

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

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

		<p>of them; describe, visualise and classify the shapes</p> <ul style="list-style-type: none"> <li>Recognise, draw and complete shapes with reflective symmetry</li> </ul> <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><b>Measures (1)</b></p>	<ul style="list-style-type: none"> <li>Know the relationships between kilometres and metres, metres and centimetres, kilograms and grams, litres and millilitres</li> <li>Choose and use appropriate units to estimate, measure and record measurements</li> <li>Read, to the nearest division and half-division, scales that are numbered or partially numbered</li> <li>Read the time on a 12-hour digital clock and to the nearest 5 minutes on an analogue clock</li> <li>Compare durations of events and calculate the</li> </ul>	<ul style="list-style-type: none"> <li>measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)</li> <li>tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks</li> <li>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</li> <li>know the number of seconds in a minute and the number of days in each month, year and leap year</li> <li>compare durations of events, for example to calculate the</li> </ul>

		<p>time taken by particular events or tasks</p> <ul style="list-style-type: none"> <li>• Know the number of seconds in a minute and the number of days in each month, year and leap year</li> </ul> <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><b>Multiplication and division (1)</b></p>	<ul style="list-style-type: none"> <li>• Recall and use multiplication facts for the 2, 3, 4, 5 and 10 times-tables and the related division facts</li> <li>• Recognise multiples of 2, 3, 4, 5 and 10 beyond the 10th multiple</li> <li>• Understand that division is the inverse of multiplication and vice versa; use this to derive and record related multiplication and division number sentences</li> <li>• Use practical and informal written methods to</li> </ul>	<ul style="list-style-type: none"> <li>• recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables</li> <li>• 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</li> <li>• 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</li> </ul>

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

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

		<ul style="list-style-type: none"> <li>• Relate 2-D shapes and 3-D solids to drawings of them; describe, visualise and classify the shapes</li> <li>• Draw the reflection of a shape in a mirror line along one side</li> </ul> <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><b>Fractions and decimals (2)</b></p>	<ul style="list-style-type: none"> <li>• 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</li> <li>• Read and write proper fractions (e.g. <math>\frac{3}{7}</math>, <math>\frac{9}{10}</math>), interpreting the denominator as the parts of a whole and the numerator as the number of parts</li> <li>• Recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators</li> <li>• Use diagrams to recognise and show</li> </ul>	<ul style="list-style-type: none"> <li>• 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</li> <li>• recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators</li> <li>• recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators</li> <li>• recognise and show, using diagrams, equivalent fractions with small denominators</li> <li>• solve problems that involve all of the above</li> </ul>

		<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><b>Measures (2)</b></p>	<ul style="list-style-type: none"> <li>• Estimate, measure and compare lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)</li> <li>• Know the relationships between kilometres and metres, metres and centimetres, kilograms and grams, litres and millilitres</li> <li>• Read, to the nearest division and half-division, scales that are numbered or partially numbered</li> <li>• Estimate, read, record and compare times to the nearest 5 minutes, using analogue and digital clocks</li> <li>• Compare durations of events and calculate the time taken by particular events or tasks</li> </ul>	<ul style="list-style-type: none"> <li>• measure, compare, add and subtract: lengths (m/cm/mm); mass (kg/g); volume/capacity (l/ml)</li> <li>• tell and write the time from an analogue clock, including using Roman numerals from I to XII, and 12-hour and 24-hour clocks</li> <li>• 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</li> <li>• know the number of seconds in a minute and the number of days in each month, year and leap year</li> <li>• compare durations of events, for example to calculate the time taken by particular events or tasks</li> </ul>



		<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><b>11</b></p>	<p><b>Multiplication and division (2)</b></p>	<ul style="list-style-type: none"> <li>• Recall and use multiplication facts for the 2, 3, 4, 5, 6 and 10 times-tables and the related division facts</li> <li>• Recognise multiples of 2, 3, 4, 5, 6 and 10 beyond the 10th multiple</li> <li>• Develop efficient mental methods to multiply larger numbers</li> <li>• Use reliable written methods to multiply and divide two-digit numbers (e.g. <math>23 \times 3</math>, <math>50 \div 4</math>) and round remainders up or down, depending on the context</li> </ul> <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"> <li>• recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables</li> <li>• 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</li> <li>• 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</li> </ul>

		<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><b>12</b></p>	<p><b>Number and place value (2)</b></p>	<ul style="list-style-type: none"> <li>• Count on from and back to zero in single-digit steps or multiples of 10 and 100</li> <li>• Partition three-digit numbers into multiples of 100, 10 and 1 in different ways</li> <li>• Read, write, compare and order whole numbers to at least 1000</li> <li>• Round two-digit or three-digit numbers to the nearest 10 or 100 and give estimates for their sums and differences</li> </ul> <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"> <li>• count from 0 in multiples of 4, 8, 50 and 100; find 10 or 100 more or less than a given number</li> <li>• recognise the place value of each digit in a three-digit number (hundreds, tens, ones)</li> <li>• compare and order numbers up to 1000</li> <li>• identify, represent and estimate numbers using different representations</li> <li>• read and write numbers up to 1000 in numerals and in words</li> <li>• solve number problems and practical problems involving these ideas</li> </ul>

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

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

		<p>kilograms and grams, litres and millilitres</p> <ul style="list-style-type: none"> <li>• Read scales that are numbered or partially numbered; use the information to measure to a suitable degree of accuracy</li> <li>• Estimate, read, record and compare times to the nearest minute, using analogue and digital clocks</li> <li>• Compare durations of events and calculate the time taken by particular events or tasks</li> </ul> <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"> <li>• 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</li> <li>• know the number of seconds in a minute and the number of days in each month, year and leap year</li> <li>• compare durations of events, for example to calculate the time taken by particular events or tasks</li> </ul>
<p>16</p>	<p><b>Multiplication and division (3)</b></p>	<ul style="list-style-type: none"> <li>• Calculate the value of an unknown in a number sentence (e.g. <math>\square \div 4 = 6</math>, <math>3 \times \square = 36</math>)</li> <li>• Recall and use multiplication facts for the 2, 3, 4, 5, 6, 8 and 10 times-tables and the related division facts</li> </ul>	<ul style="list-style-type: none"> <li>• recall and use multiplication and division facts for the 3, 4 and 8 multiplication tables</li> <li>• 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</li> </ul>

		<ul style="list-style-type: none"> <li>• Recognise multiples of 2, 3, 4, 5, 6 and 10 beyond the 10th multiple</li> <li>• Develop efficient mental methods to multiply larger numbers</li> <li>• Use reliable written methods to multiply and divide two-digit numbers (e.g. <math>23 \times 3</math>, <math>50 \div 4</math>) and round remainders up or down, depending on the context</li> </ul> <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"> <li>• 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</li> </ul>
<p>17</p>	<p><b>Fractions and decimals (3)</b></p>	<ul style="list-style-type: none"> <li>• Recognise and use fractions as numbers on a number line: unit fractions and non-unit fractions with small denominators</li> <li>• Use diagrams to recognise and show equivalent fractions</li> </ul>	<ul style="list-style-type: none"> <li>• recognise, find and write fractions of a discrete set of objects: unit fractions and non-unit fractions with small denominators</li> <li>• recognise and use fractions as numbers: unit fractions and non-unit fractions with small denominators</li> </ul>

		<ul style="list-style-type: none"> <li>• Compare and order unit fractions with the same denominator</li> <li>• Add and subtract fractions with the same denominator within one whole (eg <math>5/7 + 1/7 = 6/7</math>)</li> <li>• Connect tenths to place value and decimal measures, not restricted to decimals between 0 and 1 inclusive and to division by 10</li> </ul> <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"> <li>• recognise and show, using diagrams, equivalent fractions with small denominators</li> <li>• add and subtract fractions with the same denominator within one whole (e.g. <math>5/7 + 1/7 = 6/7</math>)</li> <li>• compare and order unit fractions, and fractions with the same denominators</li> <li>• solve problems that involve all of the above</li> </ul>
<p><b>18</b></p>	<p><b>Position, movement and angle (2)</b></p>	<ul style="list-style-type: none"> <li>• Recognise angles as a property of shape and associate angles with turning</li> </ul>	<ul style="list-style-type: none"> <li>• recognise that angles are a property of shape or a description of a turn</li> </ul>

		<ul style="list-style-type: none"> <li>• Identify right angles, recognise that two right angles make a half-turn, three make three quarters of a turn and four a complete turn</li> <li>• Use the four compass directions to describe movement about a grid</li> <li>• Identify horizontal, vertical, perpendicular and parallel lines in relation to other lines</li> </ul> <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"> <li>• 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</li> <li>• identify horizontal and vertical lines and pairs of perpendicular and parallel lines</li> </ul>
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