

# Wanneroo Education Network: Scope and Sequence for Proficiency Strands

Proficiency & Description	Foundation	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6
<p><b>Understanding</b> Students build a robust knowledge of adaptable and transferable mathematical concepts. They make connections between related concepts and progressively apply the familiar to develop new ideas. They develop an understanding of the relationship between the 'why' and the 'how' of mathematics. Students build understanding when they connect related ideas, when they represent concepts in different ways, when they identify commonalities and differences between aspects of content, when they describe their thinking mathematically and when they interpret mathematical information.</p>	<p>Understanding includes connecting names, numerals and quantities.</p> <ul style="list-style-type: none"> <li>Establish understanding of the language and processes of counting by naming numbers in sequences, initially to and from 20, moving from any starting point.</li> <li>Connect number names, numerals and quantities, including zero, initially up to 10 and then beyond</li> <li>Subitise small collections of objects</li> <li>Compare, order and make correspondences between collections, initially to 20, and explain reasoning</li> <li>Represent practical situations to model addition and sharing</li> <li>Sort and classify familiar objects and explain the basis for these classifications. Copy, continue and create patterns with objects and drawings</li> </ul>	<p>Understanding includes connecting names, numerals and quantities, and partitioning numbers in various ways.</p> <ul style="list-style-type: none"> <li>Develop confidence with number sequences to and from 100 by ones from any starting point. Skip count by twos, fives and tens starting from zero</li> <li>Recognise, model, read, write and order numbers to at least 100. Locate these numbers on a number line</li> <li>Count collections to 100 by partitioning numbers using place value</li> <li>Represent and solve simple addition and subtraction problems using a range of strategies including counting on, partitioning and rearranging parts</li> <li>Recognise and describe one-half as one of two equal parts of a whole.</li> <li>Recognise, describe and order Australian coins according to their value</li> <li>Investigate and describe number patterns formed by skip counting and patterns with objects</li> </ul>	<p>Understanding includes connecting number calculations with counting sequences, partitioning and combining numbers flexibly, identifying and describing the relationship between addition and subtraction and between multiplication and division.</p> <ul style="list-style-type: none"> <li>Investigate number sequences, initially those increasing and decreasing by twos, threes, fives and ten from any starting point, then moving to other sequences.</li> <li>Recognise, model, represent and order numbers to at least 1000</li> <li>Group, partition and rearrange collections up to 1000 in hundreds, tens and ones to facilitate more efficient counting</li> <li>Explore the connection between addition and subtraction</li> <li>Solve simple addition and subtraction problems using a range of efficient mental and written strategies</li> <li>Recognise and represent multiplication as repeated addition, groups and arrays</li> <li>Represent and solve division as grouping into equal sets and solve simple problems using these representations</li> <li>Recognise and interpret common uses of halves, quarters and eighths of shapes and collections</li> <li>Count and order small collections of Australian coins and notes according to their value</li> <li>Describe patterns with numbers and identify missing elements</li> <li>Solve problems by using number sentences for addition or subtraction</li> </ul>	<p>Understanding includes connecting number representations with number sequences, partitioning and combining numbers flexibly, representing unit fractions, using appropriate language to communicate times, and identifying environmental symmetry.</p> <ul style="list-style-type: none"> <li>Investigate the conditions required for a number to be odd or even and identify odd and even numbers</li> <li>Recognise, model, represent and order numbers to at least 10 000</li> <li>Apply place value to partition, rearrange and regroup numbers to at least 10 000 to assist calculations and solve problems</li> <li>Recognise and explain the connection between addition and subtraction</li> <li>Recall addition facts for single-digit numbers and related subtraction facts to develop increasingly efficient mental strategies for computation</li> <li>Recall multiplication facts of two, three, five and ten and related division facts</li> <li>Model and represent unit fractions including <math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, <math>\frac{1}{3}</math>, <math>\frac{1}{5}</math> and their multiples to a complete whole</li> <li>Represent money values in multiple ways and count the change required for simple transactions to the nearest five cents</li> <li>Describe, continue, and create number patterns resulting from performing addition or subtraction</li> </ul>	<p>Understanding includes making connections between representations of numbers, partitioning and combining numbers flexibly, extending place value to decimals, using appropriate language to communicate times, and describing properties of symmetrical shapes.</p> <ul style="list-style-type: none"> <li>Investigate and use the properties of odd and even numbers</li> <li>Recognise, represent and order numbers to at least tens of thousands</li> <li>Apply place value to partition, rearrange and regroup numbers to at least tens of thousands to assist calculations and solve problems</li> <li>Investigate number sequences involving multiples of 3, 4, 6, 7, 8, &amp; 9</li> <li>Recall multiplication facts up to <math>10 \times 10</math> and related division facts</li> <li>Develop efficient mental and written strategies and use appropriate digital technologies for multiplication and for division where there is no remainder</li> <li>Investigate equivalent fractions used in contexts</li> <li>Count by quarters halves and thirds, including with mixed numerals. Locate and represent these fractions on a number line</li> <li>Recognise that the place value system can be extended to tenths and hundredths. Make connections between fractions and decimal notation</li> <li>Solve problems involving purchases and the calculation of change to the nearest five cents with and without digital technologies</li> <li>Explore and describe number patterns resulting from performing multiplication</li> <li>Solve word problems by using number sentences involving multiplication or division where there is no remainder</li> <li>Use equivalent number sentences involving addition and subtraction to find unknown quantities</li> </ul>	<p>Understanding includes making connections between representations of numbers, using fractions to represent probabilities, comparing and ordering fractions and decimals and representing them in various ways, describing transformations and identifying line and rotational symmetry.</p> <ul style="list-style-type: none"> <li>Identify and describe factors and multiples of whole numbers and use them to solve problems</li> <li>Use estimation and rounding to check the reasonableness of answers to calculations</li> <li>Solve problems involving multiplication of large numbers by one- or two-digit numbers using efficient mental, written strategies and appropriate digital technologies</li> <li>Solve problems involving division by a one digit number, including those that result in a remainder</li> <li>Use efficient mental and written strategies and apply appropriate digital technologies to solve problems</li> <li>Compare and order common unit fractions and locate and represent them on a number line</li> <li>Investigate strategies to solve problems involving addition and subtraction of fractions with the same denominator</li> <li>Recognise that the place value system can be extended beyond hundredths</li> <li>Compare, order and represent decimals</li> <li>Create simple financial plans</li> <li>Describe, continue and create patterns with fractions, decimals and whole numbers resulting from addition and subtraction</li> <li>Use equivalent number sentences involving multiplication and division to find unknown quantities</li> </ul>	<p>Understanding includes describing properties of different sets of numbers, using fractions and decimals to describe probabilities, representing fractions and decimals in various ways and describing connections between them, and making reasonable estimations.</p> <ul style="list-style-type: none"> <li>Identify and describe properties of prime, composite, square and triangular numbers.</li> <li>Select and apply efficient mental and written strategies and appropriate digital technologies to solve problems involving all four operations with whole numbers</li> <li>Investigate everyday situations that use integers. Locate and represent these numbers on a number line</li> <li>Solve problems involving addition and subtraction of fractions with the same or related denominators</li> <li>Find a simple fraction of a quantity where the result is a whole number, with and without digital technologies</li> <li>Add and subtract decimals, with and without digital technologies, and use estimation and rounding to check the reasonableness of answers</li> <li>Multiply decimals by whole numbers and perform divisions by non-zero whole numbers where the results are terminating decimals, with and without digital technologies</li> <li>Multiply and divide decimals by powers of 10</li> <li>Make connections between equivalent fractions, decimals and percentages</li> <li>Investigate and calculate percentage discounts of 10%, 25% and 50% on sale items, with and without digital technologies</li> <li>Continue and create sequences involving whole numbers, fractions and decimals. Describe the rule used to create the sequence</li> <li>Explore the use of brackets and order of operations to write number sentences</li> </ul>
<p><b>Fluency</b> Students develop skills in choosing appropriate procedures, carrying out procedures flexibly, accurately, efficiently and appropriately, and recalling factual knowledge and concepts readily. Students are fluent when they calculate answers efficiently, when they recognise robust ways of answering questions, when they choose appropriate methods and approximations, when they recall definitions and regularly use facts, and when they can manipulate expressions and equations to find solutions.</p>	<p>Fluency includes readily counting numbers in sequences, continuing patterns, and comparing the lengths of objects.</p> <ul style="list-style-type: none"> <li>Continue the 1 – 9 pattern.</li> <li>Start at any number from 1 – 20 and count forwards and backwards.</li> <li>Subitise to 6 (dice patterns and random patterns)</li> <li>Use the counting Principles: <ul style="list-style-type: none"> <li>trust the arrangement</li> <li>know that the last number says how many</li> <li>1 to 1 correspondence</li> </ul> </li> <li>Add 1, add 0</li> <li>Subtract 1, subtract 0</li> <li>Identify odd and even numbers and explain why they are odd.</li> <li>Use the constant function on a calculator</li> <li>Continue a pattern (string not always in a straight line)</li> <li>Mental Strategies: <ul style="list-style-type: none"> <li>count on</li> <li>count back</li> <li>rainbow facts</li> </ul> </li> </ul>	<p>Fluency includes counting number in sequences readily forward and backwards, locating numbers on a line, and naming the days of the week.</p> <ul style="list-style-type: none"> <li>Read, Write, Say and Count to 120</li> <li>Recall numbers 1 more, 1 less, 10 more, 10 less than any number on 120 chart.</li> <li>Partition numbers using bundling sticks to represent part part whole.</li> <li>Skip Count in 2's, 5's &amp; 10's.</li> <li>Count by 10's starting at any number eg 3, 13, 23, 33 etc</li> <li>Start at any number when counting by 2's or 5's (when start number is within the string) e.g. 24, 26, 28, 30</li> <li>Identify odd and even numbers</li> <li>Mental Strategies: <ul style="list-style-type: none"> <li>doubles</li> <li>near doubles</li> <li>change the order</li> </ul> </li> <li>Partition numbers (up to 20) in non standard ways.</li> <li>Describe and continue a pattern.</li> <li>Use a calculator for addition and subtraction</li> <li>Recognise all Australian coins</li> <li>Count a collection of same coins (\$2,\$1, 5c, 10c)</li> </ul>	<p>Fluency includes counting numbers in sequences readily, using informal units iteratively to compare measurements, using the language of chance to describe outcomes of familiar chance events and describing and comparing time durations.</p> <ul style="list-style-type: none"> <li>Read, Write, Count, Make, Order and Partition Numbers into the 1,000's.</li> <li>Match the numeral, written name and representation for numbers into the 1,000's</li> <li>Skip Count in 2's, 3's, 5's &amp; 10's may start from any number within the string)</li> <li>Use part part whole for addition and subtraction</li> <li>Know commutative properties of numbers (turn arounds) e.g. <math>3+4=7</math>, <math>4+3=7</math>, <math>7-3=4</math>, <math>7-4=3</math></li> <li>Mental Strategies: <ul style="list-style-type: none"> <li>bridge through 10</li> <li>front load</li> </ul> </li> <li>Name and make <math>\frac{1}{2}</math> <math>\frac{1}{4}</math> <math>\frac{1}{8}</math> from wholes and collections (sets)</li> <li>Count collections of mixed coins and notes.</li> </ul>	<p>Fluency includes recalling multiplication facts, using familiar metric units to order and compare objects, identifying and describing outcomes of chance experiments, interpreting maps and communicating positions.</p> <ul style="list-style-type: none"> <li>Read, Write, Count, Make, Order and Partition Numbers in the 10,000's.</li> <li>Know the properties of odd/ even numbers.</li> <li>Round numbers to the nearest 10.</li> <li>The multiplication facts (times and divide) for 2, 3, 5, 10. May use the triangles <math>\Delta</math></li> <li>Name and make <math>\frac{1}{2}</math>, <math>\frac{1}{4}</math>, <math>\frac{1}{3}</math>, <math>\frac{1}{5}</math> and their multiples (e.g. <math>2/3</math>, <math>3/5</math>)</li> <li>Use all functions on a calculator (+, -, x, ÷)</li> <li>Work out simple change e.g. if you give \$2 for an item that costs \$1.95.</li> </ul>	<p>Fluency includes recalling multiplication tables, communicating sequences of simple fractions, using instruments to measure accurately, creating patterns with shapes and their transformations, and collecting and recording data.</p> <ul style="list-style-type: none"> <li>Read, Write, Count, Make, Order and Partition Numbers into the 100,000's.</li> <li>Round numbers to the nearest 10, 100, 1,000)</li> <li>Know the properties of odd/ even numbers when added and subtracted.</li> <li>Multiplication Facts up to <math>10 \times 10</math> (including division) May use the triangles <math>\Delta</math></li> <li>Mental Strategies: <ul style="list-style-type: none"> <li>chunking and multiplication</li> <li>chunking and division</li> </ul> </li> <li>Find equivalent fractions for <math>\frac{1}{2}</math>, <math>\frac{1}{3}</math>, <math>\frac{1}{4}</math></li> <li>Count fractions on a number line (mixed numeral and improper)</li> <li>Understand the function of the = sign. Equations can be written <math>32+11= 40+3</math></li> <li>Know the relationship between decimals and fractions when relating to 0.5- <math>\frac{1}{2}</math>, 0.25- <math>\frac{1}{4}</math>, 0.75- <math>\frac{3}{4}</math> extending to 0.33- <math>\frac{1}{3}</math>, 0.66- <math>\frac{2}{3}</math>, 0.1- <math>\frac{1}{10}</math></li> </ul>	<p>Fluency includes choosing appropriate units of measurement for calculation of perimeter and area, using estimation to check the reasonableness of answers to calculations and using instruments to measure angles.</p> <ul style="list-style-type: none"> <li>Read, Write, Count, Make, Order and Partition Numbers into the millions including decimals (10ths and hundredths).</li> <li>Multiply and divide any whole number by 10.</li> <li>Use all functions on a calculator (+, -, x, ÷) related to decimal numbers.</li> <li>Add and subtract fractions with the same denominator.</li> <li>Mental Strategies: <ul style="list-style-type: none"> <li>chunking and multiplication</li> <li>chunking and division</li> </ul> </li> <li>Know the relationship between decimals and fractions when relating to 0.5- <math>\frac{1}{2}</math>, 0.25- <math>\frac{1}{4}</math>, 0.75- <math>\frac{3}{4}</math> extending to 0.33- <math>\frac{1}{3}</math>, 0.66- <math>\frac{2}{3}</math>, 0.1- <math>\frac{1}{10}</math></li> </ul>	<p>Fluency includes representing integers on a number line, calculating simple percentages, using brackets appropriately, converting between fractions and decimals, using operations with fractions, decimals and percentages, measuring using metric units, and interpreting timetables.</p> <ul style="list-style-type: none"> <li>Multiply and divide any whole number by 10.</li> <li>Define the terms and name numbers that are prime, square, composite, triangular.</li> <li>Efficient mental and written strategies for all four operations.</li> <li>Represent negative numbers on a number line.</li> <li>Add and subtract decimal numbers</li> <li>Multiply and divide decimals by 10.</li> <li>Know the relationship between decimals, fractions and percentages when relating to 0.5- <math>\frac{1}{2}</math>- 50%.</li> </ul>

<p><b>Problem Solving</b> Students develop the ability to make choices, interpret, formulate, model and investigate problem situations, and communicate solutions effectively. Students formulate and solve problems when they use mathematics to represent unfamiliar or meaningful situations, when they design investigations and plan their approaches, when they apply their existing strategies to seek solutions, and when they verify that their answers are reasonable.</p>	<p>Problem Solving includes using materials to model authentic problems, sorting objects, using familiar counting sequences to solve unfamiliar problems, and discussing the reasonableness of the answer.</p> <ul style="list-style-type: none"> <li>Act out/ Draw a picture/ Use manipulatives main strategies.</li> <li>Ice cream Get Me Task</li> <li>Use familiar counting sequences to solve unfamiliar problems.</li> <li>Variety of story problems (First Steps) Result Unknown</li> <li>Necklace patterns, continue the pattern. Linear and non-linear patterns. (representing as a line as well as tessellating patterns that expand out)</li> <li>Sorting and classifying objects.</li> </ul>	<p>Problem Solving includes using materials to model authentic problems, giving and receiving directions to unfamiliar places, and using familiar counting sequences to solve unfamiliar problems and discussing the reasonableness of the answer</p> <ul style="list-style-type: none"> <li>Lollies Task/ Dinosaur Task (First Steps)</li> <li>Variety of story problems (First Steps) Result Unknown, Change Unknown/ Start Unknown.</li> <li>Write a number sentence, Thinkboards as a tool.</li> <li>International coins mixed in with Australian.</li> <li>Problems solving with money</li> <li>Create patters in different ways.</li> <li>Chocolate Bar Task (First Steps)</li> <li>Create a rule of a pattern with a number and transfer the rule to another pattern.</li> </ul>	<p>Problem Solving includes formulating problems from authentic situations, making models and using number sentences that represent problem situations, and matching transformations with their original shape.</p> <ul style="list-style-type: none"> <li>Formulate their own problems rather than just solving problems given to them.</li> <li>Make models/ Look for a pattern (mathematician toolbox)</li> <li>Variety of addition/ subtraction story problems (First Steps) Result Unknown, Change Unknown/ Start Unknown.</li> <li>Thinkboards</li> <li>Multiplication and division story problems (First Steps)</li> <li>Table Cloth Task- How many squares</li> <li>Multiple ways to show a given fraction.</li> <li>Patterns with missing parts (beginning/middle and end.</li> </ul>	<p>Problem Solving includes formulating and modelling authentic situations involving planning methods of data collection and representation, making models of three dimensional objects and using number properties to continue number patterns.</p> <ul style="list-style-type: none"> <li>Make a list, Make a graph, Make a table, Work backwards, Guess and Check (mathematicians toolbox)</li> <li>Not counting a collection in order e.g. 1, 11, 21, 121, 221</li> <li>Fractions <math>\frac{1}{4}</math> task First Steps</li> <li>How many ways can you make different money amounts.</li> </ul>	<p>Problem Solving includes formulating, modelling and recording authentic situations involving operations, comparing large numbers with each other, comparing time durations, and using properties of numbers to continue patterns.</p> <ul style="list-style-type: none"> <li>Consolidation of all Mathematician Toolbox Strategies.</li> <li>Variety of addition/ subtraction story problems (First Steps) All types.</li> <li>Multiplication and Division Story Problems (First Steps) All types.</li> <li>Make a model of a decimal number (play doh- paper strips)</li> <li>Money problems</li> <li>Looking at patterns in the 9 times tables</li> </ul>	<p>Problem Solving includes formulating and solving authentic problems using whole numbers and measurements and creating financial plans.</p> <ul style="list-style-type: none"> <li>MULTO- Paul Swan</li> <li>Problem solving why an answer is correct as well as why answers are not correct.</li> <li>Variety of addition/ subtraction story problems (First Steps) All types.</li> <li>Multiplication and Division Story Problems (First Steps) All types.</li> <li>May link measurement problems to make real world connections.</li> <li>Decimal/ Fraction story problems e.g. comparing distance with 0.6 vs 0.237vs half a metre. Prove why</li> <li>Market and implement a budget. What factors would influence your store (lemonade stand/ crayboats)</li> </ul>	<p>Problem Solving includes formulating and solving authentic problems using fractions, decimals, percentages and measurements, interpreting secondary data displays, and finding the size of unknown angles.</p> <ul style="list-style-type: none"> <li>Variety of addition/ subtraction story problems (First Steps) All types. Include distractor numbers in stories.</li> <li>Multiplication and Division Story Problems (First Steps) All types. Include distractor numbers in stories.</li> <li>Bags of Flour (First Steps) Extending to unrelated denominators.</li> <li>Best buy when food shopping (best value for money) looking at 100g net price.</li> <li>Exposure to real world problems that involve fractions decimals and percentages.</li> <li>Multi-step problems involving more than one concept e.g. addition, decimals, measurement etc.</li> </ul>
<p><b>Reasoning</b> Students develop an increasingly sophisticated capacity for logical thought and actions, such as analysing, proving, evaluating, explaining, inferring, justifying and generalising. Students are reasoning mathematically when they explain their thinking, when they deduce and justify strategies used and conclusions reached, when they adapt the known to the unknown, when they transfer learning from one context to another, when they prove that something is true or false and when they compare and contrast related ideas and explain their choices.</p>	<p>Reasoning includes explaining comparisons of quantities, creating patterns, and explaining processes for indirect comparison of length.</p> <ul style="list-style-type: none"> <li>Explain why the numbers stay the same eve when the starting number changes.</li> <li>May see a collection as two parts and reason their working out (e.g. I saw 6 as 3+3)</li> <li>State which collection is bigger/ smaller and explain why.</li> <li>Explain why objects have been classified in a particular way.</li> </ul>	<p>Reasoning includes explaining direct and indirect comparisons of length.</p> <ul style="list-style-type: none"> <li>See the 0-9 pattern and explain how it can be used when starting at any number.</li> <li>Explain that skip counting is counting multiple objects in one count. (see the pattern for 2's, multiples of 5, decades)</li> <li>Explain why they place a number on a number line e.g. 50 is halfway 5 is near the beginning.</li> <li>Explain the value of each numeral in a number e.g. 43: 4=40.</li> <li>Explain the mental strategies that they use to calculate the answer and justify why they used + or -.</li> <li>They can reason why half of something is smaller piece of something. Fairness of equal parts.</li> <li>Explain that each coin is worth more/ less and is not related to the size.</li> <li>Explain the rule of a pattern with a number. They label their pattern with a number and transfer the rule to another pattern.</li> </ul>	<p>Reasoning includes using known facts to derive strategies for unfamiliar calculations, comparing and contrasting related models of operations, and creating and interpreting simple representations of data.</p> <ul style="list-style-type: none"> <li>Explain why patterns exist when skip counting from any number. E.g. 5's starting at 13, 18, 23, 28</li> <li>Use place value to explain why numbers are smaller/ greater.</li> <li>Explain why a particular strategy is more effective than others.</li> <li>Explain Part Part Whole</li> <li>Explain how addition is linked to multiplication. May use arrays to model their reasoning.</li> <li>Explain why a half is bigger/ more than a <math>\frac{1}{4}</math>.</li> <li>Give reasons why a number belongs in a pattern.</li> <li>Explain how they solved problem.</li> <li>Explain why they chose a particular operation to solve a story problem.</li> </ul>	<p>Reasoning includes using generalising from number properties and results of calculations, comparing angles, creating and interpreting variations in the results of data collections and data displays.</p> <ul style="list-style-type: none"> <li>Explain odd numbers can't be shared into 2 groups. Even numbers can be shared into two groups.</li> <li>Explain why two even numbers added together are even. Two odd numbers are even. An odd and an even number is odd.</li> <li>Use place value to explain why numbers are smaller/ larger.</li> <li>Explain the value of each numeral in a number.</li> <li>Part Part Whole</li> <li>Explain why they chose a particular mental strategy to calculate an answer.</li> <li>Reason that the section don't have to look the same but have to be equal (fractions)</li> </ul>	<p>Reasoning includes using generalising from number properties and results of calculations, deriving strategies for unfamiliar multiplication and division tasks, comparing angles, communicating information using graphical displays and evaluating the appropriateness of different displays.</p> <ul style="list-style-type: none"> <li>Explain why two even numbers added together are even. Two odd numbers are even. An odd and an even number is odd.</li> <li>Use place value to explain why numbers are smaller/ larger.</li> <li>Explain the value of each numeral in a number.</li> <li>Explain the relationship between multiplication and division. May use the triangle to guide their explanation.</li> <li>Explain the relationship between equivalent fractions using diagrams.</li> <li>Describe why they chose to place a fraction in a particular place on a number line.</li> <li>Explain the similarities and differences between fractions and decimals using diagrams, number lines etc.</li> <li>Describe the patterns in particular times table facts- giving reasons for why they exist.</li> <li>Choose an operation to solve word problems.</li> <li>Use part part whole to justify choice.</li> <li>Explain the role of the = sign in a number sentence. Reason why <math>6+3=\square+7</math> is a valid number sentence.</li> </ul>	<p>Reasoning includes investigating strategies to perform calculations efficiently, continuing patterns involving fractions and decimals, interpreting results of chance experiments, posing appropriate questions for data investigations and interpreting data sets</p> <ul style="list-style-type: none"> <li>Explain how estimation and rounding strategies can be effective when solving problems.</li> <li>Choose efficient strategies to solve multiplication/ division problems and describe why some strategies are better suited than others.</li> <li>Describe steps used to solve a problem.</li> <li>Reason how they placed fractions on a number line (when fractions have different denominators)</li> <li>Draw diagrams to represent each part to assist with addition and subtraction of fractions.</li> <li>Demonstrate their understanding by explaining 0.4 is greater than 0.237.</li> <li>Use a diagram/ model/ manipulative to show 1 into 100 pieces to represent hundredths.</li> <li>Explain the value of each numeral after the decimal point.</li> <li>When creating financial plans take into consideration: <ul style="list-style-type: none"> <li>Costs</li> <li>GST</li> <li>Budget</li> <li>External facts</li> </ul> </li> <li>Apply the rules in patterns and explain why it works every time.</li> </ul>	<p>Reasoning includes explaining mental strategies for performing calculations, describing results for continuing number sequences, explaining the transformation of one shape into another, explaining why the actual results of chance experiments may differ from expected results.</p> <ul style="list-style-type: none"> <li>After identifying a rule for a pattern in numbers explain why it will work for all numbers.</li> <li>Provide a number sentence that can be entered into a calculator to solve multi step problems.</li> <li>Reason why they put numbers in particular places on a number line.</li> <li>Represent addition, subtraction of fractions with different denominators with diagrams.</li> <li>Explain how estimation and rounding strategies can be effective in relation to decimals.</li> <li>Explain why the decimal point moves in multiplication and division by powers of 10. Linked reasons to place value.</li> <li>Show all working out when changing decimals to percentages.</li> <li>Perform tasks with brackets versus no brackets. Justify which answer is correct.</li> </ul>