

## Grade 2 Outcomes

### Number Strand

Outcomes	Achievement Indicators
1. Say the number sequence from 0 to 100 by <ul style="list-style-type: none"> <li>• 2s, 5s, and 10s, forward and backward, using starting points that are multiples of 2, 5, and 10 respectively</li> <li>• 10s using starting points from 1 to 9</li> <li>• 2s starting from 1</li> </ul>	<ul style="list-style-type: none"> <li>➤ Extend a skip counting sequence (by 2s, 5s, or 10s) forward and backward.</li> <li>➤ Skip count by 10s, given any number from 1 to 9 as a starting point.</li> <li>➤ Count by 2s starting from 1 or from any odd number.</li> <li>➤ Identify and correct errors and omissions in a given skip-counting sequence.</li> <li>➤ Count a sum of money with pennies, nickels, or dimes (to 100¢).</li> <li>➤ Count quantity using groups of 2s, 5s, or 10s and counting on.</li> </ul>
2. Demonstrate if a number (up to 100) is even or odd.	<ul style="list-style-type: none"> <li>➤ Determine if a number is even or odd by using concrete materials or pictorial representations.</li> <li>➤ Identify even and odd numbers in a sequence, such as in a hundred chart.</li> <li>➤ Sort a set of numbers into even and odd.</li> </ul>
3. Describe order or relative position using ordinal numbers.	<ul style="list-style-type: none"> <li>➤ Indicate a position of a specific object in a sequence by using ordinal numbers.</li> <li>➤ Compare the relative position of an object in two different sequences.</li> </ul>
4. Represent and describe numbers to 100, concretely, pictorially, and symbolically.	<ul style="list-style-type: none"> <li>➤ Represent a number using concrete materials, such as ten frames and base-10 materials.</li> <li>➤ Represent a number using coins (pennies, nickels, dimes, and quarters).</li> <li>➤ Represent a number using tallies.</li> <li>➤ Represent a number pictorially.</li> <li>➤ Represent a number using expressions (e.g., <math>24 + 6</math>, <math>15 + 15</math>, <math>40 - 10</math>).</li> <li>➤ Read a number (0–100) in symbolic or word form.</li> <li>➤ Record a given number (0–20) in words.</li> <li>➤ Determine compatible number pairs for 20 or 50.</li> </ul>
5. Compare and order numbers up to 100.	<ul style="list-style-type: none"> <li>➤ Order a set of numbers in ascending or descending order, and verify the result using a hundred chart, number line, ten frames, or by making references to place value.</li> <li>➤ Identify errors in an ordered sequence.</li> <li>➤ Identify missing numbers in a hundred chart.</li> <li>➤ Identify errors in a hundred chart.</li> </ul>
6. Estimate quantities to 100 using referents.	<ul style="list-style-type: none"> <li>➤ Estimate a quantity by comparing it to a referent (known quantity).</li> <li>➤ Estimate the number of groups of 10 in a quantity using 10 as a referent.</li> <li>➤ Select between two possible estimates for a quantity, and explain the choice.</li> </ul>

<p>2.N.7. Illustrate, concretely and pictorially, the meaning of place value for numerals to 100.</p>	<ul style="list-style-type: none"> <li>➤ Explain and show with counters the meaning of each digit for a 2-digit numeral with both digits the same (e.g., for the numeral 22, the first digit represents two tens [twenty counters] and the second digit represents two ones [two counters]).</li> <li>➤ Count the number of objects in a set using groups of 10s and 1s, and record the result as a 2-digit numeral under the headings of 10s and 1s.</li> <li>➤ Describe a 2-digit numeral in at least two ways (e.g., 24 as two 10s and four 1s, twenty and four, two groups of ten and four left over, and twenty-four ones).</li> <li>➤ Illustrate using 10 frames and diagrams that a numeral consists of a certain number of groups of 10 and a certain number of 1s.</li> <li>➤ Illustrate using proportional base-10 materials that a numeral consists of a certain number of tens and a certain number of ones.</li> <li>➤ Explain why the value of a digit depends on its placement within a numeral.</li> </ul>
<p>8. Demonstrate and explain the effect of adding zero to or subtracting zero from any number.</p>	<ul style="list-style-type: none"> <li>➤ Add zero to a number and explain why the sum is the same as the addend.</li> <li>➤ Subtract zero from a number and explain why the difference is the same as the number.</li> </ul>
<p>9. Demonstrate an understanding of addition (limited to 1- and 2-digit numerals) with answers to 100 and the corresponding subtraction by</p> <ul style="list-style-type: none"> <li>• using personal strategies for adding and subtracting with and without the support of manipulatives</li> <li>• creating and solving problems that involve addition and subtraction</li> <li>• explaining that the order in which numbers are added does not affect the sum</li> <li>• explaining that the order in which numbers are subtracted may affect the difference</li> </ul>	<ul style="list-style-type: none"> <li>➤ Model addition and subtraction using concrete materials or visual representations, and record the process symbolically.</li> <li>➤ Create an addition or a subtraction number sentence and a story problem for a solution.</li> <li>➤ Solve a problem involving a missing addend, and describe the strategy used.</li> <li>➤ Solve a problem involving a missing minuend or subtrahend, and describe the strategy used.</li> <li>➤ Match a number sentence to a missing addend problem.</li> <li>➤ Match a number sentence to a missing subtrahend or minuend problem.</li> <li>➤ Add a set of numbers in two different ways, and explain why the sum is the same, (e.g., <math>2 + 5 + 3 + 8 = [2 + 3] + 5 + 8</math> or <math>5 + 3 + [8 + 2]</math>).</li> </ul>
<p>10. Apply mental mathematics strategies, such as</p> <ul style="list-style-type: none"> <li>• using doubles</li> <li>• making 10</li> <li>• one more, one less</li> <li>• two more, two less</li> <li>• building on a known double</li> <li>• addition for subtraction</li> </ul> <p>to develop recall of basic addition facts to 18 and related subtraction facts.</p>	<ul style="list-style-type: none"> <li>➤ Explain the mental mathematics strategy that could be used to determine a basic fact, such as <ul style="list-style-type: none"> <li>• doubles (e.g., for <math>4 + 6</math>, think <math>5 + 5</math>)</li> <li>• doubles plus one (e.g., for <math>4 + 5</math>, think <math>4 + 4 + 1</math>)</li> <li>• doubles take away one (e.g., for <math>4 + 5</math>, think <math>5 + 5 - 1</math>)</li> <li>• doubles plus two (e.g., for <math>4 + 6</math>, think <math>4 + 4 + 2</math>)</li> <li>• doubles take away two (e.g., for <math>4 + 6</math>, think <math>6 + 6 - 2</math>)</li> <li>• making 10 (e.g., for <math>7 + 5</math>, think <math>7 + 3 + 2</math>)</li> <li>• building on a known double (e.g., <math>6 + 6 = 12</math>, so <math>6 + 7 = 12 + 1 = 13</math>)</li> <li>• addition to subtraction (e.g., for <math>7 - 3</math>, think <math>3 + ? = 7</math>)</li> </ul> </li> <li>➤ Use and describe a personal strategy for determining a sum to 18 and the corresponding subtraction.</li> </ul>

## Patterns & Relations Strand

Outcomes	Achievement Indicators
<p>1. Predict an element in a repeating pattern using a variety of strategies.</p>	<ul style="list-style-type: none"> <li>➤ Identify the core of a repeating pattern.</li> <li>➤ Describe and extend a double attribute pattern.</li> <li>➤ Explain the rule used to create a repeating non-numerical pattern.</li> <li>➤ Predict an element in a repeating pattern using a variety of strategies.</li> <li>➤ Predict an element of a pattern, and extend the pattern to verify the prediction.</li> </ul>
<p>2. Demonstrate an understanding of increasing patterns by</p> <ul style="list-style-type: none"> <li>• describing</li> <li>• reproducing</li> <li>• extending</li> <li>• creating</li> </ul> <p>patterns using manipulatives, diagrams, sounds, and actions (numbers to 100).</p>	<ul style="list-style-type: none"> <li>➤ Identify and describe increasing patterns in a variety of contexts (e.g., hundred chart, number line, addition tables, calendar, a tiling pattern, or drawings).</li> <li>➤ Represent an increasing pattern concretely and pictorially.</li> <li>➤ Identify errors in an increasing pattern.</li> <li>➤ Explain the rule used to create an increasing pattern.</li> <li>➤ Create an increasing pattern and explain the pattern rule.</li> <li>➤ Represent an increasing pattern using another mode (e.g., colour to shape).</li> <li>➤ Solve a problem using increasing patterns.</li> <li>➤ Identify and describe increasing patterns in the environment (e.g., house/room numbers, flower petals, book pages, calendar, pine cones, leap years).</li> <li>➤ Determine missing elements in a concrete, pictorial, or symbolic increasing pattern, and explain the reasoning.</li> </ul>
<p>3. Demonstrate and explain the meaning of equality and inequality by using manipulatives and diagrams (0 to 100).</p>	<ul style="list-style-type: none"> <li>➤ Determine whether two quantities of the same object (same shape and mass) are equal by using a balance scale.</li> <li>➤ Construct and draw two unequal sets using the same object (same shape and mass), and explain the reasoning.</li> <li>➤ Demonstrate how to change two sets, equal in number, to create inequality.</li> <li>➤ Choose from 3 or more sets the one that does not have a quantity equal to the others, and explain why.</li> </ul>
<p>4. Record equalities and inequalities symbolically using the equal symbol or the not-equal symbol.</p>	<ul style="list-style-type: none"> <li>➤ Determine whether two sides of a number sentence are equal (<math>=</math>) or not equal (<math>\neq</math>). Write the appropriate symbol and justify the answer.</li> <li>➤ Model equalities using a variety of concrete representations, and record the equality.</li> <li>➤ Model inequalities using a variety of concrete representations, and record the inequality.</li> </ul>

## Statistics & Probability Strand

Outcomes	Achievement Indicators
1. Gather and record data about self and others to answer questions.	<ul style="list-style-type: none"><li>➤ Formulate a question that can be answered by gathering information about self and others.</li><li>➤ Organize data as it is collected using concrete objects, tallies, checkmarks, charts, or lists.</li><li>➤ Answer questions using collected data.</li></ul>
2. Construct and interpret concrete graphs and pictographs to solve problems.	<ul style="list-style-type: none"><li>➤ Determine the common attributes of concrete graphs by comparing a set of concrete graphs.</li><li>➤ Determine the common attributes of pictographs by comparing a set of pictographs.</li><li>➤ Answer questions pertaining to a concrete graph or pictograph.</li><li>➤ Create a concrete graph to display a set of data and draw conclusions.</li><li>➤ Create a pictograph to represent a set of data using one-to-one correspondence.</li><li>➤ Solve a problem by constructing and interpreting a concrete graph or pictograph.</li></ul>

## Shape & Space Strand

Outcomes	Achievement Indicators
<p>1. Relate the number of days to a week and the number of months to a year in a problem-solving context.</p>	<ul style="list-style-type: none"> <li>➤ Read a date on a calendar.</li> <li>➤ Name and order the days of the week.</li> <li>➤ Identify the day of the week and the month of the year for an identified calendar date.</li> <li>➤ State that there are seven days in a week and twelve months in a year.</li> <li>➤ Determine whether a set of days is more or less than a week.</li> <li>➤ Identify yesterday's/tomorrow's date.</li> <li>➤ Identify the month that comes before and the month that comes after a given month.</li> <li>➤ Name and order the months of the year.</li> <li>➤ Solve a problem involving time that is limited to the number of days in a week and the number of months in a year.</li> </ul>
<p>2. Relate the size of a unit of measure to the number of units (limited to non-standard units) used to measure length and mass (weight).</p>	<ul style="list-style-type: none"> <li>➤ Explain why one of two non-standard units may be a better choice for measuring the length of an object.</li> <li>➤ Explain why one of two non-standard units may be a better choice for measuring the mass of an object.</li> <li>➤ Select a non-standard unit for measuring the length or mass of an object, and explain why it was chosen.</li> <li>➤ Estimate the number of non-standard units needed for a given measurement task.</li> <li>➤ Explain why the number of units of a measurement will vary depending upon the unit of measure used.</li> </ul>
<p>3. Compare and order objects by length, height, distance around, and mass (weight) using non-standard units, and make statements of comparison.</p>	<ul style="list-style-type: none"> <li>➤ Estimate, measure, and record the length, height, distance around, or mass (weight) of an object using non-standard units.</li> <li>➤ Compare and order the measure of two or more objects in ascending or descending order, and explain the method of ordering.</li> </ul>
<p>4. Measure length to the nearest non-standard unit by</p> <ul style="list-style-type: none"> <li>• using multiple copies of a unit</li> <li>• using a single copy of a unit (iteration process)</li> </ul>	<ul style="list-style-type: none"> <li>➤ Explain why overlapping or leaving gaps does not result in accurate measures.</li> <li>➤ Count the number of non-standard units required to measure the length of an object using a single copy or multiple copies of a unit.</li> <li>➤ Estimate and measure an object using multiple copies of a non-standard unit and using a single copy of the same unit many times, and explain the results.</li> <li>➤ Estimate and measure, using non-standard units, a given length that is not a straight line.</li> <li>➤ Create different rulers, using non-standard units of measure, and use rulers to measure length.</li> </ul>
<p>5. Demonstrate that changing the orientation of an object does not alter the measurements of its attributes.</p>	<ul style="list-style-type: none"> <li>➤ Measure an object, change the orientation, re-measure, and explain the results.</li> </ul>

<p>6. Sort 2-D shapes and 3-D objects using two attributes, and explain the sorting rule.</p>	<ul style="list-style-type: none"> <li>➤ Determine the differences between two pre-sorted sets, and explain the sorting rule.</li> <li>➤ Identify and name two common attributes of items within a sorted group.</li> <li>➤ Sort a set of 2-D shapes (regular and irregular) according to two attributes, and explain the sorting rule.</li> <li>➤ Sort a set of 3-D objects according to two attributes, and explain the sorting rule.</li> </ul>
<p>7. Describe, compare, and construct 3-D objects, including</p> <ul style="list-style-type: none"> <li>• cubes</li> <li>• spheres</li> <li>• cones</li> <li>• cylinders</li> <li>• pyramids</li> </ul>	<ul style="list-style-type: none"> <li>➤ Sort a set of 3-D objects, and explain the sorting rule.</li> <li>➤ Identify common attributes of cubes, spheres, cones, cylinders, and pyramids from given sets of the same 3-D objects.</li> <li>➤ Identify and describe 3-D objects with different dimensions.</li> <li>➤ Identify and describe 3-D objects with different orientations.</li> <li>➤ Create and describe a representation of a 3-D object using materials such as modelling clay.</li> <li>➤ Identify examples of cubes, spheres, cones, cylinders, and pyramids found in the environment.</li> </ul>
<p>8. Describe, compare, and construct 2-D shapes, including</p> <ul style="list-style-type: none"> <li>• triangles</li> <li>• squares</li> <li>• rectangles</li> <li>• circles</li> </ul>	<ul style="list-style-type: none"> <li>➤ Sort a set of 2-D shapes, and explain the sorting rule.</li> <li>➤ Identify common attributes of triangles, squares, rectangles, and circles from sets of the same type of 2-D shapes.</li> <li>➤ Identify 2-D shapes with different dimensions.</li> <li>➤ Identify 2-D shapes with different orientations.</li> <li>➤ Create a model to represent a 2-D shape.</li> <li>➤ Create a pictorial representation of a 2-D shape.</li> </ul>
<p>9. Identify 2-D shapes as parts of 3-D objects in the environment.</p>	<ul style="list-style-type: none"> <li>➤ Compare and match a 2-D shape, such as a triangle, square, rectangle, or circle, to the faces of 3-D objects in the environment.</li> <li>➤ Name the 2-D faces of a 3-D object.</li> </ul>