Mathematics 2

Outcomes

NOVA SCOTIA
NOUVELLE-ÉCOSSE

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Mathematics Grade 2

Prepared by the Department of Education and Early Childhood Development

This is the most recent version of the current curriculum materials as used by teachers in Nova Scotia.

Mathematics Grade 2 Outcomes

N01: Students will be expected to say the number sequence by

- 1s, forward and backward, starting from any point to 200
- 2s, forward and backward, starting from any point to 100
- 5s and 10s, forward and backward, using starting points that are multiples of 5 and 10 respectively to 100
- 10s, starting from any point, to 100

Performance Indicators:

N01.01 Extend counting sequence (by 1s), forward and backward.
N01.02 Extend a given skip counting sequence (by 2s, 5s, or 10s) forward and backward.
N01.03 Skip count by 10s, given any number as a starting point.
N01.04 Identify and correct errors and omissions in a given skip counting sequence.
N01.05 Count a given sum of money with pennies, nickels, or dimes (to 100¢).
N01.06 Count quantity using groups of 2s, 5s, or 10s and counting on.

N02: Students will be expected to demonstrate if a number (up to 100) is even or odd.

Performance Indicators:

N02.01 Use concrete materials or pictorial representations to determine if a given number is even or odd.
N02.02 Identify even and odd numbers in a given sequence, such as on a hundred chart.

N04: Students will be expected to represent and partition numbers to 100.

Performance Indicators:

N04.01 Represent a given number using concrete materials, such as ten-frames and base-ten materials.
N04.02 Represent a given number using coins (pennies, nickels, dimes, and quarters).
N04.03 Represent a given number using tallies.
N04.04 Represent a given number pictorially.
N04.05 Find examples of a given number in the environment.
N04.06 Represent a given number using expressions (e.g., 24 + 6, 15 + 15, 40 – 10).
N04.07 Read a number (0–100) given in symbolic or word form.
N04.08 Record in words a given number (0–20).
N04.09 Record, symbolically, any number (0–100).

N05: Students will be expected to compare and order numbers up to 100.

Performance Indicators:

N05.01 Compare and order a given 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.
N05.02 Identify errors in a given ordered sequence.
N05.03 Identify missing numbers in a given hundred chart.
N05.04 Identify errors in a given hundred chart.

N06: Students will be expected to estimate quantities to 100 by using referents.

Performance Indicators:

N06.01 Estimate a given quantity by comparing it to a referent (known quantity).
N06.02 Estimate the number of groups of ten in a given quantity using 10 as a referent.
N06.03 Select between two possible estimates for a given quantity and explain the choice.

N07: Students will be expected to illustrate, concretely and pictorially, the meaning of place value for numerals to 100.

Performance Indicators:

N07.01 Explain and show with counters the meaning of each digit for a given 2-digit numeral with both digits the same.
N07.02 Count the number of objects in a given set using groups of 10s and 1s, and record the result as a 2-digit numeral under the headings of 10s and 1s.
N07.03 Describe a given 2-digit numeral in at least two ways.
N07.04 Illustrate using ten-frames and diagrams that a given numeral consists of a certain number of groups of ten and a certain number of ones.
N07.05 Illustrate using proportional base-ten materials that a given numeral consists of a certain number of tens and a certain number of ones.
N07.06 Explain why the value of a digit depends on its placement within a numeral.
N07.07 Represent one unit if shown a pre-grouped model representing ten.

N08: Students will be expected to demonstrate and explain the effect of adding zero to or subtracting zero from any number.

Performance Indicators:

N08.01 Add zero to a given number and explain why the sum is the same as the addend.
N08.02 Subtract zero from a given number and explain why the difference is the same as the given Number.

N09: Students will be expected to demonstrate an understanding of addition (limited to 1- and 2-digit numerals) with answers to 100 and the corresponding subtraction by:

- using personal strategies for adding and subtracting with and without the support of manipulates
- creating and solving problems that involve addition and subtraction
- explaining and demonstrating that the order in which numbers are added does not affect the sum
- explaining and demonstrating that the order in which numbers are subtracted matters when finding a difference

Performance Indicators:

N09.01 Solve a given story problem of any type by modelling it with materials or a diagram, and write a number sentence that represents the thinking in the solution.
N09.02 Solve a given story problem of any type by writing a number expression and combining the numbers to complete the number sentences.
N09.03 Match a number sentence to a given story problem.
N09.04 Create an addition or a subtraction number sentence and a story problem for a given solution.
N09.05 Model addition and subtraction using concrete materials or visual representations and record the process symbolically.
N09.06 Add a given set of numbers in two different ways and explain why the sum is the same.
N09.07 Recognize and create equivalent addition and subtraction number sentences.

N10: Students will be expected to apply mental mathematics strategies to quickly recall basic addition facts to 18 and determine related subtraction facts.

Performance Indicators:

N10.01: Explain the mental mathematics strategy that could be used to determine basic addition facts.
  - Doubles Facts
  - Plus One Facts
  - One-Apart (Near Doubles) Facts
  - Plus Two Facts
  - Plus Zero Facts
  - Make-10 Facts
  - Two-Apart Facts
  - Plus Three Facts

N10.02 Use and describe a personal strategy for determining a sum to 18.
N10.03 Quickly recall basic addition facts to 18 in a variety of contexts.
N10.04 Explain the think-addition strategy used to determine a basic subtraction fact.
N10.05 Use and describe a personal strategy for determining the subtraction facts.

PR01: Students will be expected to demonstrate an understanding of repeating patterns (three to five elements) by describing, extending, comparing, and creating patterns using manipulatives, diagrams, sounds, and actions.

Performance Indicators:

PR01.01 Identify the core of a given repeating pattern.
PR01.02 Describe and extend a given double attribute pattern.
PR01.03 Create a repeating non-numerical pattern and explain the rule.
PR01.04 Predict an element of a given repeating pattern using a variety of strategies and extend the pattern up to the tenth element to verify the prediction.
PR01.05 Translate a repeating pattern from one mode to another.
PR01.06 Compare two given repeating patterns, and describe how they are alike/different.

PR02: Students will be expected to demonstrate an understanding of increasing patterns by describing, extending, and creating numerical patterns (numbers to 100) and non-numerical patterns using manipulatives, diagrams, sounds, and actions.

Performance Indicators:

PR02.01 Identify and describe increasing patterns in a variety of given contexts.
PR02.02 Represent a given increasing pattern concretely and pictorially.
PR02.03 Identify errors in a given increasing pattern.
PR02.04 Explain the rule used to create a given increasing pattern.
PR02.05 Create an increasing pattern and explain the pattern rule.
PR02.06 Represent a given increasing pattern using another mode.
PR02.07 Solve a given problem using increasing patterns.
PR02.08 Identify and describe increasing patterns in the environment.
PR02.09 Determine missing terms in a given concrete, pictorial, or symbolic increasing pattern and explain the reasoning.

PR03: Students will be expected to demonstrate and explain the meaning of equality and inequality by using manipulatives and diagrams (0 to 100).

Performance Indicators:

PR03.01 Determine whether two given quantities of the same object (same shape and mass) are equal by using a balance scale.
PR03.02 Construct and draw two unequal sets using the same object (same shape and mass) and explain the reasoning.

PR04: Students will be expected to record equalities and inequalities symbolically, using the equal symbol or not equal symbol.

Performance Indicators:

PR04.01 Determine whether two sides of a given number sentence are equal (=) or not equal (≠). Write the appropriate symbol and justify the answer.
PR04.02 Model equalities using a variety of concrete representations and record the equality.
PR04.03 Model inequalities using a variety of concrete representations and record the inequality.

M01: Students will be expected to demonstrate an understanding of the calendar and the relationships among days, weeks, months, and years.

Performance Indicators:

M01.01 Read a calendar.
M01.02 Name and order the days of the week and months of the year.
M01.03 Communicate the number of days in a week and the number of months in a year.
M01.04 Solve a given problem involving time which is limited to the number of days in a week and the number of months in a year.

M02: Students will be expected to relate the size of a unit of measure to the number of units (limited to non-standard units) used to measure length and mass.

Performance Indicators:

M02.01 Explain why one of two given non-standard units may be a better choice for measuring the length of an object.
M02.02 Explain why one of two given non-standard units may be a better choice for measuring the mass of an object.
M02.03 Select a non-standard unit for measuring the length or mass of an object and explain why it was chosen.
M02.04 Estimate the number of non-standard units needed for a given measurement task.
M02.05 Explain why the number of units of a measurement will vary depending upon the unit of measure used.

M03: Students will be expected to compare and order objects by length, height, and mass using non-standard units and make statements of comparison.

Performance Indicators:

M03.01 Estimate, measure, and record the length, height, or mass of a given object using non-standard units.
M03.02 Compare and order the measure of two or more objects in ascending or descending order and explain the method of ordering.

M04: Students will be expected to measure length to the nearest non-standard unit by using multiple copies of a unit.

Performance Indicators:

M04.01 Explain why overlapping or leaving gaps does not result in accurate measures.
M04.02 Count the number of non-standard units required to measure the length of a given object using multiple copies of a unit.
M04.03 Estimate and measure a given object using multiple copies of a non-standard unit and explain the results.

G01: Students will be expected to sort 2-D shapes and 3-D objects using two attributes and explain the sorting rule.

Performance Indicators:

G01.01 Determine the differences between two given presorted sets and explain the sorting rule.
G01.02 Identify and name two common attributes of items within a given sorted group.
G01.03 Sort a given set of 2-D shapes (regular and irregular) according to two attributes and explain the sorting rule.
G01.04 Sort a given set of 3-D objects according to two attributes and explain the sorting rule.

G02: Students will be expected to recognize, name, describe, compare, and build 3-D objects, including cubes and other prisms, spheres, cones, cylinders, and pyramids.

Performance Indicators

G02.01 Sort a given set of 3-D objects and explain the sorting rule.
G02.02 Identify common attributes of cubes and other prisms, spheres, cones, cylinders, and pyramids from given sets of the same 3-D objects.
G02.03 Identify and describe given 3-D objects with different dimensions.
G02.04 Identify and describe given 3-D objects with different positions.
G02.05 Create and describe a representation of a given 3-D object using materials such as modelling clay.
G02.06 Identify and name examples of cubes and other prisms, spheres, cones, cylinders, and pyramids found in the environment.

G03: Students will be expected to recognize, name, describe, compare and build 2-D shapes, including triangles, squares, rectangles, and circles.

Performance Indicators

G03.01 Sort a given set of 2-D shapes and explain the sorting rule.
G03.02 Identify common attributes of triangles, squares, rectangles, and circles from given sets of the same type of 2-D shapes.
G03.03 Identify given 2-D shapes with different dimensions.
G03.04 Identify given 2-D shapes with different positions.
G03.05 Identify and name examples of triangles, squares, rectangles, and circles found in the environment.
G03.06 Create a model to represent a given 2-D shape.
G03.07 Create a pictorial representation of a given 2-D shape.

G04: Students will be expected to identify 2-D shapes as part of 3-D objects in the environment.

Performance Indicators:

G04.01 Compare and match a given 2-D shape, such as a triangle, square, rectangle, or circle, to the faces of 3-D objects in the environment.
G04.02 Name the 2-D faces of a given 3-D object.

SP01: Students will be expected to gather and record data about self and others to answer questions.

Performance Indicators:

SP01.01 Formulate a question that can be answered by gathering information about self and others.
SP01.02 Organize data as it is collected using concrete objects, tallies, checkmarks, charts, or lists.
SP01.03 Answer questions using collected data.

SP02: Students will be expected to construct and interpret concrete graphs and pictographs to solve problems.

Performance Indicators:

SP02.01 Determine the common attributes of concrete graphs by comparing a given set of concrete graphs.
SP02.02 Determine the common attributes of pictographs by comparing a given set of pictographs.
SP02.03 Answer questions pertaining to a given concrete graph or pictograph.
SP02.04 Create a concrete graph to display a given set of data and draw conclusions.
SP02.05 Create a pictograph to represent a given set of data using one-to-one correspondence.
SP02.06 Solve a given problem by constructing and interpreting a concrete graph or pictograph.