 or 100 and give estimates for their sums and differences <p><i>I can find 10 or 100 more than a number</i></p> <p><i>I can split a number into hundreds, tens and ones</i></p> <p><i>I can explain how the digits in a number change when I count in 10s or 100s</i></p> <p><i>I can round numbers to the nearest 10 or 100 and estimate a sum or difference</i></p>	<ul style="list-style-type: none"> • count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number • recognise the place value of each digit in a three-digit number (hundreds, tens, ones) • compare and order numbers up to 1000 • identify, represent and estimate numbers using different representations • read and write numbers up to 1000 in numerals and in words • solve number problems and practical problems involving these ideas

		<p><i>I can read and write numbers to 1000 and put them in order</i></p>	
<p>13</p>	<p>Addition and subtraction (2)</p>	<ul style="list-style-type: none"> • Add or subtract mentally three-digit numbers and ones, tens and hundreds • Add or subtract two-digit numbers mentally • Use formal written methods to add and subtract numbers with up to three digits • Add and subtract amounts of money to give change, using both £ and p in practical contexts <p><i>I can add or subtract a three-digit number to or from ones, tens and hundreds</i></p> <p><i>I can add or subtract two two-digit number</i></p> <p><i>I can work out the missing number in a number sentence such as $14 + \square = 35$</i></p> <p><i>I can add and subtract three-digit numbers by writing one number under the other and using partitioning</i></p> <p><i>I can add and subtract money, including £ and p</i></p>	<ul style="list-style-type: none"> • add and subtract numbers mentally, including: <ul style="list-style-type: none"> - a three-digit number and ones - a three-digit number and tens - a three-digit number and hundreds • add and subtract numbers with up to three digits, using formal written methods of columnar addition and subtraction • estimate the answer to a calculation and use inverse operations to check answers • solve problems, including missing number problems, using number facts, place value, and more complex addition and subtraction • add and subtract amounts of money to give change, using both £ and p in practical contexts

<p>14</p>	<p>Shape and symmetry (3)</p>	<ul style="list-style-type: none"> • Draw 2-D shapes and make 3-D shapes using modelling materials • Relate 2-D shapes and 3-D solids to drawings of them; describe, visualise and classify the shapes • Draw the reflection of a shape in a mirror line along one side • Measure the perimeter of simple 2-D shapes <p><i>I can describe the properties of shapes</i></p> <p><i>I can sort shapes using different properties</i></p> <p><i>I know if a shape is symmetrical or non-symmetrical and I can reflect a shape on one of its sides</i></p> <p><i>I can measure the perimeter of 2-D shapes</i></p>	<ul style="list-style-type: none"> • draw 2-D shapes and make 3-D shapes using modelling materials; recognise 3-D shapes in different orientations and describe them • measure the perimeter of simple 2-D shapes
<p>15</p>	<p>Measures (3)</p>	<ul style="list-style-type: none"> • Estimate, measure, compare, add and subtract lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) • Know the relationships between kilometres and metres, metres and centimetres, 	<ul style="list-style-type: none"> • measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml) • tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks

		<p>kilograms and grams, litres and millilitres</p> <ul style="list-style-type: none"> • Read scales that are numbered or partially numbered; use the information to measure to a suitable degree of accuracy • Estimate, read, record and compare times to the nearest minute, using analogue and digital clocks • Compare durations of events and calculate the time taken by particular events or tasks <p><i>I can choose suitable units to estimate and measure length</i></p> <p><i>I can say what one division on a scale is worth</i></p> <p><i>I can read a scale to the nearest division or half-division</i></p> <p><i>I can read the time on a clock to the nearest minute</i></p>	<ul style="list-style-type: none"> • estimate and read time with increasing accuracy to the nearest minute; record and compare time in terms of seconds, minutes, hours and o'clock; use vocabulary such as a.m./p.m., morning, afternoon, noon and midnight • know the number of seconds in a minute and the number of days in each month, year and leap year • compare durations of events, for example to calculate the time taken by particular events or tasks
<p>16</p>	<p>Multiplication and division (3)</p>	<ul style="list-style-type: none"> • Calculate the value of an unknown in a number sentence (e.g. $\square \div 4 = 6$, $3 \times \square = 36$) • Recall and use multiplication facts for the 2, 3, 4, 5, 6, 8 and 10 times-tables and the related division facts 	<ul style="list-style-type: none"> • recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables • 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

		<ul style="list-style-type: none"> • Recognise multiples of 2, 3, 4, 5, 6 and 10 beyond the 10th multiple • Develop efficient mental methods to multiply larger numbers • Use reliable written methods to multiply and divide two-digit numbers (e.g. 23×3, $50 \div 4$) and round remainders up or down, depending on the context <p><i>I know the 2, 3, 4, 5, 6, 8 and 10 times-tables</i></p> <p><i>I can use the multiplication facts I know to help me answer other multiplication and division problems</i></p> <p><i>I can multiply and divide a two-digit number by a one-digit number</i></p> <p><i>I can say what multiplication fact I would use for a division calculation</i></p>	<p>formal written methods</p> <ul style="list-style-type: none"> • solve problems, including missing number problems, involving multiplication and division, including integer scaling problems and correspondence problems in which n objects are connected to m objects
<p>17</p>	<p>Fractions and decimals (3)</p>	<ul style="list-style-type: none"> • Recognise and use fractions as numbers on a number line: unit fractions and non-unit fractions with small denominators • Use diagrams to recognise and show equivalent fractions 	<ul style="list-style-type: none"> • recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators • recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators

		<ul style="list-style-type: none"> • Compare and order unit fractions with the same denominator • Add and subtract fractions with the same denominator within one whole (eg $5/7 + 1/7 = 6/7$) • Connect tenths to place value and decimal measures, not restricted to decimals between 0 and 1 inclusive and to division by 10 <p><i>I can find tenths by dividing an object into ten parts</i></p> <p><i>I can find fractions of numbers</i></p> <p><i>I can read fractions on a number line</i></p> <p><i>I can use a diagram to show two equivalent fractions</i></p> <p><i>I can add and subtract fractions with the same denominator</i></p> <p><i>I can put fractions with the same denominator in order</i></p>	<ul style="list-style-type: none"> • recognise and show, using diagrams, equivalent fractions with small denominators • add and subtract fractions with the same denominator within one whole (e.g. $5/7 + 1/7 = 6/7$) • compare and order unit fractions, and fractions with the same denominators • solve problems that involve all of the above
<p>18</p>	<p>Position, movement and angle (2)</p>	<ul style="list-style-type: none"> • Recognise angles as a property of shape and associate angles with turning 	<ul style="list-style-type: none"> • recognise that angles are a property of shape or a description of a turn

		<ul style="list-style-type: none"> • Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn • Use the four compass directions to describe movement about a grid • Identify horizontal, vertical, perpendicular and parallel lines in relation to other lines <p><i>I can say whether the angles of a 2-D shape are right angles or whether they are smaller or bigger</i></p> <p><i>I can test whether an angle is equal to, bigger than or smaller than a right angle</i></p> <p><i>I can follow and give instructions to make turns and movements on a grid</i></p> <p><i>I can draw different types of lines, such as parallel and perpendicular lines, and measure them in centimetres</i></p>	<ul style="list-style-type: none"> • 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 • identify horizontal and vertical lines and pairs of perpendicular and parallel lines
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