[C] Communication	**[PS]** Problem Solving
[CN] Connections	**[R]** Reasoning
[ME] Mental Mathematics and Estimation	**[T]** Technology
	[V] Visualization

Strand: Number	General Learning Outcome: Develop number sense.
Specific Learning Outcomes *It is expected that students will:*	**Achievement Indicators** *The following set of indicators **may** be used to determine whether students have met the corresponding specific outcome.*
1.N.1. Say the number sequence by ■ 1s forward and backward between any two given numbers (0 to 100) ■ 2s to 30, forward starting at 0 ■ 5s and 10s to 100, forward starting at 0 [C, CN, ME, V]	■ Recite forward by 1s the number sequence between two given numbers (0 to 100). ■ Recite backward by 1s the number sequence between two given numbers. ■ Record a numeral (0 to 100) symbolically when it is presented orally. ■ Read a numeral (0 to 100) when it is presented symbolically. ■ Skip-count by 2s to 30 starting at 0. ■ Skip-count by 5s to 100 starting at 0. ■ Skip-count by 10s to 100 starting at 0. ■ Identify and correct errors and omissions in a number sequence.
1.N.2. Subitize and name familiar arrangements of 1 to 10 dots (or objects). [C, CN, ME, V]	■ Look briefly at a familiar dice arrangement of 1 to 6 dots, and identify the number represented without counting. ■ Look briefly at a familiar ten-frame arrangement of 1 to 10 dots (or objects), and identify the number represented without counting. ■ Look briefly at a finger arrangement, and identify how many fingers there are without counting. ■ Identify the number represented by an arrangement of dots (or objects) on a ten frame, and describe the number's relationship to 5 and to 10.
1.N.3. Demonstrate an understanding of counting by ■ using the counting-on strategy ■ using parts or equal groups to count sets [C, CN, ME, R, V]	(It is intended that the sets be limited to less than 30 objects and that students count on from multiples of 2, 5, and 10 respectively.) ■ Determine the total number of objects in a set, starting from a known quantity and counting on by 1s. ■ Count number of objects in a set using groups of 2s, 5s, or 10s. ■ Count the total number of objects in a set, starting from a known quantity and counting on by using groups of 2s, 5s, or 10s.

Grade 1

Strand: Number *(continued)*	**General Learning Outcome:** Develop number sense.
Specific Learning Outcomes *It is expected that students will:*	**Achievement Indicators** *The following set of indicators **may** be used to determine whether students have met the corresponding specific outcome.*
1.N.4. Represent and describe numbers to 20, concretely, pictorially, and symbolically. [C, CN, V]	■ Represent a number up to 20 using a variety of manipulatives, including ten frames and base-10 materials. ■ Read number words to 20. ■ Partition any quantity up to 20 into two parts, and identify the number of objects in each part. ■ Represent a number to 20 in two parts, concretely, pictorially, and symbolically. ■ Determine compatible number pairs for 5, 10, and 20. ■ Model a number using two different objects (e.g., 10 desks represents the same number as 10 pencils). ■ Place numerals on a horizontal or vertical number line with benchmarks 0, 5, 10, and 20.
1.N.5. Compare and order sets containing up to 20 elements to solve problems using ■ referents ■ one-to-one correspondence [C, CN, ME, PS, R, V]	■ Build a set equal to another set that contains up to 20 elements. ■ Build a set that has more, fewer, or as many elements as another set. ■ Build several sets of different objects that have the same number of elements in the set. ■ Compare two sets using one-to-one correspondence, and describe them using comparative words such as "more," "fewer," or "as many." ■ Compare a set to a referent using comparative language. ■ Solve a story problem (pictures and words) that involves the comparison of two quantities.
1.N.6. Estimate quantities to 20 by using referents. [C, ME, PS, R, V]	■ Estimate a quantity by comparing it to a referent (known quantity). ■ Select an estimate for a quantity by choosing between at least two possible choices, and explain the choice.

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		[V] Visualization

Strand: Number *(continued)*	**General Learning Outcome:** Develop number sense.
Specific Learning Outcomes *It is expected that students will:*	**Achievement Indicators** *The following set of indicators **may** be used to determine whether students have met the corresponding specific outcome.*
1.N.7. Demonstrate, concretely and pictorially, how a number, up to 30, can be represented by a variety of equal groups with and without singles. [C, R, V]	■ Represent a number in a variety of equal groups with and without singles (e.g., 17 can be represented by 8 groups of 2 and one single, 5 groups of 3 and two singles, 4 groups of 4 and one single, 3 groups of 5 and two singles, and 1 group of 10 with seven singles). ■ Recognize that for a number of counters, no matter how they are grouped, the total number of counters does not change. ■ Group a set of counters into equal groups with and without singles in more than one way, and explain which grouping makes counting easier.
1.N.8. Identify the number, up to 20, that is one more, two more, one less, and two less than a given number. [C, CN, ME, R, V]	■ Name the number that is one more, two more, one less, or two less than a given number, up to 20. ■ Represent a number on a ten frame that is one more, two more, one less, or two less than a given number.

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[ME]	Mental Mathematics and Estimation	[T]	Technology
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Strand: Number *(continued)*	General Learning Outcome: Develop number sense.
Specific Learning Outcomes *It is expected that students will:*	**Achievement Indicators** *The following set of indicators **may** be used to determine whether students have met the corresponding specific outcome.*
1.N.9. Demonstrate an understanding of addition of numbers with answers to 20 and their corresponding subtraction facts, concretely, pictorially, and symbolically, by ■ using familiar and mathematical language to describe additive and subtractive actions from their experience ■ creating and solving problems in context that involve addition and subtraction ■ modelling addition and subtraction using a variety of concrete and visual representations, and recording the process symbolically [C, CN, ME, PS, R, V]	■ Act out a story problem presented orally or through shared reading. ■ Indicate if the scenario in a story problem represents additive or subtractive action. ■ Represent the numbers and actions presented in a story problem by using manipulatives, and record them using sketches and/or number sentences. ■ Create a story problem for addition that connects to student experience, and simulate the action with counters. ■ Create a story problem for subtraction that connects to student experience, and simulate the action with counters. ■ Create a story problem for a number sentence. ■ Represent a story problem pictorially or symbolically to show the additive or subtractive action, and solve the problem.
1.N.10. Describe and use mental mathematics strategies including ■ counting on, counting back ■ using one more, one less ■ making 10 ■ starting from known doubles ■ using addition to subtract to determine the basic addition and related subtraction facts to 18. [C, CN, ME, PS, R, V] Recall of one more and one less, complementary (compatible) numbers that add up to 5 and 10, doubles (up to 5 + 5), and related subtraction facts is expected by the end of Grade 1.	(It is intended that students show their understanding of strategies using manipulatives, pictorial representations, and/or patterns when determining sums and differences.) ■ Use and describe a mental mathematics strategy for determining a sum. ■ Use and describe a mental mathematics strategy for determining a difference. ■ Use and describe the related addition facts for a subtraction fact (fact family) (e.g., $6 - 4 = 2$ has two related addition facts: $4 + 2 = 6$, $2 + 4 = 6$). ■ Use and describe related subtraction facts for an addition fact (fact family) (e.g., $2 + 3 = 5$ has two related subtraction facts: $5 - 3 = 2$, $5 - 2 = 3$).

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Strand: Patterns and Relations (Patterns)	General Learning Outcome: Use patterns to describe the world and solve problems.
Specific Learning Outcomes *It is expected that students will:*	**Achievement Indicators** *The following set of indicators **may** be used to determine whether students have met the corresponding specific outcome.*
1.PR.1. Demonstrate an understanding of repeating patterns (two to four elements) by ■ describing ■ reproducing ■ extending ■ creating patterns using manipulatives, diagrams, sounds, and actions. [C, PS, R, V]	■ Describe a repeating pattern containing two to four elements in its core. ■ Identify errors in a repeating pattern. ■ Identify the missing element(s) in a repeating pattern. ■ Create and describe a repeating pattern using a variety of manipulatives, musical instruments, ■ and actions. ■ Reproduce and extend a repeating pattern using manipulatives, diagrams, sounds, and actions. ■ Identify and describe, using everyday language, a repeating pattern in the environment (e.g., classroom, outdoors). ■ Identify repeating events (e.g., days of the week, birthdays, seasons).
1.PR.2. Translate repeating patterns from one representation to another. [C, R, V]	■ Represent a repeating pattern using another mode (e.g., actions to sound, colour to shape, ABC ABC to blue yellow green blue yellow green). ■ Describe a repeating pattern using a letter code (e.g., ABC ABC…).

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Strand: Patterns and Relations (Variables and Equations)	**General Learning Outcome:** Represent algebraic expressions in multiple ways.
Specific Learning Outcomes *It is expected that students will:*	**Achievement Indicators** *The following set of indicators **may** be used to determine whether students have met the corresponding specific outcome.*
1.PR.3. Describe equality as a balance and inequality as an imbalance, concretely and pictorially (0 to 20). [C, CN, R, V]	■ Construct two equal sets using the same objects (same shape and mass), and demonstrate their equality of number using a balance scale. ■ Construct two unequal sets using the same objects (same shape and mass), and demonstrate their inequality of number using a balance scale. ■ Determine if two concrete sets are equal or unequal, and explain the process used.
1.PR.4. Record equalities using the equal symbol (0 to 20). [C, CN, PS, V]	■ Represent an equality using manipulatives or pictures. ■ Represent a pictorial or concrete equality in symbolic form. ■ Provide examples of equalities where the sum or difference is on either the left or right side of the equal symbol (=). ■ Record different representations of the same quantity (0 to 20) as equalities.

Grade 1

Strand: Shape and Space (Measurement)	**General Learning Outcome:** Use direct or indirect measurement to solve problems.
Specific Learning Outcomes *It is expected that students will:*	**Achievement Indicators** *The following set of indicators **may** be used to determine whether students have met the corresponding specific outcome.*
1.SS.1. Demonstrate an understanding of measurement as a process of comparing by ■ identifying attributes that can be compared ■ ordering objects ■ making statements of comparison ■ filling, covering, or matching [C, CN, PS, R, V]	■ Identify common attributes, such as length (height), mass (weight), volume (capacity), and area, which could be used to compare a set of two objects. ■ Compare two objects and identify the attributes used to compare. ■ Determine which of two or more objects is longest/shortest by matching, and explain the reasoning. ■ Determine which of two or more objects is heaviest/lightest by comparing, and explain the reasoning. ■ Determine which of two or more objects holds the most/least by filling, and explain the reasoning. ■ Determine which of two or more objects has the greatest/least area by covering, and explain the reasoning.

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Strand: Shape and Space (3-D Objects and 2-D Shapes)	**General Learning Outcome:** Describe the characteristics of 3-D objects and 2-D shapes, and analyze the relationships among them.
Specific Learning Outcomes *It is expected that students will:*	**Achievement Indicators** *The following set of indicators **may** be used to determine whether* *students have met the corresponding specific outcome.*
1.SS.2. Sort 3-D objects and 2-D shapes using one attribute, and explain the sorting rule. [C, CN, R, V]	■ Sort a set of familiar 3-D objects or 2-D shapes using a given sorting rule. ■ Sort a set of familiar 3-D objects using a single attribute determined by the student, and explain the sorting rule. ■ Sort a set of 2-D shapes using a single attribute determined by the student, and explain the sorting rule. ■ Determine the difference between two pre-sorted sets of familiar 3-D objects or 2-D shapes, and explain a possible sorting rule used to sort them.
1.SS.3. Replicate composite 2-D shapes and 3-D objects. [CN, PS, V]	■ Select 2-D shapes from a given set of 2-D shapes to reproduce a composite 2-D shape. ■ Select 3-D objects from a given set of 3-D objects to reproduce a composite 3-D object. ■ Predict and select the 2-D shapes used to produce a composite 2-D shape, and verify by deconstructing the composite shape. ■ Predict and select the 3-D objects used to produce a composite 3-D object, and verify by deconstructing the composite object.
1.SS.4. Compare 2-D shapes to parts of 3-D objects in the environment. [C, CN, V]	■ Identify 3-D objects in the environment that have parts similar to a 2-D shape.