



# Mathletics

## Nova Scotia Outcomes Alignment with Mathletics

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# Nova Scotia Outcomes Alignment with Mathletics

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# Nova Scotia Outcomes

## Alignment with Mathletics

### Mathletics and the Nova Scotia Outcomes

The education team at Mathletics is committed to providing a resource that is powerful, targeted, and, most importantly, relevant to all students.

Mathletics includes well over 1200 individual adaptive practice activities and eBooks available for all grades. Our team of educational publishers has created a course that specifically follows the Nova Scotia outcomes. You can be assured that students have access to relevant and targeted content.

Strands, substrands, and learning outcomes are supported with activities, each with pre and post assessment. What's more, Mathletics contains an extensive library of eBooks—for use on screen or as a printable resource—that are also mapped to the requirements of the Nova Scotia outcomes.

**This document outlines this mapping and acts as a useful guide when using Mathletics in your school.**

A stylized, handwritten signature in black ink.

Rene Burke  
CEO, 3P Learning Canada



Engage



Target



Diagnose



Assess



Report



Fluency





Mobile



# Nova Scotia Outcomes

## Alignment with Mathletics

### Nova Scotia Kindergarten



| Strand                 | General Curriculum Outcome  | Specific Curriculum Outcome | Outcome Description   |  Activities                                |  eBooks |
|------------------------|---|-----------------------------|---|---|--|
| Number                 | Students will be expected to demonstrate number sense                               | NS.K.NO1                    | Students will be expected to say the number sequence by: 1s, from 1 to 20; by 1s, starting anywhere from 1 to 10 and from 10 to 1.  | Count to 5<br>Order Numbers to 10<br>How Many?<br>Counting up to 20<br>Making Teen Numbers<br>Before, After and Between to 20 | Kindergarten Numbers and Patterns  |
| Number                 | Students will be expected to demonstrate number sense                               | NS.K.NO2                    | Recognize at a glance and name familiar arrangements of 1 to 5 objects or dots.   | How Many?<br>How many dots?   | Kindergarten Numbers and Patterns  |
| Number                 | Students will be expected to demonstrate number sense                               | NS.K.NO3                    | Relate a numeral, 1 to 10, to its respective quantity.  | How Many?<br>Who has the Goods?<br>How many dots?<br>Matching Numbers to 10   | Kindergarten Numbers and Patterns  |
| Number                 | Students will be expected to demonstrate number sense                               | NS.K.NO4                    | Represent and describe numbers 2 to 10 in two parts, concretely and pictorially.  | How Many?<br>Composing Numbers to 10<br>Balancing Act   | Kindergarten Numbers and Patterns  |
| Number                 | Students will be expected to demonstrate number sense                               | NS.K.NO5                    | Compare quantities, 1 to 10, using one-to-one correspondence.   | How Many?<br>More or Less?<br>How many Dots?<br>More, less or the same to 10  |  |
| Number                 | Students will be expected to demonstrate number sense                               | NS.K.NO6                    | Students will be expected to demonstrate an understanding of counting to 10.  | Order Numbers to 10   | Kindergarten Numbers and Patterns  |
| Patterns and Relations | Students will be expected to use patterns to describe the world and solve problems. | NS.K.PRO1                   | Students will be expected to demonstrate an understanding of repeating patterns (two or three elements) by identifying, reproducing, extending, and creating patterns using manipulatives, sounds, and actions. | Complete the Pattern<br>Missing it!<br>Colour Patterns<br>Simple Patterns   | Kindergarten Measurement   |
| Measurement            | Students will be expected to use direct and indirect measure to solve problems      | NS.K.MO1                    | Students will be expected to use direct comparison to compare two objects based on a single attribute, such as length, mass, volume, and capacity.  | Everyday Mass<br>Which Holds More?<br>Filling Fast!<br>Balancing Act<br>Same and Different<br>Everyday Length                 | Kindergarten Space and Shape   |



# Nova Scotia Outcomes

## Alignment with Mathletics

### Nova Scotia Kindergarten



| Strand   | General Curriculum Outcome  | Specific Curriculum Outcome | Outcome Description  |  Activities             |  eBooks |
|----------|---|-----------------------------|--|--|--|
| Geometry | Students will be expected to describe the characteristics of 3-D objects and 2-D shapes and analyze the relationships among them. | NS.K.G01                    | Students will be expected to sort 3-D objects using a single attribute | Collect the Objects<br>Collect the Objects 1<br>Match the Solid 1<br>Match the Solid 2<br>Match the Object | Kindergarten Space and Shape   |
| Geometry | Students will be expected to describe the characteristics of 3-D objects and 2-D shapes and analyze the relationships among them. | NS.K.G02                    | Students will be expected to build and describe 3-D objects            | Under review   | Kindergarten Space and Shape   |



# Nova Scotia Outcomes

## Alignment with Mathletics

### Nova Scotia Grade 1

| Strand | General Curriculum Outcome                             | Specific Curriculum Outcome | Outcome Description  |  Activities   |  eBooks |
|--------|--|-----------------------------|--|---|--|
| Number | Students will be expected to demonstrate number sense. | NS.1.N01                    | Students will be expected to say the number sequence by<br>* 1s, forward and backward between any two given numbers, 0 to 100<br>* 2s to 20, forward starting at 0<br>* 5s to 100, forward starting at 0, using a hundred chart or a number line<br>* 10s to 100, forward starting at 0, using a hundred chart or a number line. | Counting Backward<br>Counting Forward<br>Going Up<br>Going Down<br>Counting By Twos<br>Counting By Fives<br>Counting By Tens<br>Count by 2s, 5s and 10s<br>1 to 30<br>Before, After and Between 100<br>Number Lines<br>Matching Numbers to 20<br>Matching Numbers to 10<br>Ordering Numbers to 20<br>Number Line Order<br>Before, After and Between to 20 | Grade 1 Numbers  |
| Number | Students will be expected to demonstrate number sense. | NS.1.N02                    | Students will be expected to recognize, at a glance, and name the quantity represented by familiar arrangements of 1 to 10 objects or dots.  | How Many?   | Grade 1 Numbers  |
| Number | Number   | NS.1.N03                    | Students will be expected to demonstrate an understanding of counting to 20 by<br>* indicating that the last number said identifies "how many"<br>* showing that any set has only one count<br>* using the counting-on strategy.   | Counting Backward<br>Counting Forward<br>Going Up<br>Going Down<br>Counting By Twos<br>Counting By Fives<br>Counting By Tens<br>Count by 2s, 5s and 10s<br>1 to 30<br>Before, After and Between 100<br>Matching Numbers to 20<br>Matching Numbers to 10   | Grade 1 Numbers  |
| Number | Students will be expected to demonstrate number sense. | NS.1.N04                    | Students will be expected to represent and partition numbers to 20.  | Making Teen Numbers<br>Making Numbers Count<br>Making Big Numbers Count<br>Matching Numbers to 20<br>Matching Numbers to 10<br>Arranging Numbers  | Grade 1 Numbers  |
| Number | Students will be expected to demonstrate number sense. | NS.1.N05                    | Students will be expected to compare sets containing up to 20 objects to solve problems using referents and one-to-one correspondence.   | Comparing Groups of Objects<br>More or Less?<br>Arranging Numbers   | Grade 1 Operations with Number   |







# Nova Scotia Outcomes

## Alignment with Mathletics

### Nova Scotia Grade 1

| Strand                 | General Curriculum Outcome  | Specific Curriculum Outcome | Outcome Description  |  Activities  |  eBooks |
|------------------------|---|-----------------------------|--|--|--|
| Number                 | Students will be expected to demonstrate number sense.                              | NS.1.N06                    | Estimate quantities to 20 by using referents.  | Under review   | Grade 1 Operations with Number   |
| Number                 | Students will be expected to demonstrate number sense.                              | NS.1.N07                    | Students will be expected to demonstrate an understanding of conservation of number for up to 20 objects.  | Balance Numbers to 10<br>Balance Numbers to 20   | Grade 1 Numbers  |
| Number                 | Students will be expected to demonstrate number sense.                              | NS.1.N08                    | Students will be expected to identify the number, up to 20, that is one more, two more, one less, and two less than a given number.  | Before, After and Between to 20<br>1 more, 2 less  | Grade 1 Numbers  |
| Number                 | Students will be expected to demonstrate number sense.                              | NS.1.N09                    | Students will be expected to demonstrate an understanding of the addition of two single-digit numbers and the corresponding subtraction, concretely, pictorially, and symbolically in join, separate, equalize/compare, and part-part-whole situations.        | Addition Facts<br>Addition<br>Model Addition<br>Model Subtraction<br>Subtraction Facts to 18<br>All about Ten<br>All about Twenty<br>Additive Addition<br>Simple Subtraction<br>Problems: Add and Subtract<br>Add and Subtract Problems<br>Add and Subtract Using Graphs<br>Adding to 10 Word Problems | Grade 1 Operations with Number   |
| Number                 | Students will be expected to demonstrate number sense.                              | NS.1.N010                   | Students will be expected to use and describe strategies to determine sums and differences using manipulatives and visual aids. Strategies include<br>* counting on or counting back<br>* one more or one less<br>* making ten<br>* doubles<br>* near doubles. | All About Ten<br>All About Twenty<br>Fact Families: Add and Subtract<br>Related Facts 1<br>1 more, 2 less<br>Adding to make 5 and 10<br>Adding to Ten<br>Doubles and Halves to 10<br>Doubles and Halves to 20<br>Doubles and Near Doubles<br>Composing Additions to 20                                 | Grade 1 Operations with Number   |
| Patterns and Relations | Students will be expected to use patterns to describe the world and solve problems. | NS.1.PR01                   | Students will be expected to demonstrate an understanding of repeating patterns (two to four elements) by describing, reproducing, extending, and creating patterns using manipulatives, diagrams, sounds, and actions.  | Simple Patterns<br>Missing it!<br>Pattern Error<br>Increasing Patterns<br>Decreasing Patterns<br>Colour Patterns<br>Balancing Act  | Grade 1 Patterns and Relationships   |







# Nova Scotia Outcomes

## Alignment with Mathletics

### Nova Scotia Grade 1



| Strand                 | General Curriculum Outcome  | Specific Curriculum Outcome | Outcome Description  |  Activities    |  eBooks |
|------------------------|---|-----------------------------|--|---|--|
| Patterns and Relations | Students will be expected to use patterns to describe the world and solve problems.   | NS.1.PR02                   | Translate repeating patterns from one representation to another.   | Simple Patterns<br>Pattern Error<br>Increasing Patterns<br>Decreasing Patterns<br>Colour Patterns | Grade 1<br>Patterns and Relationships  |
| Patterns and Relations | Students will be expected to represent algebraic expressions in multiple ways.  | NS.1.PR03                   | Describe equality as a balance and inequality as an imbalance, concretely and pictorially (0 to 20).   | Balance Numbers to 20   |  |
| Patterns and Relations | Students will be expected to represent algebraic expressions in multiple ways.  | NS.1.PR04                   | Record equalities using the equal symbol.  | More, less or the same to 10<br>More, less or the same to 20                                      | Grade 1<br>Numbers   |
| Measurement            | Students will be expected to use direct and indirect measure to solve problems.   | NS.1.M01                    | 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. | Biggest Shape<br>Filling Fast!<br>Everyday Length<br>Balancing Objects                            | Grade 1<br>Measurement   |
| Geometry               | Students will be expected to describe the characteristics of 3-D objects and 2-D shapes and analyze the relationships among them. | NS.1.G01                    | Students will be expected to sort 3-D objects and 2-D shapes using one attribute and explain the sorting rule.   | Sort it<br>Collect the Shapes<br>Collect the Objects<br>Which Hold More?<br>Collect Simple Shapes | Grade 1<br>Space and Shape   |
| Geometry               | Students will be expected to describe the characteristics of 3-D objects and 2-D shapes and analyze the relationships among them. | NS.1.G02                    | Replicate composite 2-D shapes and 3-D objects.  | Sort it<br>Collect the Shapes<br>Collect More Shapes<br>Collect the Objects                       | Grade 1<br>Space and Shape   |



# Nova Scotia Outcomes

## Alignment with Mathletics

### Nova Scotia Grade 1



| Strand   | General Curriculum Outcome  | Specific Curriculum Outcome | Outcome Description  |  Activities |  eBooks |
|----------|---|-----------------------------|--|---|--|
| Geometry | Students will be expected to describe the characteristics of 3-D objects and 2-D shapes and analyze the relationships among them. | NS.1.G03                    | Students will be expected to identify 2-D shapes in 3-D objects. | Match the Solid 1<br>Match the Object   | Grade 1 Space and Shape  |



# Nova Scotia Outcomes

## Alignment with Mathletics



### Nova Scotia Grade 2

| Strand | General Curriculum Outcome                             | Specific Curriculum Outcome | Outcome Description  |  Activities   |  eBooks |
|--------|--|-----------------------------|--|---|--|
| Number | Students will be expected to demonstrate number sense. | NS.2.N01                    | Students will be expected to say the number sequence by<br>* 1s, forward and backward, starting from any point to 200<br>* 2s, forward and backward, starting from any point to 100<br>* 5s and 10s, forward and backward, using starting points that are multiples of 5 and 10 respectively to 100<br>* 10s, starting from any point, to 100. | Counting by Twos<br>Counting by Fives<br>Counting by Tens<br>Counting by 2s, 5s and 10s<br>Counting on a 100 grid<br>Going Up<br>Number Line Order<br>Going Down<br>Skip Counting<br>Skip Counting with Coins | Grade 2 Numbers  |
| Number | Students will be expected to demonstrate number sense. | NS.2.N02                    | Demonstrate if a number (up to 100) is even or odd.  | Odd and Even Numbers 1<br>Odd or Even   | Grade 2 Numbers<br>Grade 2 Patterns and Relationships                                      |
| Number | Students will be expected to demonstrate number sense. | NS.2.N03                    | Describe order or relative position using ordinal numbers (up to tenth).   | 1st to 31st<br>Ordinal Numbers<br>Reading Numbers to 30   | Grade 2 Numbers  |
| Number | Students will be expected to demonstrate number sense. | NS.2.N04                    | Students will be expected to represent and partition numbers to 100.   | Model Numbers<br>Repartition Two-digit Numbers  | Grade 2 Numbers  |
| Number | Students will be expected to demonstrate number sense. | NS.2.N05                    | Compare and order numbers up to 100.   | Arranging Numbers<br>Number Line Order<br>Greater or Less to 100  | Grade 2 Numbers  |
| Number | Students will be expected to demonstrate number sense. | NMB.2.N06                   | Estimate quantities to 100 using referents.  | Under review  | Grade 2 Operations with Number   |
| Number | Students will be expected to demonstrate number sense. | NS.2.N07                    | Illustrate, concretely and pictorially, the meaning of place value for numerals to 100.  | Arranging Numbers<br>Number Line Order<br>Make Numbers Count<br>Making Numbers Count<br>Making Big Numbers Count<br>Place value 1<br>Understanding Place Value 1<br>Repartition Two-digit Numbers             | Grade 2 Numbers  |



# Nova Scotia Outcomes Alignment with Mathletics

## Nova Scotia Grade 2



| Strand                 | General Curriculum Outcome  | Specific Curriculum Outcome | Outcome Description  |  Activities   |  eBooks |
|------------------------|---|-----------------------------|--|--|--|
| Number                 | Students will be expected to demonstrate number sense.                              | NS.2.N08                    | Demonstrate and explain the effect of adding zero to or subtracting zero from any number.  | Concept of zero  | Grade 2 Numbers  |
| Number                 | Students will be expected to demonstrate number sense.                              | NS.2.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<br>* using personal strategies for adding and subtracting with and without the support of manipulatives<br>* creating and solving problems that involve addition and subtraction<br>* explaining and demonstrating that the order in which numbers are added does not affect the sum<br>* explaining and demonstrating that the order in which numbers are subtracted matters when finding a difference. | Add Numbers: Regroup a Ten<br>Add Three 1-Digit Numbers<br>Add Two 2-Digit Numbers<br>Adding to 2-digit numbers<br>Model Addition<br>Mental Addition<br>Columns that Add<br>Bar model problems 1<br>Subtract Tens<br>Subtract Numbers<br>Subtract Numbers: Regroup<br>Simple Subtraction<br>Mental Subtraction<br>Repertition to Subtract<br>Columns that Subtract | Grade 2 Operations with Number   |
| Number                 | Students will be expected to demonstrate number sense.                              | NS.2.N010                   | Students will be expected to apply mental mathematics strategies to quickly recall basic addition facts to 18 and determine related subtraction facts.   | Additive Addition<br>Related Facts 1<br>Compensation - Add<br>Compensation - Subtract<br>Add 3 Numbers Using Bonds to 10<br>Adding In Any Order<br>Commutative Property of Addition<br>Doubles and Near Doubles<br>Doubles and Halves to 10<br>Doubles and Halves to 20  | Grade 2 Operations with Number   |
| Patterns and Relations | Students will be expected to use patterns to describe the world and solve problems. | NS.2.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.   | Simple Patterns<br>Pattern Error<br>Increasing Patterns<br>Describing Patterns<br>Decreasing Patterns<br>Missing Values<br>Colour Patterns<br>Count Backward Patterns<br>Count Forward Patterns  | Grade 2 Patterns and Relationships   |



# Nova Scotia Outcomes

## Alignment with Mathletics

### Nova Scotia Grade 2



| Strand                 | General Curriculum Outcome  | Specific Curriculum Outcome | Outcome Description  |  Activities            |  eBooks |
|------------------------|---|-----------------------------|--|---|--|
| Patterns and Relations | Students will be expected to use patterns to describe the world and solve problems. | NS.2.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. | Count Forward Patterns<br>Simple Patterns<br>Pattern Error<br>Increasing Patterns<br>Colour Patterns      | Grade 2 Patterns and Relationships   |
| Patterns and Relations | Students will be expected to represent algebraic expressions in multiple ways.      | NS.2.PR03                   | Demonstrate and explain the meaning of equality and inequality by using manipulatives and diagrams (0 to 100).   | Missing Values<br>Balancing Act   | Under review   |
| Patterns and Relations | Students will be expected to represent algebraic expressions in multiple ways.      | NS.2.PR04                   | Record equalities and inequalities symbolically using the equal symbol or the not equal symbol.  | Compare Numbers to 20<br>Compare Numbers to 100   | Grade 2 Numbers  |
| Measurement            | Students will be expected to use direct and indirect measure to solve problems      | NS.2.M01                    | Students will be expected to demonstrate an understanding of the calendar and the relationships among days, weeks, months, and years.  | Days of the Week<br>Months of the Year<br>Using a Calendar  | Grade 2 Time and Monday  |
| Measurement            | Students will be expected to use direct and indirect measure to solve problems      | NS.2.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.  | Measuring length with blocks<br>Everyday Length<br>Comparing Length<br>Everyday Mass<br>How Long is That? | Grade 2 Measurement  |
| Measurement            | Students will be expected to use direct and indirect measure to solve problems      | NS.2.M03                    | Students will be expected to compare and order objects by length, height, distance around, and mass using non-standard units and make statements of comparison.  | Measuring length with blocks<br>Balancing Act   | Grade 2 Measurement  |
| Measurement            | Students will be expected to use direct and indirect measure to solve problems      | NS.2.M04                    | Students will be expected to measure length to the nearest non-standard unit by using multiple copies of a unit and using a single copy of a unit (iteration process).   | Measuring length with blocks  | Grade 2 Measurement  |



# Nova Scotia Outcomes

## Alignment with Mathletics

### Nova Scotia Grade 2

| Strand      | General Curriculum Outcome  | Specific Curriculum Outcome | Outcome Description  |  Activities  |  eBooks |
|-------------|---|-----------------------------|--|---|--|
| Measurement | Students will be expected to use direct and indirect measure to solve problems  | NS.2.M05                    | Students will be expected to demonstrate that changing the position of an object does not alter the measurements of its attributes.                                | Under Review  |  |
| Geometry    | Students will be expected to describe the characteristics of 3-D objects and 2-D shapes and analyze the relationships among them. | NS.2.G01                    | Students will be expected to sort 2-D shapes and 3-D objects using two attributes and explain the sorting rule.  | Sort It<br>Collect the Shapes<br>Collect Simple Shapes<br>Collect the Shapes 1<br>Collect the Shapes 2<br>Collect the Objects<br>Collect the Objects 1<br>Collect the Objects 2 | Grade 2 Space and Shape  |
| Geometry    | Students will be expected to describe the characteristics of 3-D objects and 2-D shapes and analyze the relationships among them. | NS.2.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. | Sort It<br>Collect the Shapes<br>Collect Simple Shapes<br>Collect the Shapes 1<br>Collect the Shapes 2<br>Collect the Objects<br>Collect the Objects 1<br>Collect the Objects 2 | Grade 2 Space and Shape  |
| Geometry    | Students will be expected to describe the characteristics of 3-D objects and 2-D shapes and analyze the relationships among them. | NS.2.G03                    | Students will be expected to recognize, name, describe, compare, and build 2-D shapes, including triangles, squares, rectangles, and circles.                      | Sort It<br>Collect the Shapes<br>Collect Simple Shapes<br>Collect the Shapes 1<br>Collect the Shapes 2<br>Collect the Objects<br>Collect the Objects 1<br>Collect the Objects 2 | Grade 2 Space and Shape  |
| Geometry    | Students will be expected to describe the characteristics of 3-D objects and 2-D shapes and analyze the relationships among them. | NS.2.G04                    | Students will be expected to identify 2-D shapes as part of 3-D objects in the environment.  | Match the Object<br>Match the Solid 1<br>Match the Solid 2<br>Relate Shapes and Solids  | Grade 2 Space and Shape  |







# Nova Scotia Outcomes

## Alignment with Mathletics

### Nova Scotia Grade 2

| Strand                     | General Curriculum Outcome   | Specific Curriculum Outcome | Outcome Description  |  Activities |  eBooks |
|----------------------------|--|-----------------------------|--|--|--|
| Statistics and Probability | Students will be expected to collect, display, and analyze data to solve problems. | NS.2.SP01                   | Gather and record data about self and others to answer questions.          | Tallies<br>Making Graphs<br>Sorting Data   | Grade 2<br>Chance and Data   |
| Statistics and Probability | Students will be expected to collect, display, and analyze data to solve problems. | NS.2.SP02                   | Construct and interpret concrete graphs and pictographs to solve problems. | Add and Subtract Using Graphs<br>Pictographs   | Grade 2<br>Chance and Data   |







# Nova Scotia Outcomes

## Alignment with Mathletics

### Nova Scotia Grade 3

| Strand | General Curriculum Outcome                             | Specific Curriculum Outcome | Outcome Description  |  Activities   |  eBooks |
|--------|--|-----------------------------|--|---|--|
| Number | Students will be expected to demonstrate number sense. | NS.3.N01                    | Students will be expected to say the number sequence forward and backward by<br>* 1s through transitions to 1000<br>* 2s, 5s, 10s, or 100s, using any starting point to 1000<br>* 3s, using starting points that are multiples of 3 up to 100<br>* 4s, using starting points that are multiples of 4 up to 100<br>* 25s, using starting points that are multiples of 25 up to 200. | Counting by Fives<br>Counting by Tens<br>Skip Counting<br>Skip Counting with coins  | Grade 2 Numbers  |
| Number | Students will be expected to demonstrate number sense. | NS.3.N02                    | Students will be expected to represent and partition numbers to 1000.  | Model Numbers<br>How many Blocks?   | Grade 3 Reading and Understanding Whole Numbers  |
| Number | Students will be expected to demonstrate number sense. | NS.3.N03                    | Compare and order numbers to 1000.   | Which is Bigger?<br>Which is Smaller?<br>Compare Numbers to 100<br>Ascending Order<br>Descending Order  | Grade 3 Reading and Understanding Whole Numbers  |
| Number | Students will be expected to demonstrate number sense. | NS.3.N04                    | Estimate quantities less than 1000 using referents.  | Nearest 10?<br>Nearest 100?   |  |
| Number | Students will be expected to demonstrate number sense. | NS.3.N05                    | Illustrate, concretely and pictorially, the meaning of place value for numerals to 1000.   | How many Blocks?<br>Model Numbers<br>Understanding Place Value 1<br>Place value 2   | Grade 3 Reading and Understanding Whole Numbers  |
| Number | Students will be expected to demonstrate number sense. | NS.3.N06                    | Describe and apply mental mathematics strategies for adding two 2-Digit numerals.  | Add Two 2-Digit Numbers:<br>Regroup<br>Addition Facts<br>Add Two 2-Digit Numbers<br>Complements to 50 and 100<br>Columns that Add<br>Magic Mental Addition<br>Column Addition<br>Add Numbers: Regroup a Ten<br>Strategies for Column Addition<br>Addition Properties<br>Fact Families: Add and Subtract<br>Pyramid Puzzles 1<br>Pyramid Puzzles 2 | Grade 3 Addition and Subtraction   |



# Nova Scotia Outcomes

## Alignment with Mathletics

### Nova Scotia Grade 3

| Strand | General Curriculum Outcome                             | Specific Curriculum Outcome | Outcome Description  | Activities  | eBooks                           |
|--------|--|-----------------------------|--|---|----------------------------------|
| Number | Students will be expected to demonstrate number sense. | NS.3.N07                    | Describe and apply mental mathematics strategies for subtracting two 2-digit numerals.   | 2-Digit Differences<br>2-Digit Differences: Regroup<br>Subtract Numbers: Regroup<br>Subtraction Facts to 18<br>Subtract Numbers<br>Decompose Numbers to Subtract<br>Columns that Subtract<br>Column Subtraction<br>Magic Mental Subtraction<br>Bar Model Problems 2   | Grade 3 Addition and Subtraction |
| Number | Students will be expected to demonstrate number sense. | NS.3.N08                    | Students will be expected to apply estimation strategies to predict sums and differences of 1-, 2-, and 3-digit numerals in a problem-solving context.   | Estimation: Add and Subtract<br>Estimate Sums<br>Estimate Differences   | Grade 3 Addition and Subtraction |
| Number | Students will be expected to demonstrate number sense. | NS.3.N09                    | Students will be expected to demonstrate an understanding of addition and subtraction of numbers (limited to 1-, 2-, and 3-digit numerals) with answers to 1000 by<br>* using personal strategies for adding and subtracting with and without the support of manipulatives<br>* creating and solving problems in context that involve addition and subtraction of numbers concretely, pictorially, and symbolically. | Problems: Add and Subtract<br>Add Two 2-Digit Numbers: Regroup<br>Add Two 2-Digit Numbers<br>Columns that Add<br>Magic Mental Addition<br>Column Addition<br>Add Numbers: Regroup a Ten<br>2-Digit Differences<br>2-Digit Differences: Regroup<br>Subtract Numbers: Regroup<br>Subtract Numbers<br>Decompose Numbers to Subtract<br>Columns that Subtract<br>Column Subtraction<br>Magic Mental Subtraction | Grade 3 Addition and Subtraction |
| Number | Students will be expected to demonstrate number sense. | NS.3.N10                    | Students will be expected to apply mental mathematics strategies and number properties to develop quick recall of basic addition facts to 18 and related basic subtraction facts.  | Addition Properties<br>Commutative Property of Addition<br>Fact Families: Add and Subtract<br>Related Facts 1   | Grade 3 Addition and Subtraction |



# Nova Scotia Outcomes Alignment with Mathletics

## Nova Scotia Grade 3

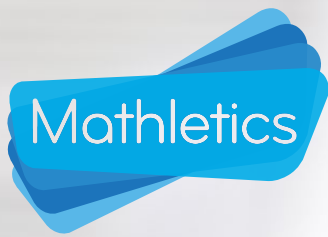
| Strand                 | General Curriculum Outcome   | Specific Curriculum Outcome | Outcome Description  | Activities   | eBooks                              |
|------------------------|--|-----------------------------|--|--|-------------------------------------|
| Number                 | Students will be expected to demonstrate number sense.                             | NS.3.N11                    | Students will be expected to demonstrate an understanding of multiplication to $5 \times 5$ by<br>* representing and explaining multiplication using equal grouping and arrays<br>* creating and solving problems in context that involves multiplication<br>* modelling multiplication using concrete and visual representations and recording the process symbolically<br>* relating multiplication to repeated addition<br>* relating multiplication to division.   | Groups of Two<br>Groups of Three<br>Groups of Four<br>Groups of Five<br>Groups<br>Making Equal Groups<br>Multiplication Facts<br>Multiplication Arrays<br>Model Multiplication to $5 \times 5$<br>Frog Jump Multiplication | Grade 3 Multiplication and Division |
| Number                 | Students will be expected to demonstrate number sense.                             | NS.3.N12                    | Students will be expected to demonstrate an understanding of division by<br>* representing and explaining division using equal sharing and equal grouping<br>* creating and solving problems in context that involve equal sharing and equal grouping<br>* modelling equal sharing and equal grouping using concrete and visual representations, and recording the process symbolically<br>* relating division to repeated subtraction<br>* relating division to multiplication (Limited to division related to multiplication facts up to $5 \times 5$ ). | Fill the Jars<br>Making Equal Groups<br>Divide Into Equal Groups<br>Dividing Twos<br>Dividing Threes<br>Dividing Fours<br>Dividing Fives   | Grade 3 Multiplication and Division |
| Number                 | Students will be expected to demonstrate number sense.                             | NS.3.N13                    | Students will be expected to demonstrate an understanding of fractions by<br>* explaining that a fraction represents a part of a whole<br>* describing situations in which fractions are used<br>* comparing fractions of the same whole with like denominators.   | Shape Fractions<br>Model Fractions<br>Compare fractions 1a<br>Compare fractions 1b<br>Halves and Quarters<br>Thirds and Sixths<br>Is it half?<br>Part-whole rods 1   | Grade 3 Fractions                   |
| Patterns and Relations | Students will be expected to use patterns to describe the world and solve problems | NS.3.PRO1                   | Students will be expected to demonstrate an understanding of increasing patterns by describing, extending, comparing, and creating numerical (numbers to 1000) patterns and non-numerical patterns using manipulatives, diagrams, sounds, and actions.   | Simple Patterns<br>Pattern Error<br>Increasing Patterns<br>Colour Patterns<br>Count Forward Patterns<br>Describing Patterns  | Grade 3 Patterns and Relationships  |



# Nova Scotia Outcomes Alignment with Mathletics



## Nova Scotia Grade 3

| Strand                 | General Curriculum Outcome   | Specific Curriculum Outcome | Outcome Description  | Activities   | eBooks                             |
|------------------------|--|-----------------------------|--|--|------------------------------------|
| Patterns and Relations | Students will be expected to use patterns to describe the world and solve problems | NS.3.PR02                   | Students will be expected to demonstrate an understanding of decreasing patterns by describing, extending, comparing, and creating numerical (numbers to 1000) patterns and non-numerical patterns using manipulatives, diagrams, sounds, and actions.   | Simple Patterns<br>Pattern Error<br>Decreasing Patterns<br>Colour Patterns<br>Count Backward Patterns  | Grade 3 Patterns and Relationships |
| Patterns and Relations | Students will be expected to represent algebraic expressions in multiple ways.     | NS.3.PR03                   | Students will be expected to solve one-step addition and subtraction equations involving symbols representing an unknown number.   | Problems: Add and Subtract<br>Word Problems with letters<br>Bar model problems 1<br>Bar model problems 2<br>Missing Values   | Grade 3 Addition and Subtraction   |
| Measurement            | Students will be expected to use direct and indirect measure to solve problems.    | NS.3.M01                    | Students will be expected to relate the passage of time to common activities using non-standard and standard units (minutes, hours, days, weeks, months, years).   | Days of the Week<br>Months of the Year<br>Hour Times<br>Half Hour Times<br>What is the Time?<br>Time Mentals<br>Elapsed Time<br>What Time Will it Be?<br>Tell Time to the Half Hour<br>Five Minute Times | Grade 3 Time                       |
| Measurement            | Students will be expected to use direct and indirect measure to solve problems.    | NS.3.M02                    | Students will be expected to relate the number of seconds to a minute, the numbers of minutes to an hour, the numbers of hours to a day, and the number of days to a month in a problem solving context.   | Using a Calendar   | Grade 3 Time                       |
| Measurement            | Students will be expected to use direct and indirect measure to solve problems.    | NS.3.M03                    | Students will be expected to demonstrate an understanding of measuring length (cm, m) by<br>* selecting and justifying referents for the units centimetre or metre (cm, m)<br>* modelling and describing the relationship between the units centimetre or metre (cm, m)<br>* estimating length using referents<br>* measuring and recording length, width, and height. | Comparing Length<br>Everyday Length<br>Measuring Length<br>Compare Length<br>Compare Length 1<br>How Long is That?   | Grade 3 Measurement                |



# Nova Scotia Outcomes Alignment with Mathletics

## Nova Scotia Grade 3



| Strand      | General Curriculum Outcome  | Specific Curriculum Outcome | Outcome Description   |  Activities |  eBooks |
|-------------|---|-----------------------------|---|--|--|
| Measurement | Students will be expected to use direct and indirect measure to solve problems.   | NS.3.M04                    | Students will be expected to demonstrate an understanding of measuring mass (g, kg) by<br>* selecting and justifying referents for the units gram and kilogram (g, kg)<br>* modelling and describing the relationship between the units gram and kilogram (g, kg)<br>* estimating mass using referents<br>* measuring and recording mass.                               | How Heavy?<br>Everyday Mass  | Grade 3<br>Measurement   |
| Measurement | Students will be expected to use direct and indirect measure to solve problems.   | NS.3.M05                    | Students will be expected to demonstrate an understanding of perimeter of regular, irregular, and composite shapes by<br>* estimating perimeter using referents for centimetre or metre (cm, m)<br>* measuring and recording perimeter (cm, m)<br>* create different shapes for a given perimeter (cm, m) to demonstrate that many shapes are possible for a perimeter. | Perimeter of Shapes<br>Perimeter   | Grade 3<br>Measurement   |
| Geometry    | Students will be expected to describe the characteristics of 3-D objects and 2-D shapes and analyze the relationships among them. | NS.3.G01                    | Students will be expected to describe 3-D objects according to the shape of the faces and the number of edges and vertices.   | How many Faces?<br>How many Edges?<br>How many Corners?<br>Faces, Edges and Vertices           | Grade 3<br>Space, Shape and Position   |
| Geometry    | Students will be expected to describe the characteristics of 3-D objects and 2-D shapes and analyze the relationships among them. | NS.3.G02                    | Students will be expected to name, describe, compare, create, and sort regular and irregular polygons including triangles, quadrilaterals, pentagons, hexagons, and octagons according to the number of sides.  | Collect the Shapes 2<br>Collect the Polygons   | Grade 3<br>Space, Shape and Position   |



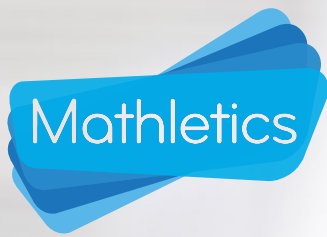
# Nova Scotia Outcomes

## Alignment with Mathletics

### Nova Scotia Grade 3

| Strand                     | General Curriculum Outcome   | Specific Curriculum Outcome | Outcome Description  |  Activities  |  eBooks |
|----------------------------|--|-----------------------------|--|---|--|
| Statistics and Probability | Students will be expected to collect, display, and analyze data to solve problems. | NS.3.SP01                   | Collect first-hand data and organize it using: tally marks, line plots, charts, and lists to answer questions. | Sorting Data 1<br>Tallies<br>Bar Graphs 1<br>Bar Graphs 2<br>Interpreting Tables<br>Line Graphs: Interpretation   | Grade 3<br>Chance and Data   |
| Statistics and Probability | Students will be expected to collect, display, and analyze data to solve problems. | NS.3.SP02                   | Construct, label, and interpret bar graphs to solve problems.  | Sorting Data 1<br>Tallies<br>Bar Graphs 1<br>Interpreting Tables<br>Line Graphs: Interpretation<br>Line Graphs: Explanation<br>Line Graphs: Reading<br>Bar Graphs 2 | Grade 3<br>Chance and Data   |







# Nova Scotia Outcomes

## Alignment with Mathletics

### Nova Scotia Grade 4

| Strand | General Curriculum Outcome                             | Specific Curriculum Outcome | Outcome Description   |  Activities   |  eBooks |
|--------|--|-----------------------------|---|--|--|
| Number | Students will be expected to demonstrate number sense. | NS.4.N01                    | Students will be expected to represent and partition whole numbers to 10 000.   | Expanded Notation<br>Understanding Place Value 2<br>Place value 3<br>Place Value to Thousands<br>Expanding Numbers<br>Numbers from Words to Digits 1<br>Numbers from Words to Digits 2   | Grade 4 Reading and Understanding Whole Numbers  |
| Number | Students will be expected to demonstrate number sense. | NS.4.N02                    | Compare and order numbers to 10 000.  | Greater Than or Less Than?<br>Ascending Order<br>Descending Order<br>Which Is Greater?<br>Which Is Less?   | Grade 4 Patterns and Algebra   |
| Number | Students will be expected to demonstrate number sense. | NS.4.N03                    | Students will be expected to demonstrate an understanding of addition and subtraction of numbers with answers to 10 000 (limited to three- and four-digit numerals) by<br>* using personal strategies for adding and subtracting<br>* estimating sums and differences<br>* solving problems involving addition and subtraction. | Adding Colossal Columns<br>Estimation: Add and Subtract<br>Add Three 2-Digit Numbers<br>Add Three 2-Digit Numbers: Regroup<br>Add 3-Digit Numbers<br>Add 3-Digit Numbers: Regroup<br>Add Multi-Digit Numbers 1<br>Add Three 3-Digit Numbers: Regroup<br>Subtracting Colossal Columns<br>3-Digit Differences<br>3-Digit Differences with Zeros<br>3-Digit Differences: 1<br>Regrouping<br>3-Digit Differences: 2<br>Regroupings<br>Budgeting<br>Estimate Differences<br>Estimate Sums | Grade 4 Addition and Subtraction   |
| Number | Students will be expected to demonstrate number sense. | NS.4.N04                    | Students will be expected to apply and explain the properties of 0 and 1 for multiplication and the property of 1 for division.   | Under review   | Under review   |







# Nova Scotia Outcomes

## Alignment with Mathletics

### Nova Scotia Grade 4



| Strand | General Curriculum Outcome                             | Specific Curriculum Outcome | Outcome Description   |  Activities  |  eBooks |
|--------|--|-----------------------------|---|--|--|
| Number | Students will be expected to demonstrate number sense. | NS.4.N05                    | Students will be expected to describe and apply mental mathematics strategies, to recall basic multiplication facts to $9 \times 9$ , and to determine related division facts.  | Dividing Twos<br>Dividing Fives<br>Dividing Tens<br>Dividing Threes<br>Dividing Fours<br>Dividing Sixes<br>Dividing Sevens<br>Dividing Eights<br>Dividing Nines<br>Groups of Six<br>Groups of Seven<br>Groups of Eight<br>Groups of Nine<br>Groups of Ten<br>Problems: Multiply and Divide   | Grade 4 Multiplication and Division  |
| Number | Students will be expected to demonstrate number sense. | NS.4.N06                    | Students will be expected to demonstrate an understanding of multiplication (one-, two- or three-digit by one-digit numerals) to solve problems by <ul style="list-style-type: none"> <li>* using personal strategies for multiplication, with and without concrete materials</li> <li>* using arrays to represent multiplication</li> <li>* connecting concrete representations to symbolic representations</li> <li>* estimating products</li> <li>* applying the distributive property.</li> </ul> | Multiplication Arrays<br>Arrays 1<br>Multiply: 2-Digit by 1-Digit<br>Double and Halve to Multiply<br>Fact Families: Multiply and Divide<br>Problems: Multiply and Divide<br>Multiply Multiples of 10<br>Multiply More Multiples of 10<br>Multiply: 1-Digit Number<br>Multiply: 1-Digit Number, Regroup<br>Multiply: 2-Digit by 1-Digit, Regroup<br>Multiply: 2-Digit Number, Regroup<br>Groups of Ten<br>Multiplication Facts<br>Times Tables<br>Multiplication Properties<br>Groups of Six<br>Groups of Seven<br>Groups of Eight<br>Groups of Nine<br>Multiplication Grids<br>Multiplication Problems 1<br>Multiply 3 single-digit numbers<br>Estimate Products<br>Word Problems: Multiply and Divide<br>Equivalent Facts: Multiply<br>Multiply and Divide Problems 1<br>Missing Numbers: $\times$ and $\div$ facts | Grade 4 Multiplication and Division  |



# Nova Scotia Outcomes

## Alignment with Mathletics

### Nova Scotia Grade 4



| Strand | General Curriculum Outcome                             | Specific Curriculum Outcome | Outcome Description   |  Activities  |  eBooks |
|--------|--|-----------------------------|---|---|--|
| Number | Students will be expected to demonstrate number sense. | NS.4.N07                    | Students will be expected to demonstrate an understanding of division (one-digit divisor and up to two-digit dividend) to solve problems by<br>* using personal strategies for dividing, with and without concrete materials<br>* estimating quotients<br>* relating division to multiplication.  | Division Facts<br>Division Facts 1<br>Remainders by Arrays<br>Short Division<br>Long Division<br>Divisibility Tests<br>Divisibility Tests (2, 5, 10)<br>Divisibility Tests (3, 4, 9)<br>Divide: 1-Digit Divisor 1<br>Divide: 1-Digit Divisor 2<br>Divide: 1-Digit Divisor, Remainder<br>Estimation: Multiply and Divide<br>Dividing Twos<br>Dividing Threes<br>Dividing Fours<br>Dividing Fives<br>Dividing Sixes<br>Dividing Sevens<br>Dividing Eights<br>Dividing Nines<br>Estimate Quotients | Grade 4 Multiplication and Division  |
| Number | Students will be expected to demonstrate number sense. | NS.4.N08                    | Students will be expected to demonstrate an understanding of fractions less than or equal to one by using concrete, pictorial, and symbolic representations to<br>* name and record fractions for the parts of one whole or a set<br>* compare and order fractions<br>* model and explain that for different wholes, two identical fractions may not represent the same quantity<br>* provide examples of where fractions are used. | Identifying Fractions on a Number Line<br>Partition into Equal Parts<br>Fractions of a Collection<br>Fraction Fruit Sets 1<br>Equivalent Fraction Wall 1<br>Fractions to Decimals<br>Counting with Fractions on a Number Line<br>What Fraction is Shaded?<br>Equivalent Fractions<br>Compare Fractions 2<br>Comparing Fractions 1<br>Compare Fractions 1a<br>Compare Fractions 1b<br>Ordering Fractions<br>Part-Whole Rods 2<br>Compare Fractions 1a<br>Compare Fractions 1b                    | Grade 4 Fractions  |



# Nova Scotia Outcomes

## Alignment with Mathletics



### Nova Scotia Grade 4

| Strand                 | General Curriculum Outcome  | Specific Curriculum Outcome | Outcome Description  |  Activities   |  eBooks |
|------------------------|---|-----------------------------|--|---|--|
| Number                 | Students will be expected to demonstrate number sense.                              | NS.4.N09                    | Describe and represent decimals (tenths and hundredths) concretely, pictorially, and symbolically.   | Decimals from Words to Digits 1<br>Decimal Order 1<br>Decimals on the Number Line<br>Decimal Place Value<br>Comparing Decimals 1                              | Grade 4 Fractions  |
| Number                 | Students will be expected to demonstrate number sense.                              | NS.4.N10                    | Students will be expected to relate decimals to fractions and fractions to decimals (to hundredths).   | Decimals to Fractions 1<br>Decimals to Fractions 2<br>Fractions to Decimals   | Grade 4 Fractions  |
| Number                 | Students will be expected to demonstrate number sense.                              | NS.4.N11                    | Students will be expected to demonstrate an understanding of addition and subtraction of decimals (limited to hundredths) by<br>* estimating sums and differences<br>* using mental mathematics strategies to solve problems<br>* using personal strategies to determine sums and differences. | Add Decimals 1<br>Nearest Whole Number<br>Rounding Decimals 1<br>Decimal Complements<br>Subtract Decimals 1   | Grade 4 Fractions  |
| Patterns and Relations | Students will be expected to use patterns to describe the world and solve problems. | NS.4.PR01                   | Identify and describe patterns found in tables and charts, including a multiplication chart.   | Increasing Patterns<br>Decreasing Patterns<br>Missing it!<br>Pick the Next Number<br>Describing Patterns<br>Pattern Error                                     | Grade 4 Patterns and Algebra   |
| Patterns and Relations | Students will be expected to use patterns to describe the world and solve problems. | NS.4.PR02                   | Students will be expected to translate among different representations of a pattern (a table, a chart, or concrete materials).   | Increasing Patterns<br>Decreasing Patterns<br>Missing it!<br>Pick the Next Number<br>Describing Patterns<br>Pattern Error<br>Carroll Diagram<br>Venn Diagram1 | Grade 4 Patterns and Algebra   |
| Patterns and Relations | Students will be expected to use patterns to describe the world and solve problems. | NS.4.PR03                   | Students will be expected to represent, describe, and extend patterns and relationships, using charts and tables, to solve problems.   | Increasing Patterns<br>Decreasing Patterns<br>Missing it!<br>Pick the Next Number<br>Describing Patterns<br>Pattern Error<br>Carroll Diagram                  | Grade 4 Patterns and Algebra   |
| Patterns and Relations | Students will be expected to use patterns to describe the world and solve problems. | NS.4.PR04                   | Identify and explain mathematical relationships using charts and diagrams to solve problems.   | Venn Diagram1<br>Carroll Diagram  |  |



# Nova Scotia Outcomes Alignment with Mathletics

## Nova Scotia Grade 4



| Strand                 | General Curriculum Outcome  | Specific Curriculum Outcome | Outcome Description  |  Activities  |  eBooks |
|------------------------|---|-----------------------------|--|---|--|
| Patterns and Relations | Students will be expected to represent algebraic expressions in multiple ways.  | NS.4.PR05                   | Express a given problem as an equation in which a symbol is used to represent an unknown number.   | Problems: Add and Subtract 2<br>Problems: Multiply and Divide 1<br>Missing Values<br>Find the Missing Number 1<br>I am Thinking of a Number!<br>Missing Numbers: Variables<br>Magic Symbols 1 | Grade 4 Patterns and Algebra   |
| Patterns and Relations | Students will be expected to represent algebraic expressions in multiple ways.  | NS.4.PR06                   | Solve one-step equations involving a symbol to represent an unknown number.  | Missing Values<br>Find the Missing Number 1<br>I am Thinking of a Number!<br>Missing Numbers: Variables<br>Magic Symbols 1  | Grade 4 Patterns and Algebra   |
| Measurement            | Students will be expected to use direct and indirect measure to solve problems. | NS.4.M01                    | Read and record time using digital and analog clocks, including 24-hour clocks.  | What is the Time?<br>Time Mentals<br>Elapsed Time<br>24 Hour Time<br>What Time Will it Be?<br>Hours and Minutes<br>Five Minute Times  | Grade 4 Time   |
| Measurement            | Students will be expected to use direct and indirect measure to solve problems. | NS.4.M02                    | Read and record calendar dates in a variety of formats.  | Using a Calendar  | Grade 4 Time   |
| Measurement            | Students will be expected to use direct and indirect measure to solve problems. | NS.4.M03                    | Students will be expected to demonstrate an understanding of area of regular and irregular 2-D shapes by<br>* recognizing that area is measured in square units<br>* selecting and justifying referents for the units square centimetre (cm <sup>2</sup> ) or square metre (m <sup>2</sup> )<br>* estimating area using referents for cm <sup>2</sup> or m <sup>2</sup><br>* determining and recording area (cm <sup>2</sup> or m <sup>2</sup> )<br>* constructing different rectangles for a given area (cm <sup>2</sup> or m <sup>2</sup> ) in order to demonstrate that many different rectangles may have the same area. | Area of Shapes<br>Equal Areas<br>Area: Squares and Rectangles   | Grade 4 Length, Area and Perimeter   |



# Nova Scotia Outcomes

## Alignment with Mathletics

### Nova Scotia Grade 4



| Strand                     | General Curriculum Outcome  | Specific Curriculum Outcome | Outcome Description   |  Activities   |  eBooks |
|----------------------------|---|-----------------------------|---|--|--|
| Geometry                   | Students will be expected to describe the characteristics of 3-D objects and 2-D shapes and analyze the relationships among them. | NS.4.G01                    | Describe and construct rectangular and triangular prisms.   | How Many Faces?<br>How Many Edges?<br>How Many Corners?<br>Faces, Edges and Vertices<br>Faces, Edges and Vertices 1<br>What Prism am I?<br>What Pyramid am I?<br>Prisms and Pyramids<br>Identify Prisms and Pyramids | Grade 4 Length, Area and Perimeter   |
| Geometry                   | Students will be expected to describe the characteristics of 3-D objects and 2-D shapes and analyze the relationships among them. | NS.4.G02                    | Students will be expected to demonstrate an understanding of congruency, concretely and pictorially.  | Congruent Figures (Dot Grid)<br>Congruent Figures (Grid)   | Grade 4 Shape, Space and Position  |
| Geometry                   | Students will be expected to describe the characteristics of 3-D objects and 2-D shapes and analyze the relationships among them. | NS.4.G03                    | Students will be expected to demonstrate an understanding of line symmetry by<br>* identifying symmetrical 2-D shapes<br>* creating symmetrical 2-D shapes<br>* drawing one or more lines of symmetry in a 2-D shape. | Symmetry<br>Symmetry or Not?   | Grade 4 Shape, Space and Position  |
| Statistics and Probability | Students will be expected to collect, display, and analyze data to solve problems.  | NS.4.SP01                   | Demonstrate an understanding of many-to-one correspondence.   | Under review   |  |
| Statistics and Probability | Students will be expected to collect, display, and analyze data to solve problems.  | NS.4.SP02                   | Construct and interpret pictographs and bar graphs involving many-to-one correspondence to draw conclusions.  | Bar Graphs 1<br>Bar Graphs 2<br>Pictographs<br>Divided Bar Graphs<br>Reading from a Bar Chart  | Grade 4 Chance and Data  |



# Nova Scotia Outcomes

## Alignment with Mathletics

### Nova Scotia Grade 5

| Strand | General Curriculum Outcome                             | Specific Curriculum Outcome | Outcome Description   |  Activities   |  eBooks |
|--------|--|-----------------------------|---|--|--|
| Number | Students will be expected to demonstrate number sense. | NS.5.N01                    | Students will be expected to represent and partition whole numbers to 1 000 000.  | Numbers in Words<br>Numbers from Words to Digits 1<br>Numbers from Words to Digits 2<br>Numbers from Words to Digits 3<br>Place Value to Millions<br>Expanding Numbers<br>Partition and rename 3<br>Expanded Notation<br>Place value 3<br>Place Value 1 ( $\times 10$ and $\div 10$ )<br>Place Value 2 ( $\times 10$ and $\div 10$ )                       | Grade 5 Reading and Understanding Whole Numbers  |
| Number | Students will be expected to demonstrate number sense. | NS.5.N02                    | Students will be expected to use estimation strategies, including front-end, front-end adjusted, rounding, and compatible numbers in problem-solving contexts.  | Rounding Numbers<br>Nearest 100?<br>Nearest 1000?<br>Nearest Whole Number<br>Estimation: Add and Subtract<br>Estimation: Multiply and Divide<br>Estimate Products<br>Estimate Sums<br>Estimate Differences<br>Estimate Quotients<br>Estimate Decimal Differences 1<br>Estimate Decimal Sums 1<br>Estimate Decimal Differences 2<br>Estimate Decimal Sums 2 | Grade 5 Reading and Understanding Whole Numbers  |
| Number | Students will be expected to demonstrate number sense. | NS.5.N03                    | Students will be expected to describe and apply mental mathematics strategies and number properties to recall, with fluency, answers for basic multiplication facts to 81 and related division facts.             | Multiplication Arrays<br>Multiplication Facts<br>Multiplication Properties<br>Mental Methods Multiplication<br>Related Facts 2<br>Equivalent Facts: Multiply   | Grade 5 Multiplication and Division  |
| Number | Students will be expected to demonstrate number sense. | NS.5.N04                    | Students will be expected to apply mental mathematics strategies for multiplication, including<br>* multiplying by multiples of 10, 100, and 1000<br>* halving and doubling<br>* using the distributive property. | Multiplying by 10, 100, 1000<br>Multiplication Arrays<br>Multiplication Facts<br>Double and Halve to Multiply<br>Multiplication Properties<br>Mental Methods Multiplication<br>Mental Methods Multiplication 2<br>Mental Methods Multiplication 3  | Grade 5 Multiplication and Division  |







# Nova Scotia Outcomes

## Alignment with Mathletics

### Nova Scotia Grade 5

| Strand | General Curriculum Outcome                             | Specific Curriculum Outcome | Outcome Description   |  Activities   |  eBooks |
|--------|--|-----------------------------|---|---|--|
| Number | Students will be expected to demonstrate number sense. | NS.5.N05                    | Students will be expected to demonstrate, with and without concrete materials, an understanding of multiplication (two-digit by two-digit) to solve problems.   | Multiply: 1-Digit Number<br>Multiply: 1-Digit Number, Regroup<br>Multiply: 2-Digit by 1-Digit<br>Multiply: 2-Digit Number, Regroup<br>Multiply 2 Digits Area Model  | Grade 5 Multiplication and Division  |
| Number | Students will be expected to demonstrate number sense. | NS.5.N06                    | Students will be expected to demonstrate, with and without concrete materials, an understanding of division (three-digit by one-digit), and interpret remainders to solve problems.   | Division Facts<br>Mental Methods Division<br>Mental Methods Division 1<br>Mental Methods Division 2<br>Divide: 1-Digit Divisor 1<br>Divide: 1-Digit Divisor 2<br>Divide: 1-Digit Divisor, Remainder<br>Compatible Numbers<br>Divisibility Tests<br>Tests of Divisibility 1<br>Divisibility Tests (2, 5, 10)<br>Divisibility Tests (3, 4, 9)<br>Remainders by Arrays<br>Short Division | Grade 5 Multiplication and Division  |
| Number | Students will be expected to demonstrate number sense. | NS.5.N07                    | Students will be expected to demonstrate an understanding of fractions by using concrete, pictorial, and symbolic representations to<br>* create sets of equivalent fractions<br>* compare and order fractions with like and unlike denominators. | Shading Equivalent Fractions<br>Ordering Fractions<br>Simplifying Fractions<br>Decimals to Fractions 1<br>Decimals to Fractions 2<br>Fractions of a Collection 1<br>Fractions of a Collection 2<br>Comparing Fractions 1<br>Comparing Fractions 2<br>Equivalent Fractions<br>Equivalent Fraction Wall 2<br>Fraction Fruit Sets 2<br>Equivalent Fractions on a Number Line 2           | Grade 5 Fractions, Decimals and Percentages  |
| Number | Students will be expected to demonstrate number sense. | NS.5.N08                    | Describe and represent decimals (tenths, hundredths, thousandths) concretely, pictorially, and symbolically.  | Rounding Decimals<br>Rounding Decimals 1<br>Rounding Decimals 2<br>Decimal Complements<br>Decimals on a Number Line<br>Decimals on the Number Line<br>Decimals from Words to Digits 2<br>Decimal Place Value  | Grade 5 Fractions, Decimals and Percentages  |







# Nova Scotia Outcomes

## Alignment with Mathletics

### Nova Scotia Grade 5

| Strand                 | General Curriculum Outcome  | Specific Curriculum Outcome | Outcome Description   |  Activities  |  eBooks |
|------------------------|---|-----------------------------|---|---|--|
| Number                 | Students will be expected to demonstrate number sense.                              | NS.5.N09                    | Students will be expected to relate decimals to fractions and fractions to decimals (to thousandths).                               | Decimals to Fractions 1<br>Decimals to Fractions 2<br>Fractions to Decimals<br>Fractions to Decimals 2<br>Fraction to Terminating Decimal   | Grade 5 Fractions, Decimals and Percentages  |
| Number                 | Students will be expected to demonstrate number sense.                              | NS.5.N10                    | Students will be expected to compare and order decimals (to thousandths) by using benchmarks, place value, and equivalent decimals. | Decimal Order<br>Comparing Decimals<br>Comparing Decimals 1<br>Comparing Decimals 2   | Grade 5 Fractions, Decimals and Percentages  |
| Number                 | Students will be expected to demonstrate number sense.                              | NS.5.N11                    | Demonstrate an understanding of addition and subtraction of decimals (limited to thousandths).                                      | Subtract Decimals 1<br>Subtract Decimals 2<br>Subtracting Decimals<br>Add Decimals 1<br>Add Decimals 2<br>Adding and Subtracting Decimals<br>Adding Decimals  | Grade 5 Fractions, Decimals and Percentages  |
| Patterns and Relations | Students will be expected to use patterns to describe the world and solve problems. | NS.5.PRO1                   | Determine the pattern rule to make predictions about subsequent terms (elements).   | Describing Patterns<br>I am Thinking of a Number!<br>Pattern Error  | Grade 5 Patterns and Algebra   |
| Patterns and Relations | Students will be expected to represent algebraic expressions in multiple ways.      | NS.5.PRO2                   | Solve problems involving single-variable, one-step equations with whole-number coefficients and whole-number solutions.             | Solve Equations: Add, Subtract 1<br>Solve Equations: Multiply, Divide 1<br>Problems: Multiply and Divide 1<br>Problems: Add and Subtract 1<br>Find the Missing Number 1<br>Find the Missing Number 2<br>Missing Values<br>Missing Numbers | Grade 5 Patterns and Algebra   |
| Measurement            | Students will be expected to use direct and indirect measure to solve problems.     | NS.5.M01                    | Design and construct different rectangles given either perimeter or area, or both (whole numbers), and draw conclusions.            | Perimeter of Shapes<br>Perimeter<br>Perimeter: Squares and Rectangles<br>Perimeter Detectives 1<br>Perimeter, Area, Dimension<br>Change<br>Equal Areas<br>Areas of Shapes   | Grade 5 Length, Perimeter and Area   |



# Nova Scotia Outcomes

## Alignment with Mathletics

### Nova Scotia Grade 5



| Strand      | General Curriculum Outcome  | Specific Curriculum Outcome | Outcome Description   | Activities   | eBooks                             |
|-------------|---|-----------------------------|---|--|------------------------------------|
| Measurement | Students will be expected to use direct and indirect measure to solve problems.   | NS.5.M02                    | Students will be expected to demonstrate an understanding of measuring length (mm) by <ul style="list-style-type: none"> <li>* selecting and justifying referents for the unit millimetre (mm)</li> <li>* modelling and describing the relationship between millimetre (mm) and centimetre (cm) units, and between millimetre (mm) and metre (m) units.</li> </ul>  | Converting cm and mm<br>Converting Units of Length<br>Centimetres and Metres<br>Measuring Length | Grade 5 Length, Perimeter and Area |
| Measurement | Students will be expected to use direct and indirect measure to solve problems.   | NS.5.M03                    | Students will be expected to demonstrate an understanding of volume by <ul style="list-style-type: none"> <li>* selecting and justifying referents for cubic centimetre (cm<sup>3</sup>) or cubic metre (m<sup>3</sup>) units</li> <li>* estimating volume using referents for cubic centimetre (cm<sup>3</sup>) or cubic metre (m<sup>3</sup>)</li> <li>* measuring and recording volume (cm<sup>3</sup> or m<sup>3</sup>)</li> <li>* constructing rectangular prisms for a given volume.</li> </ul> | Volume: Cuboid 1<br>Volume: Rectangular Prisms 1   | Grade 5 Volume, Capacity and Mass  |
| Measurement | Students will be expected to use direct and indirect measure to solve problems.   | NS.5.M04                    | Students will be expected to demonstrate an understanding of capacity by <ul style="list-style-type: none"> <li>* describing the relationship between millilitre (mL) and litre (L) units</li> <li>* selecting and justifying referents for millilitre (mL) and litre (L) units</li> <li>* estimating capacity using referents for millilitre (mL) and litre (L)</li> <li>* measuring and recording capacity (mL or L).</li> </ul>  | Millilitres and Litres<br>Capacity Word Problems   | Grade 5 Volume, Capacity and Mass  |
| Geometry    | Students will be expected to describe the characteristics of 3-D objects and 2-D shapes and analyze the relationships among them. | NS.5.G01                    | Students will be expected to describe and provide examples of edges and faces of 3-D objects, and sides of 2-D shapes that are parallel, intersecting, perpendicular, vertical, and horizontal.   | Faces, Edges and Vertices<br>Faces, Edged and Vertices 1   | Grade 5 Geometry                   |



# Nova Scotia Outcomes

## Alignment with Mathletics



### Nova Scotia Grade 5

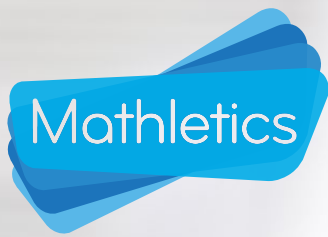
| Strand                     | General Curriculum Outcome  | Specific Curriculum Outcome | Outcome Description   |  Activities                       |  eBooks |
|----------------------------|---|-----------------------------|---|--|--|
| Geometry                   | Students will be expected to describe the characteristics of 3-D objects and 2-D shapes and analyze the relationships among them. | NS.5.G02                    | Students will be expected to name, identify, and sort quadrilaterals, including rectangles, squares, trapezoids, parallelograms, and rhombi, according to their attributes.       | Collect the Shapes 2<br>Collect the Objects 2<br>Collect the Polygons<br>Shapes                                    | Grade 5 Geometry   |
| Geometry                   | Students will be expected to describe and analyze position and motion of objects and shapes.                                      | NS.5.G03                    | Students will be expected to perform a single transformation (translation, rotation, or reflection) of a 2-D shape (with and without technology) and draw and describe the image. | Transformations<br>Flip, Slide, Turn   | Grade 5 Geometry   |
| Geometry                   | Students will be expected to describe and analyze position and motion of objects and shapes.                                      | NS.5.G04                    | Identify a single transformation including a translation, rotation and reflection of 2-D shapes.  | Transformations<br>Flip, Slide, Turn   | Grade 5 Geometry   |
| Geometry                   | Students will be expected to describe and analyze position and motion of objects and shapes.                                      | NS.5.G05                    | Students will be expected to identify right angles.   | Under review   | Grade 5 Chance and Data  |
| Statistics and Probability | Students will be expected to collect, display, and analyze data to solve problems.  | NS.5.SP01                   | Students will be expected to differentiate between first-hand and second-hand data.   | Bar Graphs 2<br>Interpreting Tables<br>Analyzing Data  | Grade 5 Chance and Data  |
| Statistics and Probability | Students will be expected to collect, display, and analyze data to solve problems.  | NS.5.SP02                   | Students will be expected to construct and interpret double bar graphs to draw conclusions.   | What are the Chances?<br>How many Combinations?<br>Most Likely and Least Likely<br>Possible Outcomes<br>Fair Games | Grade 5 Chance and Data  |



# Nova Scotia Outcomes Alignment with Mathletics

## Nova Scotia Grade 5



| Strand                     | General Curriculum Outcome  | Specific Curriculum Outcome | Outcome Description  |  Activities                     |  eBooks |
|----------------------------|---|-----------------------------|--|--|--|
| Statistics and Probability | Students will be expected to use experimental or theoretical probabilities to represent and solve problems involving uncertainty. | NS.5.SP03                   | Students will be expected to describe the likelihood of a single outcome occurring, using words such as impossible, possible, and certain.               | What are the Chances?<br>How many Combinations?<br>Most Likely and Least Likely<br>Possible Outcomes<br>Fair Games | Grade 5 Chance and Data  |
| Statistics and Probability | Students will be expected to use experimental or theoretical probabilities to represent and solve problems involving uncertainty. | NS.5.SP04                   | Students will be expected to compare the likelihood of two possible outcomes occurring, using words such as less likely, equally likely, or more likely. | Under review   | Under review   |



# Nova Scotia Outcomes

## Alignment with Mathletics

### Nova Scotia Grade 6



| Strand | General Curriculum Outcome                             | Specific Curriculum Outcome | Outcome Description  |  Activities  |  eBooks |
|--------|--|-----------------------------|--|---|--|
| Number | Students will be expected to demonstrate number sense. | NS.6.NO1                    | Students will be expected to demonstrate an understanding of place value for numbers greater than one million and less than one-thousandth.  | Place Value to Billions<br>Place value 3<br>Place Value to Millions<br>Place Value-Millions<br>Place Value 1 ( $\times 10$ and $\div 10$ )<br>Place Value 2 ( $\times 10$ and $\div 10$ )<br>Comparing Numbers<br>Decimal Order 1<br>Decimal Order 2<br>Comparing Decimals 2<br>Understanding Place Value 3<br>Numbers from Words to Digits 3   | Grade 6 Reading and Understanding Whole Numbers  |
| Number | Students will be expected to demonstrate number sense. | NS.6.NO2                    | Students will be expected to solve problems involving whole numbers and decimal numbers.   | Adding Colossal Columns<br>Subtracting Colossal Columns<br>Estimate Decimal Differences 2<br>Estimate Decimal Sums 2<br>Estimate Sums<br>Estimate Products<br>Estimate Quotients<br>Estimate Decimal Operations<br>Estimate Differences<br>Long Multiplication<br>Multiplying by 10, 100, and 1000<br>Dividing by 10, 100, 1000<br>Rounding Numbers<br>Order of Operations 1 (BEDMAS) | Grade 6 Fractions, Decimals and Percentages  |
| Number | Students will be expected to demonstrate number sense. | NS.6.NO3                    | Students will be expected to demonstrate an understanding of factors and multiples by determining multiples and factors of numbers less than 100 identifying prime and composite numbers solving problems using multiples and factors. | Least Common Multiple<br>Multiples<br>Product of Prime Factors<br>Factors<br>Greatest Common Factor<br>Prime or Composite?<br>Prime Factoring<br>Find the Factor  | Grade 7 Whole Numbers  |
| Number | Students will be expected to demonstrate number sense. | NS.6.NO4                    | Students will be expected to relate improper fractions to mixed numbers and mixed numbers to improper fractions.   | Converting Mixed and Improper<br>Mixed to Improper<br>Improper to Mixed<br>Comparing Fractions 2<br>Identifying fractions beyond 1<br>Mixed and Improper Numbers on a Number Line<br>What Mixed Number Is Shaded?   | Grade 6 Fractions, Decimals and Percentages  |



# Nova Scotia Outcomes

## Alignment with Mathletics

### Nova Scotia Grade 6

| Strand | General Curriculum Outcome                             | Specific Curriculum Outcome | Outcome Description  |  Activities  |  eBooks |
|--------|--|-----------------------------|--|---|--|
| Number | Students will be expected to demonstrate number sense. | NS.6.N05                    | Demonstrate an understanding of ratio, concretely, pictorially, and symbolically.  | Ratio<br>Ratios<br>Simplify Ratios: 2 Whole Numbers<br>Equivalent Ratios<br>Dividing a Quantity Into a Ratio<br>Ratio Word Problems<br>Ratio and Proportion<br>Solve Proportions<br>Unitary Method<br>Best Buy<br>Fractions to Decimals<br>Fractions to Decimals 2  | Grade 9<br>Decimals  |
| Number | Students will be expected to demonstrate number sense. | NS.6.N06                    | Demonstrate an understanding of percent (limited to whole numbers), concretely, pictorially, and symbolically.                 | Calculating Percentages<br>Percent of a Number<br>Decimal to Percentage<br>Percents and Decimals<br>Percentage of a Quantity<br>Percentage to Fraction<br>Percents to Fractions<br>Percent Increase and Decrease<br>Percentage Composition<br>Percentage Word Problems<br>Solve Percent Equations<br>Modelling Percentages<br>Match Decimals and Percentages<br>Percentages of a quantity (>100%) | Grade 6<br>Fractions,<br>Decimals and<br>Percentages                                       |
| Number | Students will be expected to demonstrate number sense. | NS.6.N07                    | Students will be expected to demonstrate an understanding of integers contextually, concretely, pictorially, and symbolically. | Integers: Add and Subtract<br>Add Integers<br>Ordering Integers<br>Ordering Integers (Number Line)<br>Integers: Subtraction<br>Comparing Integers<br>More with Integers<br>Integers on a Number Line<br>Integers: Order of Operations (BEDMAS)<br>Subtract Integers   | Grade 7<br>Directed<br>Numbers   |





# Nova Scotia Outcomes

## Alignment with Mathletics

### Nova Scotia Grade 6

| Strand                 | General Curriculum Outcome  | Specific Curriculum Outcome | Outcome Description   | Activities  | eBooks                                       |
|------------------------|---|-----------------------------|---|---|--|
| Number                 | Students will be expected to demonstrate number sense.                              | NS.6.N08                    | Demonstrate an understanding of multiplication and division of decimals (1-digit whole number multipliers and 1-digit natural number divisors). | Decimal by Whole Number<br>Multiply Decimals and Powers of 10<br>Multiply Decimals: 10, 100, 1000<br>Divide Decimals: 10, 100, 1000<br>Divide by Powers of 10<br>Divide Decimal by Whole Number<br>Decimal by Whole Number<br>Missing Values: Decimals<br>Rounding Decimals 1<br>Rounding Decimals 2<br>Money Problems: Four Operations | Grade 6 Multiplication and Division          |
| Number                 | Students will be expected to demonstrate number sense.                              | NS.6.N09                    | Explain and apply the order of operations, excluding exponents, with and without technology (limited to whole numbers).                         | Integers: Order of Operations (BEDMAS)<br>Order of Operations 1: (BEDMAS)   | Grade 6 Patterns and Algebra                 |
| Patterns and Relations | Students will be expected to use patterns to describe the world and solve problems. | NS.6.PR01                   | Students will be expected to demonstrate an understanding of the relationships within tables of values to solve problems.                       | Table of Values<br>Find the Pattern Rule<br>Find the Function Rule<br>Pattern Rules and Tables<br>Function Rules and Tables   | Grade 6 Patterns and Algebra                 |
| Patterns and Relations | Students will be expected to use patterns to describe the world and solve problems. | NS.6.PR02                   | Students will be expected to represent and describe patterns and relationships using graphs and tables.   | Ordered Pairs<br>Coordinate Graphs<br>Coordinate Graphs: 1st Quadrant<br>Graphing from a Table of Values  | Grade 6 Position<br>Grade 7 The Number Plane |
| Patterns and Relations | Students will be expected to represent algebraic expressions in multiple ways.      | NS.6.PR03                   | Students will be expected to represent generalizations arising from number relationships using equations with letter variables.                 | Commutative Property of Addition<br>Multiplication Properties<br>Write an Equation: Word Problems<br>Writing Equations<br>Writing Algebraic Expressions<br>Solving Simple Equations<br>Missing Numbers: Variables<br>Magic Symbols 2<br>Pyramid Puzzles 2   | Grade 6 Patterns and Algebra                 |







# Nova Scotia Outcomes

## Alignment with Mathletics

### Nova Scotia Grade 6



| Strand                 | General Curriculum Outcome  | Specific Curriculum Outcome | Outcome Description  |  Activities   |  eBooks |
|------------------------|---|-----------------------------|--|--|--|
| Patterns and Relations | Students will be expected to use patterns to describe the world and solve problems. | NS.6.PR04                   | Students will be expected to demonstrate and explain the meaning of preservation of equality concretely, pictorially and symbolically.   | Writing Equations<br>Writing Algebraic Expressions<br>Write an Equation: Word Problems   | Grade 6 Patterns and Algebra   |
| Measurement            | Students will be expected to use direct and indirect measure to solve problems.     | NS.6.M01                    | Students will be expected to demonstrate an understanding of angles by: identifying examples of angles in the environment; classifying angles according to their measure; estimating the measure of angles using $45^\circ$ , $90^\circ$ and $180^\circ$ as reference angles; determining angle measures in degrees; drawing and labelling angles when the measure is specified. | Equal Angles<br>Comparing Angles<br>Classifying Angles<br>Measuring Angles<br>Estimating Angles<br>Labelling Angles<br>Triangles: Acute, Right, Obtuse   | Grade 6 Geometry   |
| Measurement            | Students will be expected to use direct and indirect measure to solve problems.     | NS.6.M02                    | Students will be expected to demonstrate that the sum of interior angles is: $180^\circ$ in a triangle; $360^\circ$ in a quadrilateral.  | Angle Sum of a Triangle<br>Angle Measures in a Triangle<br>Angle Sum of a Quadrilateral  | Grade 7 Angles and Polygons  |
| Measurement            | Students will be expected to use direct and indirect measure to solve problems.     | NS.6.M03                    | Students will be expected to develop and apply a formula for determining the perimeter of polygons, area of rectangles and volume of right rectangular prisms.   | Perimeter: Squares and Rectangles<br>Perimeter: Composite Shapes<br>Perimeter Detectives 1<br>Perimeter Detectives 2<br>Perimeter: Triangles<br>Perimeter: Triangles 2<br>Area: Squares and Rectangles<br>Area: Squares and Rectangles 2<br>Volume: Rectangular Prisms 1<br>Volume: Rectangular Prisms 2 | Grade 6 Length, Perimeter and Area<br>Grade 6 Volume, Capacity and Mass                    |



# Nova Scotia Outcomes

## Alignment with Mathletics

### Nova Scotia Grade 6



| Strand   | General Curriculum Outcome  | Specific Curriculum Outcome | Outcome Description  |  Activities |  eBooks |
|----------|---|-----------------------------|--|--|--|
| Geometry | Students will be expected to describe the characteristics of 3-D objects and 2-D shapes and analyze the relationships among them. | NS.6.G01                    | Students will be expected to construct and compare triangles, including: scalene; isosceles; equilateral; right; obtuse; and acute in different orientations.                                | Angle Sum of a Triangle<br>Angle Measures in a Triangle  | Grade 7 Angles and Polygons  |
| Geometry | Students will be expected to describe the characteristics of 3-D objects and 2-D shapes and analyze the relationships among them. | NS.6.G02                    | Students will be expected to describe and compare the sides and angles of regular and irregular polygons.  | Congruent Figures  | Grade 6 Geometry   |
| Geometry | Students will be expected to describe and analyze position and motion of objects and shapes.                                      | NS.6.G03                    | Students will be expected to perform a combination of translation(s), rotation(s), and/or reflection(s) on a single 2-D shape, with and without technology, and draw and describe the image. | Congruent Figures  | Grade 6 Geometry   |
| Geometry | Students will be expected to describe and analyze position and motion of objects and shapes.                                      | NS.6.G04                    | Students will be expected to perform a combination of successive transformations of 2-D shapes to create a design, and identify and describe the transformations.                            | Flip, Slide, Turn Transformations  | Grade 6 Geometry   |
| Geometry | Students will be expected to describe and analyze position and motion of objects and shapes.                                      | NS.6.G05                    | Students will be expected to identify and plot points in the first quadrant of a Cartesian plane using whole number ordered pairs.   | Ordered Pairs<br>Coordinate Graphs<br>Coordinate Graphs: 1st Quadrant                          | Grade 6 Position<br>Grade 7 The Number Plane   |
| Geometry | Students will be expected to describe and analyze position and motion of objects and shapes.                                      | NS.6.G06                    | Students will be expected to perform and describe single transformations of a 2-D shape in the first quadrant of a Cartesian plane (limited to whole-number vertices).                       | Transformations: Coordinate Plane  | Grade 6 Position<br>Grade 7 The Number Plane   |



# Nova Scotia Outcomes

## Alignment with Mathletics

### Nova Scotia Grade 6



| Strand                     | General Curriculum Outcome  | Specific Curriculum Outcome | Outcome Description   |  Activities  |  eBooks |
|----------------------------|---|-----------------------------|---|---|--|
| Statistics and Probability | Students will be expected to collect, display, and analyze data to solve problems.  | NS.6.SP01                   | Students will be expected to create, label, and interpret line graphs to draw conclusions.  | Line Graphs: Interpretation   | Grade 6 Position<br>Grade 7 The Number Plane   |
| Statistics and Probability | Students will be expected to collect, display, and analyze data to solve problems.  | NS.6.SP02                   | Students will be expected to select, justify, and use appropriate methods of collecting data, including: questionnaires; experiments; databases; electronic media.  | Data Types<br>Data sampling   | Grade 7 Data for Statistics  |
| Statistics and Probability | Students will be expected to collect, display, and analyze data to solve problems.  | NS.6.SP03                   | Students will be expected to graph collected data and analyze the graph to solve problems.  | Pie Charts<br>Pie Chart Calculations<br>Circle Graphs<br>Stem and Leaf Introduction<br>Bar Graphs 1<br>Column Graphs<br>Bar Graphs 2<br>Divided Bar Graphs<br>Compound Bar Chart<br>Stem-and-Leaf Plots | Grade 7 Data for Statistics<br>Grade 9 Data  |
| Statistics and Probability | Students will be expected to use experimental or theoretical probabilities to represent and solve problems involving uncertainty. | NS.6.SP04                   | Students will be expected to demonstrate an understanding of probability by: identifying all possible outcomes of a probability experiment; differentiating between experimental and theoretical probability; determining the theoretical probability of outcomes in a probability experiment; determining the experimental probability of outcomes in a probability experiment; comparing experimental results with the theoretical probability for an experiment. | What are the Chances?<br>Will it Happen?<br>Probability Scale   | Grade 6 Chance and Probability<br>Grade 7 Chance   |



# Nova Scotia Outcomes

## Alignment with Mathletics

### Nova Scotia Grade 7



| Strand | General Curriculum Outcome                             | Specific Curriculum Outcome | Outcome Description  |  Activities  |  eBooks |
|--------|--|-----------------------------|--|---|--|
| Number | Students will be expected to demonstrate number sense. | NS.7.N01                    | Determine and explain why a number is divisible by 2, 3, 4, 5, 6, 8, 9, or 10, and why a number cannot be divided by 0.  | Divisibility Tests<br>Divisibility Tests (2, 5, 10)<br>Divisibility Tests (3, 4, 9)<br>Product of Prime Factors<br>Find the Factor<br>Tests of Divisibility 1<br>Prime or Composite?<br>Greatest Common Factor  | Grade 7 Whole Numbers  |
| Number | Students will be expected to demonstrate number sense. | NS.7.N02                    | Students will be expected to demonstrate an understanding of the addition, subtraction, multiplication, and division of decimals to solve problems (for more than one-digit divisors or more than two-digit multipliers, the use of technology is expected). | Adding Decimals<br>Add Decimals 2<br>Subtract Decimals 1<br>Subtract Decimals 2<br>Multiply Decimals: 10, 100, 1000<br>Divide Decimals: 10, 100, 1000<br>Divide Decimal by Whole Number<br>Multiply Decimals and Powers of 10<br>Decimal Complements<br>Missing Values: Decimals<br>Adding and Subtracting Decimals<br>Decimal by Whole Number<br>Decimal by Decimal<br>Divide Decimal by Decimal<br>Divide by Powers of 10<br>Multiply Decimals: Area Model<br>Estimate Decimal Sums 1<br>Estimate Decimals Sums 2<br>Estimate Decimal Differences 1<br>Estimate Decimal Differences 2<br>Rounding Decimals<br>Rounding Decimals 1<br>Rounding Decimals 2<br>Estimate Decimal Operations | Grade 7 Decimals   |
| Number | Students will be expected to demonstrate number sense. | NS.7.N03                    | Students will be expected to solve problems involving percents from 1% to 100% (limited to whole numbers).   | Percents to Fractions<br>Decimal to Percentage<br>Percents and Decimals<br>Percentage Word Problems<br>Percentage of a Quantity<br>Percent Increase and Decrease<br>Calculating Percentages<br>Percentage to Fraction<br>Percent of a Number  | Grade 7 Percentage Basics  |





# Nova Scotia Outcomes

## Alignment with Mathletics

### Nova Scotia Grade 7

| Strand | General Curriculum Outcome                             | Specific Curriculum Outcome | Outcome Description  |  Activities   |  eBooks |
|--------|--|-----------------------------|--|---|--|
| Number | Students will be expected to demonstrate number sense. | NS.7.N04                    | Students will be expected to demonstrate an understanding of the relationship between positive terminating decimals and positive fractions and between positive repeating decimals (with one or two repeating digits) and positive fractions.      | Fraction to Terminating Decimal<br>Fractions to Decimals<br>Fractions to Decimals 2<br>Recurring Decimals<br>Decimals to Fractions 1<br>Decimals to Fractions 2<br>Recurring Decimals and Series  | Grade 7 Percentage Basics  |
| Number | Students will be expected to demonstrate number sense. | NS.7.N05                    | Students will be expected to demonstrate an understanding of adding and subtracting positive fractions and mixed numbers, with like and unlike denominators, concretely, pictorially, and symbolically (limited to positive sums and differences). | Add: Common Denominator<br>Add Mixed Numbers: Same Sign<br>Add Like Mixed Numbers<br>Mixed to Improper<br>Improper to Mixed<br>Subtract: Common Denominator<br>Add Unlike Fractions<br>Add Unlike Mixed Numbers<br>Subtract: No Common Denominator<br>Subtract Unlike Mixed Numbers<br>Subtract Unlike Fractions<br>Simplifying Fractions<br>Add: No Common Denominator<br>Add subtract fractions 1<br>Subtract Like Mixed Numbers<br>One take Fraction<br>Subtract Mixed Numbers: Renaming<br>Equivalent Fractions | Grade 7 Fractions  |
| Number | Students will be expected to demonstrate number sense. | NS.7.N06                    | Students will be expected to demonstrate an understanding of addition and subtraction of integers, concretely, pictorially, and symbolically.  | Directed Numbers<br>Integers: Add and Subtract<br>More with Integers<br>Add Integers<br>Integers: Subtraction<br>Subtract Integers<br>Negative or Positive?   | Grade 7 Directed Numbers   |

### Nova Scotia Grade 7

| Strand                 | General Curriculum Outcome  | Specific Curriculum Outcome | Outcome Description  |  Activities   |  eBooks |
|------------------------|---|-----------------------------|--|---|--|
| Number                 | Students will be expected to demonstrate number sense.                              | NS.7.N07                    | Students will be expected to compare and order positive fractions, positive decimals (to thousandths), and whole numbers by using; benchmarks; place value; equivalent fractions and/or decimals.                              | Ordering Fractions<br>Ordering Integers<br>Ordering Integers (Number Line)<br>Comparing Integers<br>Integers on a Number Line<br>Decimals on a Number Line<br>Decimal Order 1<br>Comparing Decimals<br>Comparing Fractions 1<br>Comparing Fractions 2 | Grade 7 Fractions<br>Grade 7 Decimals  |
| Patterns and Relations | Students will be expected to use patterns to describe the world and solve problems. | NS.7.PR01                   | Students will be expected to demonstrate an understanding of oral and written patterns and their equivalent linear relations.  | Under review  | Grade 8 Linear Relationships   |
| Patterns and Relations | Students will be expected to use patterns to describe the world and solve problems. | NS.7.PR02                   | Students will be expected to create a table of values from a linear relation, graph the table of values, and analyze the graph to draw conclusions and solve problems.   | Pattern Rules and Tables<br>Table of Values<br>Find the Pattern Rule  | Grade 7 Algebra Basics<br>Grade 8 Linear Relationships                                     |
| Patterns and Relations | Students will be expected to represent algebraic expressions in multiple ways.      | NS.7.PR03                   | Students will be expected to demonstrate an understanding of preservation of equality by: modelling preservation of equality, concretely, pictorially, and symbolically; applying preservation of equality to solve equations. | Graphing from a Table of Values<br>Which Straight Line?<br>Ordered Pairs<br>Equation of a Line 1<br>Equation of a Line 2<br>Equation of a Line 3<br>Reading Values from a Line<br>$y=ax$<br>Patterns, Rules and Equations                             | Grade 7 Algebra Basics<br>Grade 8 Linear Relationships                                     |
| Patterns and Relations | Students will be expected to represent algebraic expressions in multiple ways.      | NS.7.PR04                   | Students will be expected to explain the difference between an expression and an equation.   | Write an Equation: Word Problems<br>Writing Algebraic Expressions<br>Writing Equations  | Grade 7 Algebra Basics<br>Grade 8 Linear Relationships                                     |
| Patterns and Relations | Students will be expected to represent algebraic expressions in multiple ways.      | NS.7.PR05                   | Students will be expected to evaluate an expression given the value of the variable(s).  | Simple Substitution 1   | Grade 7 Algebra Basics   |







# Nova Scotia Outcomes

## Alignment with Mathletics

### Nova Scotia Grade 7

| Strand                 | General Curriculum Outcome  | Specific Curriculum Outcome | Outcome Description  |  Activities  |  eBooks |
|------------------------|---|-----------------------------|--|--|--|
| Patterns and Relations | Students will be expected to represent algebraic expressions in multiple ways.      | NS.7.PR06                   | Students will be expected to model and solve problems that can be represented by one-step linear equations of the form $x + a = b$ , concretely, pictorially, and symbolically, where $a$ and $b$ are integers.  | Solving Simple Equations<br>More Substitution in Formulae<br>Solving More Equations<br>Solve Equations: Add, Subtract 2<br>Solve Equations: Multiply, Divide 2   | Grade 8 Equations  |
| Patterns and Relations | Students will be expected to represent algebraic expressions in multiple ways.      | NS.7.PR07                   | Students will be expected to model and solve, concretely, pictorially, and symbolically, where $a$ , $b$ , and $c$ are whole numbers, problems that can be represented by linear equations of the form:<br>$ax + b = c$<br>$ax = b$<br>$x/a = b, a \neq 0$   | Solving Simple Equations<br>Solving More Equations<br>Equations: Variables, Both Sides<br>Solve Multi-Step Equations<br>Equations with Fractions<br>Solve Two-Step Equations<br>Missing Numbers: Variables<br>Equations with Decimals<br>Equations to Solve Problems<br>Checking Solutions<br>Find the Mistake | Grade 8 Equations  |
| Measurement            | Students will be expected to use direct and indirect measurement to solve problems. | NS.7.M01                    | Students will be expected to demonstrate an understanding of circles by: describing the relationships among radius, diameter, and circumference of circles; relating circumference to pi; determining the sum of the central angle; constructing circles with a given radius or diameter; solving problems involving the radii, diameters and circumferences of circles. | Circle Terms<br>Circumference: Circles<br>Labelling Circles<br>Identify Parts of Circles 1<br>Identify Parts of Circles 2  | Grade 9 Perimeter and Area   |
| Measurement            | Students will be expected to use direct and indirect measurement to solve problems. | NS.7.M02                    | Students will be expected to develop and apply a formula for determining the area of triangles, parallelograms and circles.  | Area: Triangles<br>Area: Right Angled Triangles<br>Area: Quadrilaterals<br>Area: Circles<br>Area: Parallelograms   | Grade 7 Area and Perimeter   |



# Nova Scotia Outcomes Alignment with Mathletics

## Nova Scotia Grade 7



| Strand                     | General Curriculum Outcome  | Specific Curriculum Outcome | Outcome Description   | Activities   | eBooks                      |
|----------------------------|---|-----------------------------|---|--|-----------------------------|
| Geometry                   | Students will be expected to describe the characteristics of 3-D objects and 2-D shapes and analyze the relationships among them. | NS.7.G01                    | Students will be expected to perform geometric constructions, including perpendicular line segments, parallel line segments, perpendicular bisectors and angle bisectors  | Parallel Lines<br>What Line Am I?  | Grade 7 The Number Plane    |
| Geometry                   | Students will be expected to describe and analyze position and motion of objects and shapes.                                      | NS.7.G02                    | Students will be expected to identify and plot points in the four quadrants of a Cartesian plane using integral ordered pairs.  | Ordered Pairs  | Grade 7 The Number Plane    |
| Geometry                   | Students will be expected to describe and analyze position and motion of objects and shapes.                                      | NS.7.G03                    | Students will be expected to perform and describe transformations (translations, rotations or reflections) of a 2-D shape in all four quadrants of a Cartesian plane (limited to integral number vertices).   | Transformations<br>Rotations: Coordinate Plane<br>Transformations: Coordinate Plane<br>Flip, Slide, Turn<br>Symmetry<br>Symmetry or Not?<br>Rotational Symmetry<br>Vertical and horizontal shift | Grade 7 Polygons            |
| Statistics and Probability | Students will be expected to collect, display, and analyze data to solve problems.  | NS.7.SP01                   | Students will be expected to demonstrate an understanding of central tendency and range by: determining the measures of central tendency (mean, median, mode) and range determining the most appropriate measures of central tendency to report findings. | Mean<br>Median<br>Mode<br>Mean from Frequency Table<br>Median from Frequency Table<br>Mode from Frequency Table<br>Grouped Frequency   | Grade 9 Data                |
| Statistics and Probability | Students will be expected to collect, display, and analyze data to solve problems.  | NS.7.SP02                   | Students will be expected to determine the effect on the mean, median, and mode when an outlier is included in the data.  | Under review   | Grade 7 Data for Statistics |
| Statistics and Probability | Students will be expected to collect, display, and analyze data to solve problems.  | NS.7.SP03                   | Students will be expected to construct, label, and interpret circle graphs to solve problems.   | Creating a Sector Graph<br>Sector Graph Calculations<br>Sector Graph Angles<br>Sector Graphs   | Grade 9 Data                |



# Nova Scotia Outcomes

## Alignment with Mathletics

### Nova Scotia Grade 7



| Strand                     | General Curriculum Outcome  | Specific Curriculum Outcome | Outcome Description   |  Activities  |  eBooks |
|----------------------------|---|-----------------------------|---|--|--|
| Statistics and Probability | Students will be expected to use experimental or theoretical probabilities to represent and solve problems involving uncertainty. | NS.7.SP04                   | Students will be expected to express probabilities as ratios, fractions, and percents.  | Probability Scale<br>Ratios<br>Simple Probability<br>Find the Probability  | Grade 7 Chance   |
| Statistics and Probability | Students will be expected to use experimental or theoretical probabilities to represent and solve problems involving uncertainty. | NS.7.SP05                   | Students will be expected to identify the sample space (where the combined sample space has 36 or fewer elements) for a probability experiment involving two independent events.  | Dice and Coins<br>Two-way Table Probability<br>Tree Diagrams<br>Venn Diagrams  | Grade 7 Chance   |
| Statistics and Probability | Students will be expected to use experimental or theoretical probabilities to represent and solve problems involving uncertainty. | NS.7.SP06                   | Students will be expected to conduct a probability experiment to compare the theoretical probability (determined using a tree diagram, table, or another graphic organizer) and experimental probability of two independent events. | Dice and Coins<br>Two-way Table Probability<br>Probability Tables<br>Probability With Replacement<br>Probability Without Replacement<br>Complementary Events | Grade 7 Chance   |



# Nova Scotia Outcomes

## Alignment with Mathletics

### Nova Scotia Grade 8



| Strand | General Curriculum Outcome                             | Specific Curriculum Outcome | Outcome Description  |  Activities   |  eBooks |
|--------|--|-----------------------------|--|--|--|
| Number | Students will be expected to demonstrate number sense. | NS.8.N01                    | Students will be expected to demonstrate an understanding of perfect squares and square roots, concretely, pictorially, and symbolically (limited to whole numbers). | Square Roots<br>Equations with Square Roots  | Grade 7 Whole Numbers  |
| Number | Students will be expected to demonstrate number sense. | NS.8.N02                    | Students will be expected to determine the approximate square root of numbers that are not perfect squares (limited to whole numbers).                               | Estimating Square Roots<br>Estimate Square Roots<br>Square and Cube Roots  | Grade 7 Whole Numbers  |
| Number | Students will be expected to demonstrate number sense. | NS.8.N03                    | Students will be expected to demonstrate an understanding of percents greater than or equal to 0%.   | Percentage of a Quantity<br>Calculating Percentages<br>Percentage to Fraction<br>Decimal to Percentage<br>Percents and Decimals<br>Decimals to Fractions 2<br>Fraction to Terminating Decimal<br>Fractions to Decimals 2<br>Percentages of a quantity (>100%)<br>Percentage Word Problems<br>Percentage Increase and Decrease<br>Solve Percent Equations<br>Percentage Composition | Grade 8 Percentage Calculations  |
| Number | Students will be expected to demonstrate number sense. | NS.8.N04                    | Students will be expected to demonstrate an understanding of ratio and rate.   | Rate Word Problems<br>Ratios<br>Rates<br>Rates Word Problems<br>Equivalent Ratios<br>Dividing a Quantity in a Ratio<br>Ratio Word Problems<br>Ratio and Proportion<br>Solve Proportions<br>Simplify Ratios: 2 Whole Numbers<br>Simplify Ratios: 3 Whole Numbers<br>Simplify Ratios: Mixed Numbers<br>Rates Calculations  | Grade 8 Percentage Calculations  |



# Nova Scotia Outcomes

## Alignment with Mathletics

### Nova Scotia Grade 8

| Strand                 | General Curriculum Outcome   | Specific Curriculum Outcome | Outcome Description  |  Activities   |  eBooks |
|------------------------|--|-----------------------------|--|---|--|
| Number                 | Students will be expected to demonstrate number sense.                                 | NS.8.N05                    | Students will be expected to solve problems that involve rates, ratios, and proportional reasoning.  | Ratio Word Problems<br>Percentage Word Problems<br>Rate Word Problems<br>Rates Word Problems  | Grade 7 Fractions  |
| Number                 | Students will be expected to demonstrate number sense.                                 | NS.8.N06                    | Students will be expected to demonstrate an understanding of multiplying and dividing positive fractions and mixed numbers, concretely, pictorially, and symbolically. | Divide Fractions by Fractions 1<br>Operations with Fractions<br>Converting Mixed and Improper Model fractions to multiply<br>Multiply Mixed Numbers<br>Divide Fractions by Fractions 2<br>Divide Mixed Numbers<br>Fraction Word Problems<br>Divide by a unit fraction<br>Divide Fractions Visual Model<br>Multiplying Fractions<br>Multiply Two Fractions 1<br>Multiply Two Fractions 2 | Grade 7 Fractions  |
| Number                 | Students will be expected to demonstrate number sense.                                 | NS.8.N07                    | Students will be expected to demonstrate an understanding of multiplication and division of integers, concretely, pictorially, and symbolically.                       | Integers: Multiply and Divide<br>Integers: Multiply and Divide 1<br>Integers: Order of Operations (BEDMAS)<br>More with Integers<br>Order of Operations 1 (BEDMAS)<br>Multiplying and Dividing Integers   | Grade 7 Whole Numbers  |
| Patterns and Relations | Students will be expected to use patterns to describe the world and to solve problems. | NS.8.PR01                   | Students will be expected to graph and analyze two-variable linear relations.  | Pattern Rules and Tables<br>Find the Pattern Rule<br>Find the Function Rule<br>Ordered Pairs<br>Table of Values<br>Reading Values from a Line<br>Graphing from a Table of Values 2<br>$y=ax$<br>Which Straight Line?<br>Equation of a Line 2  | Grade 8 Linear Relationships   |



# Nova Scotia Outcomes Alignment with Mathletics

## Nova Scotia Grade 8

| Strand                 | General Curriculum Outcome  | Specific Curriculum Outcome | Outcome Description  | Activities  | eBooks                     |
|------------------------|---|-----------------------------|--|---|----------------------------|
| Patterns and Relations | Students will be expected to represent algebraic expressions in multiple ways.  | NS.8.PR02                   | Students will be expected to model and solve problems, concretely, pictorially, and symbolically, where $a$ , $b$ , and $c$ are integers, using linear equations of the form<br>$ax=b$<br>$x/a=b$ , $a \neq 0$<br>$ax+b=c$<br>$x/a+b=c$ , $a \neq 0$<br>$a(x+b)=c$ | Equations to Solve Problems<br>Solving More Equations<br>Solve Equations: Add, Subtract 2<br>Solve Equations: Multiply, Divide 2<br>Equations with Fractions<br>Equations with Grouping Symbols | Grade 8 Equations          |
| Measurement            | Students will be expected to use direct or indirect measurement to solve problems.  | NS.8.M01                    | Students will be expected to develop and apply the Pythagorean theorem to solve problems.  | Pythagoras' Theorem<br>Pythagorean Triads<br>Hypotenuse of a Right Triangle<br>Find Slant Height  | Grade 8 Pythagors' Theorem |
| Measurement            | Students will be expected to use direct or indirect measurement to solve problems.  | NS.8.M02                    | Students will be expected to draw and construct nets for 3-D objects.  | Nets  | Grade 9 Measuring Solids   |
| Measurement            | Students will be expected to use direct or indirect measurement to solve problems.  | NS.8.M03                    | Students will be expected to determine the surface area of right rectangular prisms, right triangular prisms and right cylinders to solve problems.  | Surface Area: Cylinders<br>Surface Area: Triangular Prisms<br>Surface Area: Rectangular Prisms  | Grade 9 Measuring Solids   |
| Measurement            | Students will be expected to use direct or indirect measurement to solve problems.  | NS.8.M04                    | Students will be expected to develop and apply formulas for determining the volume of right prisms and right cylinders.  | Volume: Cylinders<br>Volume: Prisms<br>Volume: Rectangular Prisms 2<br>Volume: Triangular Prisms  | Grade 9 Measuring Solids   |
| Geometry               | Students will be expected to describe the characteristics of 3-D objects and 2-D shapes and analyze the relationships among them. | NS.8.G01                    | Students will be expected to draw and interpret top, front, and side views of 3-D objects composed of right rectangular prisms.  | Under review  | Grade 8 Constructions      |
| Geometry               | Students will be expected to describe and analyze position and motion of objects and shapes.                                      | NS.8.G02                    | Students will be expected to demonstrate an understanding of the congruence of polygons under a transformation.  | Under review  | Grade 7 Polygons           |









# Nova Scotia Outcomes

## Alignment with Mathletics

### Nova Scotia Grade 8

| Strand                     | General Curriculum Outcome  | Specific Curriculum Outcome | Outcome Description  |  Activities  |  eBooks |
|----------------------------|---|-----------------------------|--|--|--|
| Statistics and Probability | Students will be expected to collect, display, and analyze data to solve problems.  | NS.8.SP01                   | Students will be expected to critique ways in which data are presented.                      | Frequency Histograms<br>Histograms<br>Histogram or Polygon?<br>Cumulative Frequency Histogram<br>Dot Plots<br>Line Plots<br>Pie Charts<br>Divided Bar Graphs<br>Step Graphs  | Grade 9 Data   |
| Statistics and Probability | Students will be expected to use experimental or theoretical probabilities to represent and solve problems involving uncertainty. | NS.8.SP02                   | Students will be expected to solve problems involving the probability of independent events. | Dice and Coins<br>Probability Scale<br>Simple Probability<br>Two-way Table Probability<br>Probability With Replacement<br>Probability without Replacement<br>Probability without Replacement 1<br>Simple Probability 1<br>Probability Tables<br>Probability with Replacement 1<br>Find the Probability | Grade 7 Chance<br>Grade 9 Probability  |

### Mathematics 10



| Strand      | General Curriculum Outcome   | Specific Curriculum Outcome | Outcome Description   |  Activities  |  eBooks |
|-------------|--|-----------------------------|---|--|--|
| Measurement | Students will be expected to develop spatial sense and proportional reasoning. | NS.10.M01                   | Students will be expected to solve problems that involve linear measurement, using SI and imperial units of measure, estimation strategies, and measurement strategies.   | Metres and Kilometres<br>Centimetres and Metres<br>Kilometre Conversions<br>Converting Units of Length<br>Customary Units of Length<br>Pythagoras: Find a Short Side (rounding needed)<br>Inches, Feet, Yards<br>Perimeter<br>Operations with Length<br>Perimeter and Circles<br>Calculate Circumference of Circles<br>Perimeter: Composite Shapes<br>Pythagoras and Perimeter<br>Arc Length | Perimeter and Area   |
| Measurement | Students will be expected to develop spatial sense and proportional reasoning. | NS.10.M02                   | Students will be expected to apply proportional reasoning to problems that involve conversions between SI and imperial units of measure.  | Metres and Kilometres<br>Centimetres and Metres<br>Kilometre Conversions<br>Converting Units of Length<br>Customary Units of Length<br>Operations with Length  | Rates and Ratios<br>Converting Units   |
| Measurement | Students will be expected to develop spatial sense and proportional reasoning. | NS.10.M03                   | Students will be expected to solve problems, using SI and imperial units, that involve the surface area and volume of 3-D objects, including right cones, right cylinders, right prisms, right pyramids, and spheres. | Nets<br>Surface Area: Rectangular Prisms<br>Surface Area: Square Pyramids<br>Surface Area: Rectangular Pyramids<br>Surface Area: Triangular Prisms<br>Surface Area: Cylinders<br>Surface Area: Cones<br>Surface Area: Spheres  | Measuring Solids   |
| Measurement | Students will be expected to develop spatial sense and proportional reasoning. | NS.10.M04                   | Students will be expected to develop and apply the primary trigonometric ratios (sine, cosine, tangent) to solve problems that involve right triangles.   | Similar Triangles<br>Exact Trigonometric Ratios<br>Hypotenuse, Adjacent, Opposite<br>Hypotenuse of a Right Triangle<br>Sin A<br>Cos A<br>Tan A<br>Find Unknown Angles<br>Find Unknown Sides<br>Find Slant Height<br>Elevation and Depression<br>Trigonometry Problems 2<br>Pythagoras and Perimeter  | Trigonometry   |





# Nova Scotia Outcomes

## Alignment with Mathletics

### Mathematics 10

| Strand                  | General Curriculum Outcome   | Specific Curriculum Outcome | Outcome Description   |  Activities  |  eBooks |
|-------------------------|--|-----------------------------|---|---|--|
| Algebra and Number      | Students will be expected to develop algebraic reasoning and number sense.                             | NS.10.AN01                  | Students will be expected to demonstrate an understanding of factors of whole numbers by determining the prime factors, greatest common factor, least common multiple, square root, and cube root.      | Prime or Composite?<br>Product of Prime Factors<br>Prime Factoring<br>Prime Factoring: Exponents<br>Greatest Common Factor<br>Least Common Multiple<br>Square Roots<br>Square and Cube Roots  | Whole Numbers  |
| Algebra and Number      | Students will be expected to develop algebraic reasoning and number sense.                             | NS.10.AN02                  | Students will be expected to demonstrate an understanding of irrational numbers by representing, identifying, simplifying, and ordering irrational numbers.   | Irrational Numbers<br>Estimate Square Roots<br>Simplifying Irrational Numbers   | Radicals and Exponents   |
| Algebra and Number      | Students will be expected to develop algebraic reasoning and number sense.                             | NS.10.AN03                  | Students will be expected to demonstrate an understanding of powers with integral and rational exponents.   | Negative Exponents<br>Irrational Number to Exponent Form<br>Properties of Exponents<br>Multiplication with Exponents<br>Multiplication and Division with Exponents<br>Exponent Laws with Brackets<br>Simplifying with Exponent Laws 1 | Radicals and Exponents<br>Exponents  |
| Algebra and Number      | Students will be expected to develop algebraic reasoning and number sense.                             | NS.10.AN04                  | Students will be expected to demonstrate an understanding of the multiplication of polynomial expressions (limited to monomials, binomials, and trinomials), concretely, pictorially, and symbolically. | Expanding Binomial Products<br>Special Binomial Products<br>Constructing Formulae   | Expanding and Factorizing<br>Simplifying Algebra<br>Polynomials                            |
| Algebra and Number      | Students will be expected to develop algebraic reasoning and number sense.                             | NS.10.AN05                  | Students will be expected to demonstrate an understanding of common factors and trinomial factoring, concretely, pictorially, and symbolically.   | Factoring<br>Factoring Expressions<br>Factoring Quadratics 1<br>Factoring Quadratics 2  | Expanding and Factorizing<br>Factoring<br>Polynomials                                      |
| Relations and Functions | Students will be expected to develop algebraic and graphical reasoning through the study of relations. | NS.10.RF01                  | Students will be expected to interpret and explain the relationships among data, graphs, and situations.  | Domain<br>Domain and Range  | Functions  |



### Mathematics 10

| Strand                  | General Curriculum Outcome   | Specific Curriculum Outcome | Outcome Description  |  Activities  |  eBooks |
|-------------------------|--|-----------------------------|--|---|--|
| Relations and Functions | Students will be expected to develop algebraic and graphical reasoning through the study of relations. | NS.10.RF02                  | Students will be expected to demonstrate an understanding of relations and functions.  | Vertical Line Test  | Functions  |
| Relations and Functions | Students will be expected to develop algebraic and graphical reasoning through the study of relations. | NS.10.RF03                  | Students will be expected to demonstrate an understanding of slope with respect to rise and run, line segments and lines, rate of change, parallel lines, and perpendicular lines.   | Slope of a Line<br>Horizontal and Vertical Lines<br>$y = ax$<br>Are they Parallel?<br>Are they Perpendicular?   | Straight Lines<br>Linear Relationships   |
| Relations and Functions | Students will be expected to develop algebraic and graphical reasoning through the study of relations. | NS.10.RF04                  | Students will be expected to describe and represent linear relations, using words, ordered pairs, tables of values, graphs, and equations.   | Graphing from a Table of Values<br>Graphing from a Table of Values 2<br>General Form of a Line<br>Which Straight Line?<br>$y = ax$  | Straight Lines<br>Linear Relationships   |
| Relations and Functions | Students will be expected to develop algebraic and graphical reasoning through the study of relations. | NS.10.RF05                  | Students will be expected to determine the characteristics of the graphs of linear relations, including the intercepts, slope, domain, and range.  | Intercepts<br>Slope of a Line<br>Domain<br>Domain and Range<br>$y = ax$   | Straight Lines<br>Linear Relationships   |
| Relations and Functions | Students will be expected to develop algebraic and graphical reasoning through the study of relations. | NS.10.RF06                  | Students will be expected to relate linear relations to their graphs, expressed in <ul style="list-style-type: none"> <li>slope-intercept form (<math>y = mx + b</math>)</li> <li>general form (<math>Ax + By + C = 0</math>)</li> <li>slope-point form (<math>y - y_1 = m(x - x_1)</math>)</li> </ul> | Graphing from a Table of Values<br>Graphing from a Table of Values 2<br>General Form of a Line<br>Which Straight Line?<br>$y = ax$  | Straight Lines<br>Linear Relationships   |
| Relations and Functions | Students will be expected to develop algebraic and graphical reasoning through the study of relations. | NS.10.RF07                  | Students will be expected to determine the equation of a linear relation to solve problems, given a graph, a point and the slope, two points, and a point and the equation of a parallel or perpendicular line.  | Modelling Linear Relationships<br>Determining a Rule for a Line<br>Equation of a Line 1<br>Equation from Point and Gradient<br>Equation from Two Points<br>Equation of a Line 3<br>Data Analysis: Scatter Plots<br>Scatter Plots<br>Data analysis: line of best fit | Straight Lines<br>Linear Relationships   |



# Nova Scotia Outcomes Alignment with Mathletics

## Mathematics 10

| Strand                  | General Curriculum Outcome   | Specific Curriculum Outcome | Outcome Description   |  Activities  |  eBooks |
|-------------------------|--|-----------------------------|---|---|--|
| Relations and Functions | Students will be expected to develop algebraic and graphical reasoning through the study of relations. | NS.10.RF08                  | Students will be expected to solve problems that involve the distance between two points and the midpoint of a line segment.  | Distance Between Two Points<br>Midpoint by Formula<br>Coordinate Methods in Geometry  | Coordinate Geometry  |
| Relations and Functions | Students will be expected to develop algebraic and graphical reasoning through the study of relations. | NS.10.RF09                  | Students will be expected to represent a linear function, using function notation.  | Function Notation 1<br>Domain<br>Domain and Range   | Functions  |
| Relations and Functions | Students will be expected to develop algebraic and graphical reasoning through the study of relations. | NS.10.RF10                  | Students will be expected to solve problems that involve systems of linear equations in two variables, graphically and algebraically.                                   | Simultaneous Linear Equations<br>Simultaneous Equations 1<br>Simultaneous Equations 2<br>Solve Systems by Graphing<br>Breakeven Point | Linear Relationships   |
| Financial Mathematics   | Students will be expected to demonstrate number sense and critical thinking skills.                    | NS.10.FM01                  | Students will be expected to solve problems that involve unit pricing and currency exchange, using proportional reasoning.  | Best Buy<br>Purchase Options<br>Percent Increase and Decrease<br>Percentage Change: Increase and Decrease                             | Rates and Ratios<br>Percentage Calculations  |
| Financial Mathematics   | Students will be expected to demonstrate number sense and critical thinking skills.                    | NS.10.FM02                  | Students will be expected to demonstrate an understanding of income to calculate gross pay and net pay, including wages, salary, contracts, commissions, and piecework. | Wages and Salaries<br>Working Overtime<br>Commission<br>Deductions and Net Pay<br>Calculating Income Tax                              | Earning Money  |
| Financial Mathematics   | Students will be expected to demonstrate number sense and critical thinking skills.                    | NS.10.FM03                  | Students will be expected to investigate personal budgets.  | Budgeting   | Earning Money  |
| Financial Mathematics   | Students will be expected to demonstrate number sense and critical thinking skills.                    | NS.10.FM04                  | Students will be expected to explore and give a presentation on an area of interest that involves financial mathematics.  | Under Review  | Under Review   |



# Notes







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