



## Year 5 Overview

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11
<b>Phase 1</b>	<b>Number and Place Value</b>			<b>Addition and Subtraction</b>			<b>Multiplication and division</b>			<b>Measures Time</b>	
<b>Phase 2</b>	<b>Fractions</b>			<b>Geometry</b> Shape, symmetry, position and direction			<b>Fractions Decimals</b>				
<b>Phase 3</b>	<b>Measures</b> Converting measures	<b>Measures Length and perimeter</b>		<b>Geometry</b> Angles	<b>Fractions Percentages</b>			<b>Measures</b> Volume			
<b>Phase 4 (EoY)</b>	<b>Statistics</b>	<b>Number</b> Prime numbers									

Ongoing throughout the year:

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## Year 5 Phase 2 Objectives

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
<b>Main Sessions</b>	<p><u>Fractions</u> Compare and order fractions whose denominators are multiples of the same number.</p> <p>Identify, name and write equivalent fractions of a given fraction, represented visually including tenths and hundredths.</p> <p>Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements <math>&gt;1</math> as a mixed number [for example <math>\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1 \frac{1}{5}</math>].</p> <p>Add and subtract fractions with the same denominator and denominators that are multiples of the same number.</p> <p>Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.</p> <p>Read and write decimal numbers as fractions [ for example <math>0.71 = \frac{71}{100}</math> ].</p> <p>Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.</p>			<p><u>Geometry: Shapes</u> Identify 3D shapes, including cubes and other cuboids, from 2D representations.</p> <p>Use the properties of rectangles to deduce related facts and find missing lengths and angles.</p> <p>Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.</p> <p><u>Geometry: Position and Direction</u> Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.</p>			<p><u>Fractions: Decimals</u> Read, write, order and compare numbers with up to three decimal places.</p> <p>Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.</p> <p>Round decimals with two decimal places to the nearest whole number and to one decimal place.</p> <p>Solve problems involving number up to three decimal places.</p> <p>Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.</p> <p>Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.</p>	



	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8
<b>S &amp; D Sessions</b>	<u>Addition and subtraction</u>				<u>Multiplication and division</u>			






## Year 5 MTP – Phase 2

Domain	NC Objectives	Example tasks fluency	Example tasks reasoning	Example tasks problem solving												
Fractions	Compare and order fractions whose denominators are multiples of the same number.	<ul style="list-style-type: none"> <li>Use <math>&lt;</math> <math>&gt;</math> or <math>=</math> to make the statement below correct  <math>\frac{3}{4}</math> <math>\frac{9}{12}</math></li> <li>Order these fractions  <math>\frac{2}{5}</math>, <math>\frac{5}{15}</math>, <math>\frac{3}{10}</math></li> <li>Fill in the missing fraction  <math>\frac{1}{3} = \frac{2}{\quad} = \frac{3}{9}</math></li> </ul>	<ul style="list-style-type: none"> <li>Sometimes, always, never If two denominators are different multiples of the same number then you can simplify the bigger number to make them the same e.g. <math>\frac{3}{4}</math> <math>\frac{9}{12}</math>  <math>\frac{9}{12}</math> can be simplified to <math>\frac{3}{4}</math></li> <li>Paul thinks denominators with bigger numbers are bigger fractions.            Prove to him that <math>\frac{1}{4}</math> is bigger than <math>\frac{1}{8}</math>            Use a diagram/drawing/concrete materials.</li> </ul>	<ul style="list-style-type: none"> <li>Cut out lots of different fractions. Ask children in pairs to sort them into equivalent piles. Ask children to record three more fractions – an equivalent fraction, a bigger fraction and a smaller fraction.</li> <li>Fraction trail            On a grid, write 12 different fractions where all denominators are a different multiple of the 4 times table.            Player A goes first and chooses a fraction, Player B finds a smaller fraction, Player A finds a bigger fraction and so on. Whoever cannot find a fraction first loses.</li> </ul> <table border="1" style="margin-left: auto; margin-right: auto;"> <tbody> <tr> <td><math>\frac{17}{20}</math></td> <td><math>\frac{17}{32}</math></td> <td><math>\frac{2}{16}</math></td> </tr> <tr> <td><math>\frac{10}{28}</math></td> <td><math>\frac{2}{4}</math></td> <td><math>\frac{20}{36}</math></td> </tr> <tr> <td><math>\frac{18}{44}</math></td> <td><math>\frac{35}{48}</math></td> <td><math>\frac{5}{8}</math></td> </tr> <tr> <td><math>\frac{2}{12}</math></td> <td><math>\frac{22}{40}</math></td> <td><math>\frac{23}{24}</math></td> </tr> </tbody> </table>	$\frac{17}{20}$	$\frac{17}{32}$	$\frac{2}{16}$	$\frac{10}{28}$	$\frac{2}{4}$	$\frac{20}{36}$	$\frac{18}{44}$	$\frac{35}{48}$	$\frac{5}{8}$	$\frac{2}{12}$	$\frac{22}{40}$	$\frac{23}{24}$
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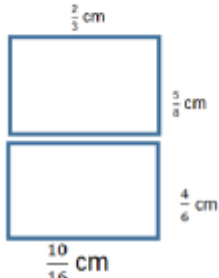



Domain	NC Objectives	Example tasks fluency	Example tasks reasoning	Example tasks problem solving							
<b>Fractions</b>	Identify, name and write equivalent fractions of a given fraction, represented visually including tenths and hundredths.	<ul style="list-style-type: none"> <li>Find 5 equivalent fractions of <math>\frac{3}{4}</math></li> <li>Colour <math>\frac{6}{8}</math> of this shape  <table border="1" style="margin: 10px auto; width: 100px; height: 20px;"> <tr><td style="width: 50%;"></td><td style="width: 50%;"></td></tr> <tr><td style="width: 50%;"></td><td style="width: 50%;"></td></tr> </table> </li> <li>Complete the sentences:            One eighth is a half of one _____            One sixth is a half of one _____            One quarter is a half of one _____         </li> </ul>					<ul style="list-style-type: none"> <li>Which fraction is the odd one out? Is this the only option? Explain your answers. <math>\frac{4}{6}</math> <math>\frac{16}{24}</math> <math>\frac{9}{12}</math> <math>\frac{12}{18}</math> <math>\frac{20}{30}</math></li> <li>Martin thinks you can only simplify even numbered fractions because you keep on halving until you get an odd number. Do you agree? Explain why.</li> <li>Is this statement true or false? Explain why. <math>\frac{3}{5} &lt; \frac{11}{15}</math></li> </ul>	<ul style="list-style-type: none"> <li>Here are some fraction cards. All of the fractions are equal.  <table style="margin: 10px auto; text-align: center;"> <tr> <td style="border: 1px solid black; padding: 5px;"><math>\frac{4}{A}</math></td> <td style="border: 1px solid black; padding: 5px;"><math>\frac{B}{C}</math></td> <td style="border: 1px solid black; padding: 5px;"><math>\frac{20}{50}</math></td> </tr> </table> <p>A + B = 16 Work out the value of C.</p> <li>Find the value of the symbol ★  <math>\frac{1}{2} = \frac{1+5}{2+★}</math> </li> </li></ul>	$\frac{4}{A}$	$\frac{B}{C}$	$\frac{20}{50}$
$\frac{4}{A}$	$\frac{B}{C}$	$\frac{20}{50}$									




Domain	NC Objectives	Example tasks fluency	Example tasks Reasoning	Example tasks problem solving
<b>Fractions</b>	<p>Recognise mixed numbers and improper fractions and convert from one form to the other and write mathematical statements <math>&gt;1</math> as a mixed number [for example <math>\frac{2}{5} + \frac{4}{5} = \frac{6}{5} = 1\frac{1}{5}</math>].</p>	<ul style="list-style-type: none"> <li>Convert these from mixed numbers to improper fractions: <math>3\frac{2}{5}</math> <math>2\frac{1}{6}</math></li> <li>A pizza has 8 slices. At a party, 2 full pizzas and 3 slices are left over. Write this as an improper fraction.</li> <li>Pencils are packed 6 to a box. A teacher hands them out and has <math>\frac{15}{6}</math> left. Write how many boxes she has left as a mixed number.</li> </ul>	<ul style="list-style-type: none"> <li><b>True or false</b> A mixed number is not a whole number. Explain why.</li> <li>Spot and explain the mistake <math display="block">\frac{13}{5} = 3\frac{3}{5}</math></li> <li>This was the pizza left over at a party.  Each pizza was cut equally. Anna said, "If you add the <math>\frac{11}{5}</math> we ate then there was 5 whole pizzas altogether." Do you agree? Explain why.</li> </ul>	<ul style="list-style-type: none"> <li>For the school's sports day, a group of students prepared <math>21\frac{1}{2}</math> litres of lemonade. At the end of the day they had <math>2\frac{5}{8}</math> litres left over. How many litres of lemonade were sold? </li> <li>If they sold the lemonade in 125ml glasses, which they sold at 30p each, how many glasses did they sell and how much did they make? </li> </ul>






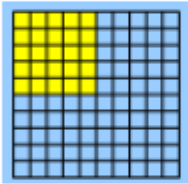
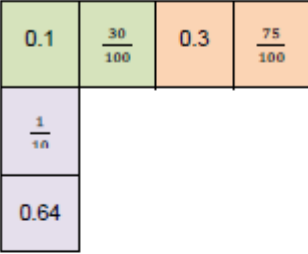
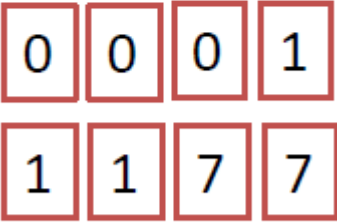
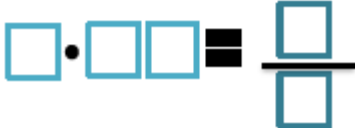
Domain	NC Objectives	Example tasks fluency	Example tasks reasoning	Example tasks problem solving														
<b>Fractions</b>	<p>Add and subtract fractions with the same denominator and denominators that are multiples of the same number.</p>	<ul style="list-style-type: none"> <li>Calculate:  <math display="block">\frac{15}{6} - \frac{5}{3} =</math> <math display="block">\frac{24}{8} - \frac{15}{8}</math> <math display="block">\frac{2}{3} + \frac{8}{12}</math> </li> <li>Kelsey and Beth had a bag of sweets. Kelsey took <math>\frac{2}{7}</math> and Beth took <math>\frac{6}{21}</math>. What was the difference between their amounts?</li> <li>Fill in the missing fractions:  <math display="block">\frac{11}{7} + \text{---} = \frac{18}{7}</math> <math display="block">\frac{18}{5} - \text{---} = \frac{9}{10}</math> <math display="block">\text{---} - \frac{4}{6} = \frac{1}{6}</math> </li> </ul>	<ul style="list-style-type: none"> <li>Monica and Rachel are given this missing number problem:  <math display="block">\text{---} - \frac{2}{4} = \frac{1}{4}</math> <p>Monica thinks the missing fraction is <math>\frac{3}{4}</math>. Rachel disagrees and thinks it's a different fraction. Explain why it could be both.</p> </li> <li>Joey eats <math>\frac{1}{3}</math> of a cake. Ross says, "That means I have <math>\frac{7}{9}</math> left to eat." Do you agree? Explain why.</li> <li>Which perimeter is bigger? Give your answer as a mixed number. What do you notice?   </li> </ul>	<ul style="list-style-type: none"> <li>The green rectangle has a perimeter of <math>\frac{22}{4}</math>. Work out the value of <math>x</math>.   </li> <li>Beki bought 7L of paint from the shop.  <table border="1" data-bbox="1523 654 1881 933"> <thead> <tr> <th>Colour</th> <th>Amount in tin</th> </tr> </thead> <tbody> <tr> <td>Blue paint</td> <td><math>2\frac{1}{4}</math> L</td> </tr> <tr> <td>Red paint</td> <td><math>\frac{3}{4}</math> L</td> </tr> <tr> <td>White paint</td> <td><math>1\frac{1}{2}</math> L</td> </tr> <tr> <td>Yellow paint</td> <td>1 L</td> </tr> <tr> <td>Green paint</td> <td><math>\frac{1}{2}</math> L</td> </tr> <tr> <td>Purple paint</td> <td><math>1\frac{3}{4}</math> L</td> </tr> </tbody> </table> <p>What variations of paint could she have bought? How many options can you find?</p> </li> </ul>	Colour	Amount in tin	Blue paint	$2\frac{1}{4}$ L	Red paint	$\frac{3}{4}$ L	White paint	$1\frac{1}{2}$ L	Yellow paint	1 L	Green paint	$\frac{1}{2}$ L	Purple paint	$1\frac{3}{4}$ L
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<p><b>Fractions</b></p>	<p>Multiply proper fractions and mixed numbers by whole numbers, supported by materials and diagrams.</p>	<ul style="list-style-type: none"> <li>Complete the table:           <table border="1" data-bbox="584 435 992 798" style="margin-left: 20px;"> <thead> <tr> <th>Multiplication</th> <th>Improper fraction</th> <th>Mixed number</th> </tr> </thead> <tbody> <tr> <td><math>3 \times \frac{4}{7}</math></td> <td><math>\frac{12}{7}</math></td> <td></td> </tr> <tr> <td><math>2 \times \frac{5}{8}</math></td> <td></td> <td></td> </tr> <tr> <td><math>6 \times \frac{3}{9}</math></td> <td></td> <td></td> </tr> </tbody> </table> </li> <li>Use the diagram to find the answer.  <math>3 \times \frac{2}{3}</math> <div style="margin-left: 20px;"> <table border="1" data-bbox="584 954 913 986" style="width: 100px; height: 20px;"> <tr> <td style="width: 33%; background-color: yellow;"></td> <td style="width: 33%; background-color: yellow;"></td> <td style="width: 33%;"></td> </tr> </table> <table border="1" data-bbox="584 1007 913 1038" style="width: 100px; height: 20px;"> <tr> <td style="width: 33%; background-color: yellow;"></td> <td style="width: 33%; background-color: yellow;"></td> <td style="width: 33%;"></td> </tr> </table> <table border="1" data-bbox="584 1059 913 1091" style="width: 100px; height: 20px;"> <tr> <td style="width: 33%; background-color: yellow;"></td> <td style="width: 33%; background-color: yellow;"></td> <td style="width: 33%;"></td> </tr> </table> </div> </li> <li>Draw a diagram to represent <math>5 \times \frac{3}{7}</math></li> </ul>	Multiplication	Improper fraction	Mixed number	$3 \times \frac{4}{7}$	$\frac{12}{7}$		$2 \times \frac{5}{8}$			$6 \times \frac{3}{9}$												<ul style="list-style-type: none"> <li>Tony says, "When I multiply a fraction by a whole number I turn the whole number into a fraction by adding <math>\frac{1}{1}</math> to it, for example, <math>2 \times \frac{6}{8}</math> becomes <math>\frac{2}{1} \times \frac{6}{8}</math>. Does this make a difference? Does it help? Explain why.</li> <li>Sally says, "I feel ok multiplying a fraction by a whole number but multiplying a mixed number confuses me." Can you write a set of instructions to help her understand? Include an example in your explanation.</li> </ul>	<ul style="list-style-type: none"> <li>Abi says, "This diagram represents the children who passed their swimming test in a Year 5 class one week. The exact same data was collected from six other schools."           <div style="text-align: center;">  </div> <p>Write this data as an improper fraction and a mixed number.</p> <li>Multiply these mixed numbers by 3 and place them in order from the biggest to smallest  <math>2\frac{3}{5}</math>, <math>2\frac{6}{8}</math>, <math>2\frac{3}{7}</math>, <math>2\frac{1}{6}</math>            Did you think they would be in that order? Discuss why.</li> </li></ul>
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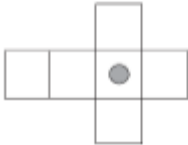

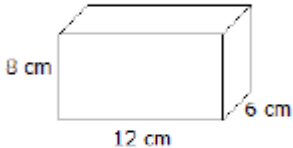


Domain	NC Objectives	Example tasks fluency	Example tasks reasoning	Example tasks problem solving
<p><b>Fractions</b></p>	<p>Read and write decimal numbers as fractions [for example <math>0.71 = \frac{71}{100}</math>].</p>	<ul style="list-style-type: none"> <li>Fill in the blanks:             = <math>\frac{65}{100}</math>   = 0.88            0.2 =  </li> <li>Write the shaded part of this 100 square grid as a decimal number and a fraction.             </li> <li>Match the decimal number to the equivalent fraction:            0.5                      <math>\frac{50}{100}</math>  0.05                     <math>\frac{1}{2}</math>  0.55                      <math>\frac{5}{100}</math>  0.50                      <math>\frac{55}{100}</math> </li> </ul>	<ul style="list-style-type: none"> <li>Rob is finding equivalent decimals and fractions. He writes:            <math>\frac{30}{100} = 0.30</math>  Can both sides of the equals sign be simplified? Explain why.         </li> <li>True or false? Only percentages that are multiples of 10 can be simplified.</li> </ul>	<ul style="list-style-type: none"> <li>Play decimal and fraction dominoes.             </li> <li>Complete the statement below by only using these number cards. You can use these cards more than once.               </li> </ul>










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<p><b>Fractions</b></p>	<p>Solve problems involving multiplication and division, including scaling by simple fractions and problems involving simple rates.</p>	<ul style="list-style-type: none"> <li>There are 56 people playing rounders. <math>\frac{5}{8}</math> of the players are girls. How many girls are playing?</li> <li>In a class of 32 children, <math>\frac{3}{4}</math> of them voted for maths as their favourite subject. How many children voted for something else? Give your answer as a whole number.</li> <li>48 people work at an office. On Monday, <math>\frac{4}{6}</math> of them walked to work. How many people walked to work?</li> </ul> <p>Use the bar model to help you visualise the problem.</p> <div style="text-align: center;"> <table border="1" style="margin: auto;"> <tr> <td colspan="6" style="background-color: #f4a460;">48</td> </tr> <tr> <td style="background-color: #a6c9ec;"><math>\frac{1}{6}</math></td> <td style="background-color: #a6c9ec;"><math>\frac{1}{6}</math></td> <td style="background-color: #a6c9ec;"><math>\frac{1}{6}</math></td> <td style="background-color: #a6c9ec;"><math>\frac{1}{6}</math></td> <td style="background-color: #a6c9ec;"><math>\frac{1}{6}</math></td> <td style="background-color: #a6c9ec;"><math>\frac{1}{6}</math></td> </tr> </table> </div>	48						$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	<ul style="list-style-type: none"> <li>Ellie is solving this problem:  <div style="border: 2px solid black; padding: 5px; display: inline-block; margin: 10px 0;"> <p>Find <math>\frac{4}{6}</math> of 24</p> </div> <p>She writes 16 down as the answer. Explain Ellie's mistake to her and write down instructions on how to solve this.</p> </li> <li>Mr Patel asks Emily to circle a quarter of some squares. She circles the following shapes.</li> </ul> <div style="text-align: center; margin: 10px 0;"> </div> <p>Mr Patel says, "Well done! You are correct!" How many shapes were there to start with? Explain how you worked this out.</p>	<ul style="list-style-type: none"> <li>90 people were asked what their favourite colour was. 75 chose red. What fraction of people chose red?</li> <li>Work your way through the maze by solving the questions.</li> </ul> <div style="text-align: center; margin: 10px 0;"> </div>
48																
$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$	$\frac{1}{6}$											




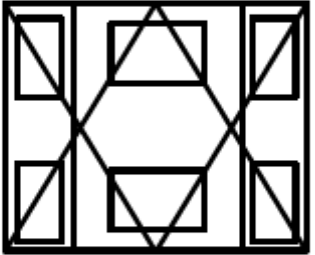
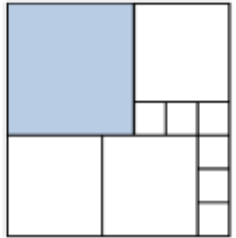


Domain	NC Objectives	Example tasks fluency	Example tasks reasoning	Example tasks problem solving
<p><b>Geometry: shape</b></p>	<p>Identify 3D shapes, including cubes and other cuboids, from 2D representations.</p>	<ul style="list-style-type: none"> <li>• <b>What shape am I?</b> <ol style="list-style-type: none"> <li>My faces are made up of a square and four triangles.</li> <li>My faces are made up of rectangles and triangles.</li> </ol> </li> <li>• Complete the sentences.           <p>A tetrahedron has ___ faces. The faces are made from _____.</p> <p>A cube has ___ faces. The faces are made from _____.</p> </li> <li>• Draw another dot on the net of the cube below so it has a dot on the opposite face when the 3D shape is constructed.            </li> </ul>	<ul style="list-style-type: none"> <li>• Find 3 similarities between the net of a tetrahedron and the net of a cube.            <p>Share them with a partner. Are any the same/different?</p> </li> <li>• Albie says,           <div style="border: 1px solid blue; border-radius: 15px; background-color: #4a7ebb; color: white; padding: 10px; margin: 10px 0;"> <p>If two 3D shapes have the same number of edges then they also have the same number of vertices.</p> </div> <p>Do you agree? Explain why.</p> </li> </ul>	<ul style="list-style-type: none"> <li>• Create cubes and cuboids by using multilink. Can you draw these on isometric paper? Which part is difficult? Would it be harder if you had to draw something other than squares or rectangles?</li> <li>• Here is a cuboid            <p>Draw the net for this cuboid.</p> </li> <li>• Visualise           <ol style="list-style-type: none"> <li>A square based pyramid is put on top of a cube so that it fits perfectly. How many 2D shapes can you now see and what are they?</li> <li>A tetrahedron and a triangular prism are fit perfectly together. How many 2D shapes can you now see and what are they?</li> </ol> </li> </ul>


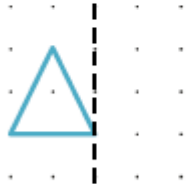

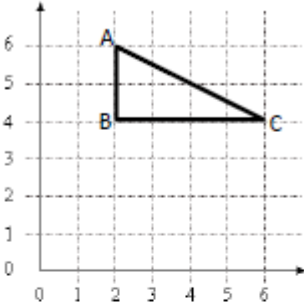



Domain	NC Objectives	Example tasks fluency	Example tasks reasoning	Example tasks problem solving
<p><b>Geometry: shape</b></p>	<p>Use the properties of rectangles to deduce related facts and find missing lengths and angles.</p>	<ul style="list-style-type: none"> <li>Complete the rectangles on the grids below.               </li> <li>Why is a square a special rectangle?</li> <li>Join 4 dots together to make a rectangle.             </li> </ul>	<ul style="list-style-type: none"> <li>The perimeter of the rectangle is 45cm.            4.9cm   Find the length of the rectangle.         </li> <li>Here is a rectangle.              What is the sum of angles a and b?            Find angle c.         </li> <li>A shape has 4 right angles. It has 4 straight sides. It has 2 pairs of parallel lines. Draw what the shape could be. Is there more than one option?</li> </ul>	<ul style="list-style-type: none"> <li>A rectangular classroom has a perimeter between 20 and 25 cm. What could the dimensions be?             </li> <li>A rectangular classroom has an area between 20 and 25 cm. What could the dimensions be?</li> <li>A shape is made up of a square and rectangle.              The perimeter of the shape is 70cm. The area of the square is 121cm<sup>2</sup>. What is the area of the rectangle?         </li> </ul>

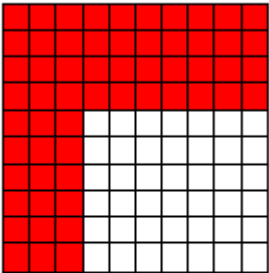
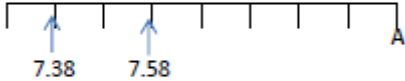
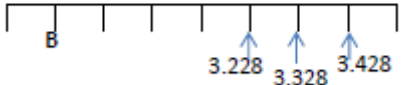


Domain	NC Objectives	Example tasks fluency	Example tasks reasoning	Example tasks problem solving
<p><b>Geometry: shape</b></p>	<p>Distinguish between regular and irregular polygons based on reasoning about equal sides and angles.</p>	<ul style="list-style-type: none"> <li>• Name 4 irregular 4 sided polygons.</li>   <li>• Name 5 regular polygons.</li>   <li>• Draw a regular polygon and an irregular polygon on the grids below.</li> </ul> <div style="display: flex; flex-direction: column; gap: 5px;"> <div style="display: flex; justify-content: space-around; width: 100px;"> <span>.</span><span>.</span><span>.</span><span>.</span><span>.</span> </div> <div style="display: flex; justify-content: space-around; width: 100px;"> <span>.</span><span>.</span><span>.</span><span>.</span><span>.</span> </div> <div style="display: flex; justify-content: space-around; width: 100px;"> <span>.</span><span>.</span><span>.</span><span>.</span><span>.</span> </div> <div style="display: flex; justify-content: space-around; width: 100px;"> <span>.</span><span>.</span><span>.</span><span>.</span><span>.</span> </div> <div style="display: flex; justify-content: space-around; width: 100px;"> <span>.</span><span>.</span><span>.</span><span>.</span><span>.</span> </div> <div style="display: flex; justify-content: space-around; width: 100px;"> <span>.</span><span>.</span><span>.</span><span>.</span><span>.</span> </div> <div style="display: flex; justify-content: space-around; width: 100px;"> <span>.</span><span>.</span><span>.</span><span>.</span><span>.</span> </div> <div style="display: flex; justify-content: space-around; width: 100px;"> <span>.</span><span>.</span><span>.</span><span>.</span><span>.</span> </div> </div>	<ul style="list-style-type: none"> <li>• Tick the regular quadrilaterals.</li> </ul> <div style="display: flex; justify-content: space-around; align-items: center; margin: 10px 0;">  </div> <div style="display: flex; justify-content: center; margin: 10px 0;">  </div> <div style="display: flex; justify-content: space-around; align-items: center; margin: 10px 0;">  </div> <p>Explain your choices.</p> <ul style="list-style-type: none"> <li>• Always, sometimes, never. The number of equal angles is the same number of equal sides in a regular polygon.</li>   <li>• Adam says,             <div style="border: 1px solid purple; border-radius: 15px; padding: 10px; margin: 10px 0; width: fit-content;">                 All the angles are equal in a regular polygon so that must mean a rectangle is a regular polygon.             </div> </li> </ul> <p>Is Adam correct? Why?</p>	<ul style="list-style-type: none"> <li>• Cut out lots of different regular and irregular shapes. Ask children to work in pairs and sort them into groups. Once they have sorted them, can they find a different way to sort them again?</li>   <li>• How many regular and irregular polygons can you find in this picture?</li> </ul> <div style="text-align: center; margin: 10px 0;">  </div> <ul style="list-style-type: none"> <li>• This grid is made up of squares. How many small squares could fit inside?</li> </ul> <div style="text-align: center; margin: 10px 0;">  </div>





Domain	NC Objectives	Example tasks fluency	Example tasks reasoning	Example tasks problem solving
<b>Geometry: Position and Direction</b>	Identify, describe and represent the position of a shape following a reflection or translation, using the appropriate language, and know that the shape has not changed.	<ul style="list-style-type: none"> <li>A square is translated two dots to the right and three down. Draw the new square.</li> </ul>  <ul style="list-style-type: none"> <li>Draw the reflection of the triangle.</li> </ul>  <ul style="list-style-type: none"> <li>A triangle is translated 360°.  Draw the new triangle.</li> </ul>	<ul style="list-style-type: none"> <li>Amy draws triangle ABC on the grid.</li> </ul>  <p>She wants to translate the triangle so that point B becomes the co-ordinate (3,1).</p> <p>Hazel says,</p> <div style="border: 1px solid red; border-radius: 15px; padding: 5px; display: inline-block;">       Point A will become (1,1)     </div> <p>Do you agree? Explain why.</p> <ul style="list-style-type: none"> <li>True or false? Reflecting a shape changes the dimensions.</li> </ul>	<ul style="list-style-type: none"> <li>A rectangle is translated 3 squares up and two squares to the left. Three of the coordinates of the translated rectangle are: (5, 7) (10, 14) (10, 7). What are the co-ordinates of the original rectangle?</li> <li>A triangle is drawn on a grid. It is translated so that point A becomes point B. Draw the new triangle.</li> </ul> 





Domain	NC Objectives	Example tasks fluency	Example tasks reasoning	Example tasks problem solving
<b>Fractions: Decimals</b>	Read, write, order and compare numbers with up to three decimal places.	<ul style="list-style-type: none"> <li>Write the decimal number that is illustrated below:  </li> <li>Write five and ninety-one tenths as a decimal number.</li> <li>Insert &lt; or &gt; to make the statement below true.            0.06 <input type="text"/> 0.006</li> </ul>	<ul style="list-style-type: none"> <li>Prove that 8.9 is smaller than 9.8</li> <li>What number is halfway between 2.7 and 3.4? Explain how you worked it out.</li> <li>Which of the following is false?  <math>1.009 &lt; 1.09</math>  <math>1.249 &gt; 1.25</math>  <math>1.35 &gt; 1.053</math>            Convince me!</li> <li>Which of these numbers is closest in value to 0.2?  <math>0.02</math>  <math>0.15</math>  <math>0.22</math>  <math>0.3</math>  <math>0.19</math>            Explain why.</li> </ul>	<ul style="list-style-type: none"> <li>Put a digit in each box so that the numbers are in order from smallest to largest.  <math>6.1 \square</math>  <math>\square .02</math>  <math>6.2 \square</math>  <math>6. \square 2</math>  <math>6. \square 2</math></li> <li>Here are two number lines.                Find the difference between the letters A and B.</li> <li>2 numbers have the difference of 1.427 and one of the numbers is 3.665. What is the other number? Are these the only possible numbers?</li> </ul>

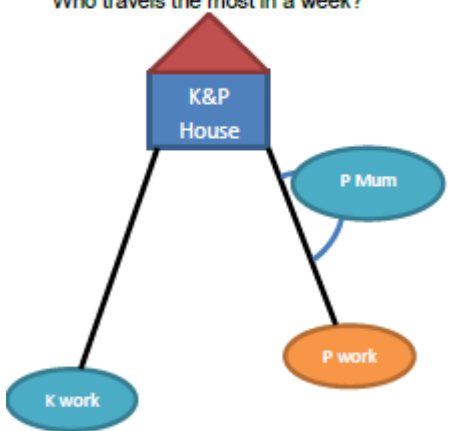


Domain	NC Objectives	Example tasks fluency	Example tasks reasoning	Example tasks problem solving
<p><b>Fractions: Decimals</b></p>	<p>Recognise and use thousandths and relate them to tenths, hundredths and decimal equivalents.</p>	<ul style="list-style-type: none"> <li>What does the 3 represent in 14.253?</li> <li>Put the following numbers in ascending order: six thousandths 0.5 <math>\frac{7}{1000}</math> 1 tenth</li> <li>Fill in the missing box: 2.645 = 2 + 0.6 + 0.04 + <input type="text"/></li> </ul>	<ul style="list-style-type: none"> <li>Sophie thinks 1.007 is bigger than 1.01 because 7 is bigger than 1. Do you agree? Explain why. <div style="border: 1px solid blue; padding: 5px; display: inline-block;"><math>1.007 &gt; 1.01</math></div></li> <li>Convince me that <math>\frac{1}{8}</math> is bigger than <math>\frac{1}{80}</math></li> </ul>	<ul style="list-style-type: none"> <li>Use all five cards below: </li> <li>What is the smallest number you can make? What is the largest number you can make? How many numbers can you make that are less than 0.5?</li> <li>In this problem decimal numbers have been replaced with symbols. What is the value in each box if: <math>\frac{1}{10} = \star</math> <math>\frac{1}{100} = \blacktriangle</math> <math>\frac{1}{1000} = \square</math></li> </ul> 










Domain	NC Objectives	Example tasks fluency	Example tasks reasoning	Example tasks problem solving
<b>Fractions: Decimals</b>	Round decimals with two decimal places to the nearest whole number and to one decimal place.	<ul style="list-style-type: none"> <li>• Fill in the boxes: 18.5 rounded to <input style="width: 30px; height: 15px; background-color: #4a7ebb; color: white;" type="text"/> is 19</li> <li>12.34 rounded to the nearest whole number is <input style="width: 30px; height: 15px; background-color: #4a7ebb; color: white;" type="text"/></li> <li><input style="width: 30px; height: 15px; background-color: #4a7ebb; color: white;" type="text"/> rounded to the nearest tenth is 14.4</li> <li>• Round each of these to the nearest tenth: 4.38 2.72 10.04</li> <li>• The sales for a supermarket increased by 82.78% during December. Round this to the nearest tenth.</li> </ul>	<ul style="list-style-type: none"> <li>• Simon is measuring a box of chocolates with a ruler that measures in centimetres and millimetres. </li> <li>He measures it to the nearest cm and writes the answer 28cm. What is the smallest length the box of chocolates could be?</li> <li>• A decimal number between 11 and 20 rounds to the same number when rounded to the nearest tenth and the nearest whole number? What could this be? Is there more than one option? Explain why.</li> </ul>	<ul style="list-style-type: none"> <li>• Rounded to the nearest 0.1, A is 3.5 and B is 3.0. What is the smallest possible difference between A and B? What is the largest possible difference? Explain your strategy to a partner.</li> <li>• Use 3 10-sided dice (0-9) to create a decimal number to 2 decimal places. </li> <li>Round this number to the nearest tenth. Are there any other decimal numbers you can make from these 3 digits? Do they round to the same tenth? What 3 numbers could you roll where more than 1 of the numbers would round to the same tenth? Why does this work?</li> <li>• What number with two or three decimal places round to 3.0 when rounded to the nearest tenth? Is the only option?</li> </ul>

Domain	NC Objectives	Example tasks fluency	Example tasks reasoning	Example tasks problem solving								
<b>Fractions: Decimals</b>	Solve problems involving number up to three decimal places.	<ul style="list-style-type: none"> <li>Bamey jumped 3.842 metres in a long jump competition. Sophie jumped 1.319 metres further. How far did Sophie jump?</li> <li>Caroline took £20 to the shop. She spent £8.64. How much change did she have?</li> <li>Naomi and her friends completed a 30 mile walk for charity over 3 days. On the first day, they walked 12.87 miles, on the second day they walked 16.55 miles. How many miles did they walk on the final day?</li> </ul>	<ul style="list-style-type: none"> <li>If <math>3.985 - 1.999 = 1.986</math>  Explain why these are true or false.  <math>2.985 - 0.999 = 0.986</math>  <math>4.985 - 0.999 = 1.986</math>  <math>3.885 + 2.099 = 5.986</math></li> <li>Explain how to use the column method to work out whole numbers subtract decimal numbers e.g. <math>7 - 2.89 =</math></li> <li>Charges for a bag of sweets are 3p per sweet and 15p for a bag. If I spent £3.75 on a bag of sweets, how many sweets did I buy? Explain your strategy to a partner. Did they use the same strategy? Which is easier?</li> </ul>	<ul style="list-style-type: none"> <li>Kevin and Peter leave for work from the same house each day. Kevin travels 11.36 miles to get to work and Peter travels 10.29 miles every morning except Monday and Friday when he goes to his mum's house on his way. This adds an extra 3.4 miles to his journey. Who travels the most in a week?</li> </ul>  <ul style="list-style-type: none"> <li>Use these digit cards to make the smallest and largest decimal number possible. Find the difference between them. e.g. <math>3.408 - 1.596 =</math></li> </ul> <table border="1" data-bbox="1489 1125 1926 1181" style="margin-left: auto; margin-right: auto;"> <tr> <td>1</td> <td>0</td> <td>5</td> <td>3</td> <td>4</td> <td>9</td> <td>6</td> <td>8</td> </tr> </table>	1	0	5	3	4	9	6	8
1	0	5	3	4	9	6	8					



Domain	NC Objectives	Example tasks fluency	Example tasks reasoning	Example tasks problem solving																																														
<p><b>Fractions: Decimals</b></p>	<p>Multiply and divide whole numbers and those involving decimals by 10, 100 and 1000.</p>	<ul style="list-style-type: none"> <li>Complete the grid:           <table border="1" data-bbox="591 360 902 467"> <tr> <td></td> <td><math>\times 100</math></td> <td><math>\div 1000</math></td> <td><math>\times 10</math></td> </tr> <tr> <td>365</td> <td></td> <td></td> <td></td> </tr> <tr> <td>2669</td> <td></td> <td></td> <td></td> </tr> <tr> <td>12</td> <td></td> <td></td> <td></td> </tr> </table> </li> <li>Fill in the boxes:           <p><math>\square \times 100 = 38</math></p> <p><math>56 \square = 5.6</math></p> <p><math>0.8 \times 1000 = \square</math></p> </li> <li>Some facts have been cut up. Work with a partner to put them back together. e.g. <math>74 \div 10 = 7.4</math> <table border="1" data-bbox="591 826 902 1102"> <tr> <td>100</td> <td>31</td> </tr> <tr> <td>3100</td> <td><math>\div 1000</math></td> </tr> <tr> <td><math>\div 100</math></td> <td><math>\times 100</math></td> </tr> <tr> <td>31</td> <td><math>= 0.031</math></td> </tr> <tr> <td></td> <td><math>= 1</math></td> </tr> </table> </li> </ul>		$\times 100$	$\div 1000$	$\times 10$	365				2669				12				100	31	3100	$\div 1000$	$\div 100$	$\times 100$	31	$= 0.031$		$= 1$	<ul style="list-style-type: none"> <li>True or false? When you multiply whole and decimal numbers by 10, 100 or 1000, you just add noughts on to the end.</li> <li>If <math>5 \times 4 = 20</math>  Explain why these facts are true without working them out:  <math>0.5 \times 4 = 2</math> <math>200 \div 4 = 50</math> <math>0.4 \times 0.5 = 0.2</math></li> </ul>	<ul style="list-style-type: none"> <li>Put these calculations in order from smallest to biggest:           <table border="1" data-bbox="1491 389 1883 794"> <tr> <td><math>100 \times 540</math></td> </tr> <tr> <td><math>5.4 \times 1000</math></td> </tr> <tr> <td><math>5400 \div 10</math></td> </tr> <tr> <td><math>5400 \div 1000</math></td> </tr> <tr> <td><math>540 \div 10</math></td> </tr> </table> </li> <li>Using a number from column A, an operation from B and a number from C, how many ways can you find to make 70? (There are more than 4 ways!)           <table border="1" data-bbox="1491 935 1883 1066"> <thead> <tr> <th>A</th> <th>B</th> <th>C</th> </tr> </thead> <tbody> <tr> <td>7</td> <td><math>\times</math></td> <td>1</td> </tr> <tr> <td>70</td> <td></td> <td>10</td> </tr> <tr> <td>700</td> <td><math>\div</math></td> <td>100</td> </tr> <tr> <td>7000</td> <td></td> <td>1000</td> </tr> </tbody> </table> </li> </ul>	$100 \times 540$	$5.4 \times 1000$	$5400 \div 10$	$5400 \div 1000$	$540 \div 10$	A	B	C	7	$\times$	1	70		10	700	$\div$	100	7000		1000
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<b>Fractions: Decimals</b>	Use all four operations to solve problems involving measure [for example, length, mass, volume, money] using decimal notation, including scaling.	<ul style="list-style-type: none"> <li>A shop sold 6 bottles of water for £2.89. Each bottle was 1.5L. She bought 27L of water. How much money did she spend?</li> <li>The flight from London to Alicante is 1465km the flight from Manchester is 289km longer. How long is the flight from Manchester to Alicante?</li> <li>A family of four spent £1517.56 on a holiday. If split equally, how much would it cost each person?</li> <li>Raisins are £1.45 for a packet. I have £10 to spend on raisins. What is the biggest number of packets I can buy?</li> </ul>	<ul style="list-style-type: none"> <li>These are being measured. What unit of measurement should they be measured in. Explain why.               <div style="display: flex; align-items: center; margin-top: 10px;"> <div style="margin-right: 10px;">Glass of milk</div>  </div> <div style="margin-top: 10px;">Walking up 25 steps</div>  <div style="margin-top: 10px;">The distance from Edinburgh to Cornwall</div>  </li> <li>Annie is adding up these mass values:  <math>1\text{kg} + 343\text{g} + 700\text{g}</math>            She does this calculation:           <div style="margin-top: 10px;"> <math display="block">\begin{array}{r} 100 \\ 343 \\ + 700 \\ \hline 1143 \end{array}</math> </div>           Explain her mistake.         </li> </ul>	<ul style="list-style-type: none"> <li>James is making buns for his friend's birthday. He finds a recipe on the internet for 20 people.           <p>The ingredients he needs are:</p> <ul style="list-style-type: none"> <li>200g caster sugar</li> <li>200g butter</li> <li>5 eggs</li> <li>200g self-raising flour</li> <li>2.5g baking powder</li> <li>15ml milk</li> </ul>           He only wants to make 12. Write the list of ingredients with the amount he needs of each item.         </li> <li>These lemons and limes are sold in a bag in a local shop.           <div style="display: flex; justify-content: space-around; margin-top: 10px;"> <div style="text-align: center;">  <p>12 limes 900g £2.40</p> </div> <div style="text-align: center;">  <p>6 lemons 520g £1.00</p> </div> </div>           Work out the price and weight of a single lemon and a single lime.         </li> </ul>