



ST. JOHN BOSCO RC PRIMARY SCHOOL

Long Term Plan		Ready to Progress Criteria/ Assessment Guidance				Year Group:	6
	Autumn Term		Spring Term		Summer Term		
	1st Half	2nd Half	1st Half	2nd Half	1st Half	2nd Half	
Number and Place Value	<p><b>Number and Place Value</b> 6NPV-1 Understand the relationship between powers of 10 from 1 hundredth to 10 million, and use this to make a given number 10, 100, 1,000, 1 tenth, 1 hundredth or 1 thousandth times the size (multiply and divide by 10, 100 and 1,000).</p> <ul style="list-style-type: none"> <li>Complete the sentences.</li> <li>The distance from London to Bristol is about 170km. The distance from London to Sydney, Australia is about 100 times as far. Approximately how far is it from London to Sydney?</li> <li>A newborn elephant weighs about 150kg. A newborn kitten weighs about 150g. How many times the mass of a newborn kitten is a newborn elephant?</li> <li>Walid has a place-value chart and three counters. He has represented the number 1,110,000. Find 2 different numbers that Walid could make so that 1 number is one-</li> </ul>	<p>6NPV-2 Place value in numbers up to 10,000,000 Recognise the place value of each digit in numbers up to 10 million, including decimal fractions, and compose and decompose numbers up to 10 million using standard and non-standard partitioning.</p> <ul style="list-style-type: none"> <li>What is the value of the digit 5 in each of these numbers?</li> <li>Write a seven-digit number that includes the digit 8 once, where the digit has a value of</li> <li>Fill in the missing symbols (&lt; or &gt;).</li> <li>Put these numbers in order from smallest to largest.</li> </ul> <p>6NPV-3 Numbers up to 10 million in the linear number system. Reason about the location of any number up to 10 million, including decimal fractions, in the linear number system, and round numbers, as appropriate, including in contexts.</p> <ul style="list-style-type: none"> <li>Show roughly where each of these numbers is located on the number line below.</li> <li>Estimate the values of a, b, c and d.</li> <li>For each number; write the previous and next multiple of 1 million, circle the previous or next multiple of</li> </ul>					

	<p>hundredth times the size of the other number. Find 2 different numbers that Walid could make so that 1 number is 1,000 times the size of the other number.</p> <ul style="list-style-type: none"> <li>• Fill in the missing numbers.</li> </ul> <p>6NPV—4 Reading scales with 2, 4, 5 or 10 intervals Divide powers of 10, from 1 hundredth to 10 million, into 2, 4, 5 and 10 equal parts, and read scales/number lines with labelled intervals divided into 2, 4, 5 and 10 equal parts.</p> <ul style="list-style-type: none"> <li>• If <math>\frac{1}{10}</math> of a 1kg bag of flour is used, how much is left?</li> <li>• In 2005, the population of Birmingham was about 1 million. At that time, about <math>\frac{1}{5}</math> of the population was over 60 years old. Approximately how many over-60s lived in Birmingham in 2005?</li> <li>• A builder ordered 1,000kg of sand. She has about 300kg left. What fraction of the total amount is left?</li> <li>• Fill in the missing parts.</li> <li>• Fill in the missing numbers</li> <li>• The bar chart shows the approximate populations of 3 different towns. What</li> </ul>	<p>1 million which is closest to the number</p> <ul style="list-style-type: none"> <li>• Fill in the missing numbers.</li> <li>• What might the missing number be in this web page?</li> <li>• A swimming pool holds approximately 82,000 litres of water. The capacity of the swimming pool has been rounded to the nearest multiple of 1,000. Fill in the missing numbers to complete the sentences. The minimum amount of water that the pool could hold is . The maximum amount of water that the pool could hold is...</li> </ul>				
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	<p>are the populations?</p> <ul style="list-style-type: none"> <li>• What mass does each scale show?</li> <li>• Some children are trying to raise £200,000 for charity. The diagram shows how much they have raised so far. How much money have they raised? How much more money do they need to raise to meet their target?</li> </ul>					
<p><b>Addition and Subtraction</b></p> <p><b>Multiplication and Division</b></p> <p><b>Fractions</b></p> <p><b>Percentages</b></p> <p><b>Algebra</b></p>	<p><b>Addition and Subtraction</b></p> <p><b>Multiplication and Division</b></p> <p>6AS/MD–1 Quantify additive and multiplicative relationships</p> <p>Understand that 2 numbers can be related additively or multiplicatively, and quantify additive and multiplicative relationships (multiplicative relationships restricted to multiplication by a whole number).</p> <ul style="list-style-type: none"> <li>• Fill in the missing numbers.</li> <li>• Write an expression in each box to show the relationship between numbers 25 and 75. Is there more than one way to answer this question? Explain</li> <li>• The examples below show the first 2 numbers in a sequence. Find 2 different ways to continue each sequence, using addition for the first and multiplication for</li> </ul>	<p><b>Fractions</b></p> <p>6F–1 Simplify fractions</p> <p>Recognise when fractions can be simplified, and use common factors to simplify fractions.</p> <ul style="list-style-type: none"> <li>• Sort these fractions according to whether they are expressed in their simplest form or not.</li> <li>• Solve these calculations, giving each answer in the simplest form</li> <li>• Ahmed says, “To simplify a fraction, you just halve the numerator and halve the denominator.” Is Ahmed’s statement always true, sometimes true or never true? Explain your answer.</li> <li>• Put these numbers in order from smallest to largest by simplifying them to unit fractions.</li> <li>• How much water is in this beaker? Write your answer as a fraction of a litre in its simplest form.</li> </ul> <p>6F–2 Express fractions in a common denomination</p> <p>Express fractions in a common denomination and use this to compare fractions that are</p>	<p><b>Algebra</b></p> <p>6AS/MD–4 Solve problems with 2 unknowns.</p> <ul style="list-style-type: none"> <li>• A baker is packing 60 cakes into boxes. A small box can hold 8 cakes and a large box can hold 12 cakes. How many different ways can he pack the cakes? How can he pack the cakes with the fewest number of boxes?</li> <li>• 1 eraser and 5 pencils cost a total of £3.35. 5 erasers and 5 pencils cost a total of £4.75. How much does 1 eraser cost? How much does 1 pencil cost?</li> <li>• An adult ticket for the zoo costs £2 more than a child ticket. I spend a total of £33 buying 3 adult and 2 child</li> </ul>	<p><b>Ratio</b></p> <p>6AS/MD–3 Solve problems involving ratio relationships</p> <p>Solve problems involving ratio relationships</p> <ul style="list-style-type: none"> <li>• For every 1 litre of petrol, Miss Smith’s car can travel about 7km. How many kilometres can Miss Smith’s car travel on 6 litres of petrol? Miss Smith lives about 28km from school. How many litres of petrol does she use to get to school?</li> <li>• For every 3m of fence I need 4 fence panels. The fence will be 15m long. How many fence panels will I need?</li> <li>• I am decorating a cake with fruit. I use 2 raspberries for every 3 strawberries. Altogether I put 30 berries on the cake. How many raspberries did I use? How many strawberries did I use?</li> </ul>		

	<p>the second.</p> <p><b>6AS/MD–2 Derive related calculations</b> Use a given additive or multiplicative calculation to derive or complete a related calculation, using arithmetic properties, inverse relationships, and place-value understanding.</p> <ul style="list-style-type: none"> <li>• Fill in the missing numbers</li> <li>• Use this calculation to complete the following equations.</li> <li>• Use the division calculation so solve the following calculation. Explain your answer.</li> </ul>	<p><b>similar in value.</b></p> <ul style="list-style-type: none"> <li>• Fill in the missing symbols (<math>&lt;</math>, <math>&gt;</math> or <math>=</math>). You will need to simplify some of the fractions and express each pair with a common denominator.</li> <li>• Express each set of fractions with a common denominator. Then put them in order from smallest to largest</li> <li>• Ahmed has a beaker containing <math>\frac{7}{10}</math> of a litre of water. Imran has a beaker containing <math>\frac{3}{5}</math> of a litre of water. Express the fractions with a common denominator to work out whose beaker contains the most water.</li> <li>• Ben and Felicity are both trying to raise the same amount of money for charity. So far, Ben has raised <math>\frac{3}{4}</math> of the amount, while Felicity has raised <math>\frac{5}{7}</math> of the amount. Express the fractions with a common denominator to work out who is closest to meeting their target.</li> </ul> <p><b>6F–3 Compare fractions with different denominators</b> Compare fractions with different denominators, including fractions greater than 1, using reasoning, and choose between reasoning and common denomination as a comparison strategy</p> <ul style="list-style-type: none"> <li>• Which number(s) could go in the missing-number box to make this statement true?</li> <li>• Without using a common denominator, put each set of</li> </ul>	<p>tickets. How much does an adult ticket cost? How much does a child ticket cost?</p> <ul style="list-style-type: none"> <li>• The balances show the combined masses of some large bags of dog food and some small bags of dog food. How much does each bag-size cost?</li> <li>• A rectangle with side-lengths <math>a</math> and <math>b</math> has a perimeter of 30cm. <math>a</math> is a 2-digit whole number and <math>b</math> is a 1-digit whole number. What are the possible values of <math>a</math> and <math>b</math>?</li> <li>• The diagram shows the total cost of the items in each row and column. Fill in the 2 missing costs.</li> </ul>	<ul style="list-style-type: none"> <li>• For every 500g of excess baggage I take on an aeroplane, I must pay £7.50. I have 3.5kg of excess baggage. How much must I pay?</li> <li>• Lily and Ralph are eating grapes. The diagram represents the relationship between the number of grapes that the children eat.</li> <li>• Giya is planting flowers in her garden. For every 5 red flowers she plants, she plants 3 yellow flowers. If Giya plants 18 yellow flowers, how many red flowers does she plant?</li> <li>• I am making a necklace. So far, it has 4 black beads and 1 white bead. How many more white beads would I need to add so that there are 4 white beads for every 1 black bead?</li> </ul>		
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		<p>fractions in order from smallest to largest.</p> <ul style="list-style-type: none"> <li>• Sabijah and Will are in a running race. Sabijah has run <math>\frac{9}{10}</math> of the race. Will has run <math>\frac{8}{9}</math> of the race. Who is further ahead? Explain your reasoning.</li> <li>• Fill in the missing symbols (<math>&lt;</math>, <math>&gt;</math> or <math>=</math>).</li> <li>• Think of a number that can go in each box so that the fractions are arranged in order from smallest to largest.</li> </ul>				
<p><b>Geometry</b></p> <p><b>Measurement</b></p> <p><b>Statistics</b></p>					<p><b>Geometry: Properties of Shape</b></p> <p>6G–1 Draw, compose and decompose shapes</p> <p>Draw, compose, and decompose shapes according to given properties, including dimensions, angles and area, and solve related problems.</p> <ul style="list-style-type: none"> <li>• Lois has started drawing a shape on this squared-centimetre grid. Complete her shape so that it has an area of <math>14\text{cm}^2</math>.</li> <li>• Here is a rhombus on a triangular grid. Draw a different shape with the same area on the grid.</li> <li>• Draw a hexagon on this squared-centimetre grid. Include one side of length <math>4\text{cm}</math> and one side of length <math>3\text{cm}</math>.</li> <li>• Here is a square made from 4 smaller</li> </ul>	

					<p>squares. The area of the large square is <math>64\text{cm}^2</math>. What is the length of 1 side of each small square?</p> <ul style="list-style-type: none"><li>• Here is a sketch of a triangle. It is not drawn to scale. Draw the full-size triangle accurately. Use an angle measurer (protractor) and a ruler.</li><li>• Here is a picture of a pentagon made from a regular hexagon and an equilateral triangle. The perimeter of the triangle is <math>24\text{cm}</math>. What is the perimeter of the pentagon?</li></ul>	
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