

# Mathletics

## Saskatchewan Curriculum

### Activities (Courses) and Skill Quests



**Grades 3-6**

July, 2025

**Mathletics**

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# Grade 3

## 1 Number

### 1.1 Count and Represent

| <b>N3.1</b><br>Demonstrate understanding of whole numbers to 1000 (concretely, pictorially, physically, orally, in writing, and symbolically) including: representing (including place value), describing, estimating with referents, comparing two numbers, ordering three or more, numbers. |  |
|---|--|
| Course Topics   | Activities                                       |
| Number  | Counting by Twos                                 |
|   | Counting by Fives                                |
|   | Counting by Tens                                 |
|   | Place value to thousands                         |
|   | Model Numbers                                    |
|   | Ascending Order                                  |
|   | Descending Order                                 |
|   | Which is Bigger?                                 |
|   | Which is Smaller?                                |
|   | Skip Counting                                    |
|   | Place Value 2                                    |
|   | Skip Counting with Coins                         |
|   | Understanding Place Value 1                      |
|   | Place Value Partitioning                         |
|   | Greater or Less to 100                           |
| Topics  | Skill Quests                                     |
| Read & write numbers to 1000  | Reading & writing numbers up to 1000             |
|   | Connecting multiples of 10 & 100 to number words |
|   | Identifying numbers before & after within 1000   |
| Compare & order numbers to 1000   | Comparing & ordering numbers up to 1000          |
| Place value up to 1000  | Identifying place value of numbers to 1000       |
|   | Using place value to partition 3-digit numbers   |
|   | Non-standard partitioning, 3-digit numbers       |
|   | Solving place value number problems              |
| Count to 1000   | Counting by 10s to 1000, forward & backward      |
|   | Counting by 2s to 1000, forward & backward       |
|   | Counting by 5s to 1000, forward & backward       |
|   | Counting by 3s to 1000, forward & backward       |
|   | Counting by 4 to 1000, forward & backward        |
|   | Counting by 25 to 1000, forward & backward       |
|   | Counting by 100s to 1000, forward & backward     |
|   | Counting by 10s & 1s to 1000                     |
|   | Counting by 10s, off the decade                  |
| Estimating to 1000  | Estimating quantities up to 1000 using referents |

## 1.2 Problems and Strategies

| <b>N3.2</b><br>Demonstrate understanding of addition of whole numbers with answers to 1000 and their corresponding subtractions (limited to 1, 2, and 3-digit numerals) including: representing strategies for adding and subtracting concretely, pictorially, and symbolically, solving situational questions involving addition and subtraction, estimating using personal strategies for adding and subtracting. |  |
|---|--|
| Course Topics   | Activities   |
| Addition and Subtraction  | Magic Mental Addition                              |
|   | Magic Mental Subtraction                           |
|   | Columns that Add                                   |
|   | Add Two 2-Digit Numbers                            |
|   | Columns that Subtract                              |
|   | Problems: Add and Subtract                         |
|   | Fact Families: Add and Subtract                    |
|   | Commutative Property of Addition                   |
|   | Add Multi-Digit Numbers 1                          |
|   | Commutative Property of Addition                   |
|   | Subtract Numbers: Regroup                          |
|   | Add Numbers: Regroup a Ten                         |
|   | Subtract Numbers: Regroup                          |
|   | Complements to 50 and 100                          |
|   | Compensation - Add                                 |
|   | Compensation - Subtract                            |
|   | Bar Model Problems 2                               |
|   | Add 3 numbers using bonds to 10                    |
|   | Decompose Numbers to Subtract                      |
| Topics  | Skill Quests                                       |
| Addition & subtraction to 1000  | Adding up to 1000 using a number line              |
|   | Adding up to 1000 using bridging to ten            |
|   | Adding up to 1000 using a jump strategy            |
|   | Adding up to 1000 using a split strategy           |
|   | Adding up to 1000 using rounding & compensating    |
|   | Subtracting up to 100 using a number line          |
|   | Subtracting up to 1000 using a split strategy      |
|   | Subtracting up to 1000 using a jump strategy       |
|   | Subtracting up to 1000 using bridging to ten       |
|   | Subtract up to 1000 using rounding & compensating  |
|   | Add/subtract up to 1000 using a number line        |
|   | Add/subtract up to 1000 using bridging to ten      |
|   | Add/subtract up to 1000 using a jump strategy      |
|   | Add/subtract up to 1000 using a split strategy     |
|   | Add/subtract to 1000 using rounding & compensating |
|   | Represent add/subtract problems using a bar model  |
|   | Estimating sums & differences to 1000              |
|   | Estimating sums & differences in problem solving   |
|   | Solving addition & subtraction word problems       |

|  |  |
|--|--|
| Mental strategies: add/sub facts to 18 | Using the commutative property of addition         |
|  | Adding 3 single-digit numbers=                     |
|  | Finding the difference between 2 numbers           |
|  | Using doubles & near doubles to add & subtract     |
|  | Mental strategies for addition & subtraction facts |
|  | Adding & subtracting zero                          |

| <b>N3.3</b><br>Demonstrate understanding of multiplication to $5 \times 5$ and the corresponding division statements including: representing and explaining using repeated addition or subtraction, equal grouping, and arrays, creating and solving situational questions, modelling processes using concrete, physical, and visual representations, and recording the process symbolically, relating multiplication and division. |  |
|---|--|
| Course Topics   | Activities                                     |
| Multiplication and Division   | Groups of Two                                  |
|   | Groups of Three                                |
|   | Groups of Four                                 |
|   | Groups of Five                                 |
|   | Dividing Twos                                  |
|   | Dividing Threes                                |
|   | Dividing Fours                                 |
|   | Dividing Fives                                 |
|   | Dividing Tens                                  |
|   | Making Equal Groups                            |
|   | Fill the Jars                                  |
|   | Multiplication Arrays                          |
|   | Model Multiplication to $5 \times 5$           |
|   | Frog Jump Multiplication                       |
|   | Multiplication Problems 1                      |
|   | Groups   |
|   | Frog Jump Division                             |
| Topics  | Skill Quests                                   |
| Multiplication concepts to $5 \times 5$   | Using repeated addition to multiply            |
|   | Exploring multiplication by 2                  |
|   | Exploring multiplication by 3                  |
|   | Exploring multiplication by 4                  |
|   | Exploring multiplication by 5                  |
|   | Multiplication facts to $5 \times 5$           |
| Division concepts (up to $5 \times 5$ facts)  | Using repeated subtraction to divide           |
|   | Dividing by 2                                  |
|   | Dividing by 3                                  |
|   | Dividing by 4                                  |
|   | Dividing by 5                                  |
| Multiplication & division (to $5 \times 5$ )  | Relationship between multiplication & division |
|   | Solving problems using arrays                  |
|   | Multiplication & division word problems        |

| <b>N3.4</b><br>Demonstrate understanding of fractions concretely, pictorially, physically, and orally including:<br>representing, observing and describing situations, comparing, relating to quantity. |  |
|---|--|
| Course Topics   | Activities                               |
| Fractions   | Halves and Quarters                      |
|   | Thirds and Sixths                        |
|   | What Fraction is Shaded?                 |
|   | What Fraction Is Shaded 1?               |
|   | Comparing Fractions 1                    |
|   | Shape Fractions                          |
|   | Model Fractions                          |
|   | Counting with Fractions on a Number Line |
|   | Identifying Fractions on a Number Line   |
|   | Fraction Fruit Sets 1                    |
| Topics  | Skill Quests                             |
| Fraction concepts   | Finding halves                           |
|   | Finding fourths                          |
|   | Working with halves & fourths            |
|   | Working with thirds                      |
|   | Working with sixths                      |
|   | Working with thirds & sixths             |
|   | Working with fifths                      |
|   | Working with eighths                     |
|   | Working with halves, fourths & eighths   |
|   | Representing simple fractions            |
|   | Equivalent fractions                     |

## 2 Patterns and Relations

### 2.1 Patterns and Relations

| <b>P3.1</b>  |  |
|--|--|
| Demonstrate understanding of increasing and decreasing patterns including: observing and describing, extending, comparing, creating patterns using manipulatives, pictures, sounds, and actions. |  |
| <b>Course Topics</b>   | <b>Activities</b>                        |
| Patterns and Relations   | Analyzing Data                           |
|  | Making Graphs                            |
|  | Increasing Patterns                      |
|  | Pictographs                              |
|  | Bar Graphs 1                             |
|  | Reading from a Column Graph              |
|  | Count Forward Patterns                   |
|  | Count Backward Patterns                  |
|  | Tally Charts                             |
| <b>Topics</b>  | <b>Skill Quests</b>                      |
| Increasing & decreasing patterns   | Identifying & describing number patterns |
|  | Identifying & creating number patterns   |
|  | Increasing & decreasing visual patterns  |

| <b>P3.2</b>  |  |
|--|--|
| Demonstrate understanding of equality by solving one-step addition and subtraction equations involving symbols representing an unknown quantity. |  |
| <b>Course Topics</b>   | <b>Activities</b>                                  |
| Patterns and Relations   | Missing Values                                     |
|  | Missing Numbers                                    |
|  | Missing Numbers: Variables                         |
| <b>Topics</b>  | <b>Skill Quests</b>                                |
| Add & subtract: One-step equations   | One-step add/subtract problems with unknowns       |
| Equivalent relationships to 100  | Equivalent addition & subtraction number sentences |

## 3 Shape and Space

### 3.1 Shape and Space

| SS3.1  |   |
|--|---|
| Demonstrate understanding of the passage of time including: relating common activities to standard and nonstandard units, describing relationships between units, solving situational questions. |   |
| Course Topics  | Activities  |
| Time   | Days of the Week                                  |
|  | Months of the Year                                |
|  | Using a Calendar                                  |
|  | Set Time to the Hour                              |
|  | Set Time to the Half Hour                         |
| Topics   | Skill Quests                                      |
| Time concepts  | Using calendars                                   |
|  | Introducing time in hours, minutes & seconds      |
|  | Recalling relationships between units of time     |
|  | Identifying activities completed in units of time |

| SS3.2   |  |
|---|--|
| Demonstrate understanding of measuring mass in g and kg by: selecting and justifying referents for g and kg, modelling and describing the relationship between g and kg, estimating mass using referents, measuring and recording mass. |  |
| Course Topics   | Activities                             |
| Mass and Length   | Everyday Mass                          |
|   | How Heavy?                             |
| Topics  | Skill Quests                           |
| Measure mass  | Measuring mass: kilograms & grams      |
|   | Selecting units of measure: mass       |
|   | Relationship between grams & kilograms |

| SS3.3  |   |
|--|---|
| Demonstrate understanding of linear measurement (cm and m) including: selecting and justifying referents, generalizing the relationship between cm and m, estimating length and perimeter using referents, measuring and recording length, width, height, and perimeter. |   |
| Course Topics  | Activities                                      |
| Mass and Length  | How Long is That?                               |
|  | Centimetres and Metres                          |
|  | Perimeter of Shapes                             |
|  | Perimeter                                       |
|  | Measuring Length                                |
| Topics   | Skill Quests                                    |
| Measure length   | Measuring and converting cm & m                 |
|  | Ordering & comparing lengths in m & cm          |
|  | Measuring perimeter: regular & irregular shapes |
|  | Measuring lengths of 3D objects                 |

| <b>SS3.4</b>  |  |
|---|--|
| Demonstrate understanding of 3-D objects by analyzing characteristics including faces, edges, and vertices. |  |
| <b>Course Topics</b>  | <b>Activities</b>                        |
| 3-D Objects and 2-D Shapes  | Collect the Objects                      |
|   | Prisms and Pyramids                      |
|   | Faces, Edges and Vertices                |
|   | Relate Shapes and Solids                 |
|   | Count Sides and Corners                  |
| <b>Topics</b>   | <b>Skill Quests</b>                      |
| 3D objects  | Introducing the attributes of 3D objects |
|   | Introducing cubes                        |
|   | Introducing cylinders                    |
|   | Introducing spheres                      |
|   | Introducing cones                        |
|   | Introducing prisms & pyramids            |
|   | Describing the attributes of 3D objects  |
|   | Comparing & sorting 3D objects           |
|   | Making basic models of 3D objects        |

| <b>SS3.5</b>  |  |
|---|--|
| Demonstrate understanding of 2-D shapes (regular and irregular) including triangles, quadrilaterals, pentagons, hexagons, and octagons including: describing, comparing, sorting. |  |
| <b>Course Topics</b>  | <b>Activities</b>                          |
| 3-D Objects and 2-D Shapes  | How Many Faces?                            |
|   | How many Edges?                            |
|   | How many Corners?                          |
|   | Collect More Shapes                        |
|   | Collect the Shapes 2                       |
|   | Faces, Edges and Vertices                  |
| <b>Topics</b>   | <b>Skill Quests</b>                        |
| Sort & identify 2D shapes   | Comparing 2D shapes                        |
|   | Identifying & naming 2D shapes             |
|   | Sorting 2D shapes                          |
| Regular & irregular polygons  | Understanding regular & irregular polygons |

## 4 Statistics and Probability

### 4.1 Statistics and Probability

| SP3.1   |  |
|---|--|
| Demonstrate understanding of first-hand data using tally marks, charts, lists, bar graphs, and line plots (abstract pictographs), through: collecting, organizing, and representing, solving situational questions. |  |
| Course Topics   | Activities                                   |
| Teacher directed  |  |
| Topics  | Skill Quests                                 |
| Understand first-hand data  | Understanding & using line plots             |
|   | Understanding & using bar graphs             |
|   | Understanding & using data in lists & tables |
|   | Understanding the statistical process        |

# Grade 4

## 1 Number

### 1.1 Number

| <b>N4.1</b>  |  |
|--|--|
| Demonstrate an understanding of whole numbers to 10 000 (pictorially, physically, orally, in writing, and symbolically) by: representing, describing, comparing two numbers, ordering three or more numbers. |  |
| Course Topics  | Activities                                   |
| Number   | Place Value to Thousands                     |
|  | Expanding Numbers                            |
|  | Understanding Place Value 2                  |
|  | Ascending Order                              |
|  | Descending Order                             |
|  | Place value 2                                |
|  | Place value 3                                |
| Topics   | Skill Quests                                 |
| Number concepts to 10 000  | Reading & writing numbers to 10 000          |
|  | Identifying numbers before & after to 10 000 |
|  | Identifying missing numbers to 10 000        |
|  | Comparing & ordering numbers to 10 000       |
|  | Understanding place value, 4-digit numbers   |
|  | Partitioning 4-digit numbers                 |

| <b>N4.2</b>  |                                    |
|--|------------------------------------|
| Demonstrate an understanding of addition of whole numbers with answers to 10 000 and their corresponding subtractions (limited to 3 and 4- digit numerals) by: using personal strategies for adding and subtracting, estimating sums and differences, solving problems involving addition and subtraction. |                                    |
| Course Topics  | Activities                         |
| Addition and Subtraction   | Add Two 2-Digit Numbers            |
|  | 2-Digit Differences: Regroup       |
|  | 2-Digit Differences                |
|  | Problems: Add and Subtract         |
|  | Adding Colossal Columns            |
|  | Subtracting Colossal Columns       |
|  | Estimation: Add and Subtract       |
|  | Estimate Sums                      |
|  | Add Two 2-Digit Numbers: Regroup   |
|  | Add Three 2-Digit Numbers: Regroup |
|  | Add 3-Digit Numbers                |
|  | Add 3-Digit Numbers: Regroup       |
|  | Estimate Differences               |
|  | Strategies for Column Addition     |
|  | Add Three 3-Digit Numbers: Regroup |
|  | Complements to 50 and 100          |

| Topics                                 | Skill Quests                                      |
|--|---|
| Addition to 10 000                     | Adding up to 10 000 using a number line           |
|  | Adding up to 10 000 using place value             |
|  | Adding up to 10 000 using a split strategy        |
|  | Adding up to 10 000 using rounding & compensating |
|  | Adding up to 10 000 using algorithms              |
|  | Choosing mixed addition strategies                |
| Subtraction to 10 000                  | Subtracting up to 10 000 using a number line      |
|  | Subtracting up to 10 000 using place value        |
|  | Subtracting up to 10 000 using a split strategy   |
|  | Subtracting up to 10 000 using round & compensate |
|  | Subtracting up to 10 000 using algorithms         |
|  | Choosing mixed subtraction strategies             |
| Add & subtract word problems to 10 000 | Solving addition & subtraction word problems      |

| N4.3  |  |
|---|--|
| Demonstrate an understanding of multiplication of whole numbers (limited to numbers less than or equal to 10) by: applying mental mathematics strategies, explaining the results of multiplying by 0 and 1. |  |
| Course Topics   | Activities                                   |
| Multiplication and Division   | Multiplication Arrays                        |
|   | Multiplication Grids                         |
|   | Arrays 1                                     |
|   | Equivalent Facts: Multiply                   |
| Topics  | Skill Quests                                 |
| Multiplication facts to 100   | Exploring multiplication by 2                |
|   | Exploring multiplication by 3                |
|   | Exploring multiplication by 4                |
|   | Exploring multiplication by 5                |
|   | Exploring multiplication by 6                |
|   | Exploring multiplication by 7                |
|   | Exploring multiplication by 8                |
|   | Exploring multiplication by 9                |
|   | Exploring multiplication by 10               |
|   | Multiplying by 1 or 0                        |
|   | Recalling multiplication facts for 2, 5 & 10 |
|   | Recalling multiplication facts for 3 & 6     |
|   | Recalling multiplication facts for 7         |
|   | Recalling multiplication facts for 4 & 8     |
| Division facts to 100   | Recalling multiplication facts for 9         |
|   | Recalling multiplication facts to 10 x 10    |
|   | Recalling the division facts for 2, 5 & 10   |
|   | Recalling division facts for 3               |
|   | Recalling division facts for 4               |
|   | Recalling division facts for 6               |
| Multiplication & division facts to 100  | Recalling division facts for 7               |
|   | Recalling division facts for 8               |
|   | Recalling division facts for 9               |
|   | Multiplying & dividing by 2s, 5s & 10s       |

| <b>N4.4</b>  |   |
|--|---|
| Demonstrate an understanding of multiplication (2- or 3-digit by 1-digit) by: using personal strategies for multiplication, with and without concrete materials, using arrays to represent multiplication, connecting concrete representations to symbolic representations, estimating products, solving problems. |   |
| <b>Course Topics</b>   | <b>Activities</b>   |
| Multiplication and Division  | Multiply Multiples of 10                                  |
|  | Multiply: 1-Digit Number                                  |
|  | Multiply: 2-Digit by 1-Digit                              |
|  | Multiply: 1-Digit Number, Regroup                         |
|  | Multiplication Properties                                 |
|  | Missing Numbers: $\times$ and $\div$ facts                |
| <b>Topics</b>  | <b>Skill Quests</b>                                       |
| Multiplication, 2- or 3-digit by 1-digit   | Multiplying 2- or 3-digits by 1-digit, place value        |
|  | Multiplying 2- or 3-digits by 1-digit, doubling           |
|  | Multiplying 2- or 3-digits by 1-digit, area model         |
|  | Multiplying 2- or 3-digits by 1-digit, factoring          |
|  | Multiply 2- or 3-digits $\times$ 1-digit round & estimate |
|  | Multiplying by multiples of 10 & 100                      |

| <b>N4.5</b>   |  |
|---|--|
| Demonstrate an understanding of division (1-digit divisor and up to 2-digit dividend) to solve problems by: using personal strategies for dividing with and without concrete materials, estimating quotients, explaining the results of dividing by 1, solving problems involving division of whole numbers, relating division to multiplication. |  |
| <b>Course Topics</b>  | <b>Activities</b>                                  |
| Multiplication and Division   | Division Facts                                     |
|   | Remainders by Arrays                               |
|   | Problems: Multiply and Divide                      |
|   | Halve it!  |
|   | Remainders by Tables                               |
|   | Bar model $\times \div$                            |
|   | Divide: 1-Digit Divisor, Remainder                 |
|   | Divide: 1-Digit Divisor 1                          |
|   | Divide: 2-Digit Divisor, Remainder                 |
|   | Related Facts 2                                    |
| <b>Topics</b>   | <b>Skill Quests</b>                                |
| Division, 2-digit by 1-digit  | Dividing 2-digits by 1-digit, models               |
|   | Dividing 2-digits by 1-digit, halving              |
|   | Dividing 2-digits by 1-digit, related facts        |
|   | Dividing 2-digits by 1-digit, inverse relationship |
|   | Dividing 2-digit by 1-digit, round to estimate     |
|   | Dividing by 1 using bar models                     |

| <b>N4.6</b>   |   |
|---|---|
| Demonstrate an understanding of fractions less than or equal to one by using concrete and pictorial representations to: name and record fractions for the parts of a whole or a set, compare and order fractions, model and explain that for different wholes, two identical fractions may not represent the same quantity, provide examples of where fractions are used. |   |
| <b>Course Topics</b>  | <b>Activities</b>                                 |
| Fractions   | Shape Fractions                                   |
|   | Model Fractions                                   |
|   | Identifying Fractions on a Number Line            |
|   | Compare Fractions 1a                              |
|   | Compare Fractions 1b                              |
| <b>Topics</b>   | <b>Skill Quests</b>                               |
| Represent fractions less or equal to 1  | Introducing the terms numerator & denominator     |
|   | Understanding fractions                           |
|   | Representing halves, fourths & eighths            |
|   | Representing thirds & sixths                      |
|   | Representing fifths                               |
|   | Representing tenths                               |
|   | Representing eighths                              |
| Compare & order fractions with models   | Comparing & ordering unit fractions with models   |
|   | Comparing & ordering common fractions with models |

| <b>N4.7</b>   |   |
|---|---|
| Demonstrate an understanding of decimal numbers in tenths and hundredths (pictorially, orally, in writing, and symbolically) by: describing, representing, relating to fractions. |   |
| <b>Course Topics</b>  | <b>Activities</b>                             |
| Decimals  | Comparing Decimals 1                          |
|   | Decimal Order 1                               |
|   | Decimals on the Number Line                   |
|   | Decimals from Words to Digits 1               |
|   | Decimal Place Value                           |
| <b>Topics</b>   | <b>Skill Quests</b>                           |
| Decimals to hundredths  | Introducing decimal notation                  |
|   | Introducing decimal tenths                    |
|   | Introducing decimal hundredths                |
|   | Connecting fractions & decimals to hundredths |
|   | Comparing & ordering decimals to hundredths   |

**N4.8**

Demonstrate an understanding of addition and subtraction of decimals limited to hundredths (concretely, pictorially, and symbolically) by: using compatible numbers, estimating sums and differences, using mental math strategies, solving problems.

| Course Topics                           | Activities                                 |
|---|--|
| Decimals                                | Nearest Whole Number                       |
|   | Rounding Decimals 1                        |
|   | Add Decimals 1                             |
|   | Subtract Decimals 1                        |
|   | Decimal Complements                        |
| Topics                                  | Skill Quests                               |
| Add & subtract decimals to hundredths   | Adding decimals to tenths                  |
|   | Subtracting decimals to tenths             |
|   | Adding decimals to hundredths              |
|   | Subtracting decimals to hundredths         |
|   | Estimating decimal sums & differences      |
|   | Adding & subtracting decimal word problems |
| Add & subtract decimals, money problems | Estimating & calculating change            |
|   | Using decimals in money                    |
|   | Solving word problems involving money      |

## 2 Patterns and Relations

### 2.1 Patterns and Relations

| <b>P4.1</b>   |  |
|---|--|
| Demonstrate an understanding of patterns and relations by: identifying and describing patterns and relations in a chart, table or diagram, reproducing patterns and relations in a chart, table, or diagram using manipulatives, creating charts, tables, or diagrams to represent patterns and relations, solving problems involving patterns and relations. |  |
| <b>Course Topics</b>  | <b>Activities</b>                                  |
| Patterns and Relations  | Pick the Next Number                               |
|   | Venn Diagrams                                      |
| <b>Topics</b>   | <b>Skill Quests</b>                                |
| Understand patterns & relations   | Identifying & creating additive number patterns    |
|   | Identifying & creating subtractive number patterns |
|   | Exploring number patterns in tables & charts       |
|   | Creating addition patterns from a given rule       |
|   | Creating subtraction patterns from a given rule    |
|   | Understanding number patterns using multiplication |
|   | Creating multiplication patterns from a given rule |
|   | Understanding repeating patterns                   |
|   | Exploring visual patterns                          |
|   | Understanding shape patterns & rules               |
|   | Using patterns to solve problems                   |
| Use Venn & Carroll diagrams   | Introducing Venn diagrams                          |
|   | Introducing Carroll diagrams                       |
|   | Relating Carroll & Venn diagrams                   |

| <b>P4.2</b>   |  |
|---|--|
| Demonstrate an understanding of equations involving symbols to represent an unknown value by: writing an equation to represent a problem, solving one step equations. |  |
| <b>Course Topics</b>  | <b>Activities</b>                                |
| Patterns and Relations  | Missing Values                                   |
|   | Missing Numbers                                  |
|   | I am Thinking of a Number!                       |
|   | Write an Equation: Word Problems                 |
| <b>Topics</b>   | <b>Skill Quests</b>                              |
| One-step equations using all operations   | Finding unknown values in add/subtract equations |
|   | One-step equations: addition & subtraction       |
|   | One-step equations: multiplication & division    |
|   | One-step equations: balancing number sentences   |
| Write equations to represent problems   | Writing equations to represent problems          |

## 3 Shape and Space

### 3.1 Shape and Space

| <b>SS4.1</b>  |                                      |
|---|--------------------------------------|
| Demonstrate an understanding of time by: reading and recording time using digital and analog clocks (including 24 hour clocks), reading and recording calendar dates in a variety of formats. |                                      |
| <b>Course Topics</b>  | <b>Activities</b>                    |
| Shape and Space   | using a Calendar                     |
|   | What is the Time?                    |
|   | 24 Hour Time                         |
|   | Five Minute Times                    |
| <b>Topics</b>   | <b>Skill Quests</b>                  |
| Read & record time  | Telling time to the hour & half hour |
|   | Telling time to the quarter hour     |
|   | Telling time to five minutes         |
|   | Telling time to the minute           |
|   | Using am & pm notation               |
|   | Using 24-hour time                   |
| Read & record calendar dates  | Reading & writing calendar dates     |

| <b>SS4.2</b>   |  |
|--|--|
| Demonstrate an understanding of area of regular and irregular 2-D shapes by: recognizing that area is measured in square units, selecting and justifying referents for the units cm <sup>2</sup> or m <sup>2</sup> , estimating area by using referents for cm <sup>2</sup> or m <sup>2</sup> , determining and recording area (cm <sup>2</sup> or m <sup>2</sup> ), 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. |  |
| <b>Course Topics</b>   | <b>Activities</b>                                  |
| Shape and Space  | Area of Shapes (inches, feet, yards)               |
|  | Area of Shapes                                     |
|  | Equal Areas  |
|  | Biggest Shape                                      |
|  | Area: Squares and Rectangles                       |
| <b>Topics</b>  | <b>Skill Quests</b>                                |
| Understand area  | Measuring area using nonstandard units             |
|  | Introducing formal units for area: cm <sup>2</sup> |
|  | Introducing formal units for area: m <sup>2</sup>  |
| Measure the area of rectangles   | Estimating & measuring areas of rectangles         |
|  | Comparing & ordering rectangular areas             |
|  | Finding the area of a rectangle, arrays            |
|  | Finding the area of a rectangle, area model        |
|  | Finding the area of rectangles, formula            |
| Approximate area, non-rectilinear shapes   | Approximating areas, nonrectilinear shapes         |

| <b>SS4.3</b>   |  |
|--|--|
| Demonstrate an understanding of rectangular and triangular prisms by: identifying common attributes, comparing, constructing models. |  |
| <b>Course Topics</b>   | <b>Activities</b>                                  |
| Shape and Space  | How Many Faces?                                    |
|  | How many Edges?                                    |
|  | How many Corners?                                  |
|  | What Prism am I?                                   |
|  | Prisms and Pyramids                                |
|  | Faces, Edges, and Vertices 1                       |
| <b>Topics</b>  | <b>Skill Quests</b>                                |
| Understand prisms  | Identifying prisms in the environment              |
|  | Introducing rectangular & triangular prisms        |
|  | Comparing & describing prisms                      |
|  | Connecting nets to rectangular & triangular prisms |

| <b>SS4.4</b>   |   |
|--|---|
| Demonstrate an understanding of line symmetry by: identifying symmetrical 2-D shapes, creating symmetrical 2-D shapes, drawing one or more lines of symmetry in a 2-D shape. |   |
| <b>Course Topics</b>   | <b>Activities</b>                       |
| Shape and Space  | Symmetry or Not?                        |
|  | Lines of Symmetry                       |
|  | Symmetry                                |
| <b>Topics</b>  | <b>Skill Quests</b>                     |
| Line symmetry  | Recognizing line symmetry               |
|  | Identifying & drawing lines of symmetry |

## 4 Statistics and Probability

### 4.1 Statistics and Probability

| SP4.1  |   |
|--|---|
| Demonstrate an understanding of many-to-one correspondence by: comparing correspondences on graphs, justifying the use of many-to-one correspondences, interpreting data shown using a many-to-one correspondence, creating bar graphs and pictographs using many-to one correspondence. |   |
| Course Topics  | Activities  |
| Statistics and Probability   | Making Graphs                                     |
|  | Column Graphs                                     |
|  | Interpreting Tables                               |
|  | Line Graphs: Interpretation                       |
| Topics   | Skill Quests                                      |
| Understand many-to-one correspondence  | Using pictographs with many-to-one correspondence |
|  | Compare pictographs with different correspondence |
|  | Using bar graphs with many-to-one correspondence  |

# Grade 5

## 1 Number

### 1.1 Number

| <b>N5.1</b><br>Represent, compare, and describe whole numbers to 1 000 000 within the contexts of place value and the base ten system, and quantity. |  |
|--|--|
| <b>Course Topics</b>   | <b>Activities</b>                              |
| Number-Place Value   | Place Value to Millions                        |
|  | Numbers from Words to Digits 1                 |
|  | Expanding Numbers                              |
|  | Dividing by 10, 100, 1000                      |
|  | Multiplying by 10, 100, 1000                   |
|  | Expanded Notation                              |
|  | Place value 3                                  |
|  | Understanding Place Value 3                    |
|  | Place Value 1 ( $\times 10$ and $\div 10$ )    |
|  | Place Value 2 ( $\times 10$ and $\div 10$ )    |
| <b>Topics</b>  | <b>Skill Quests</b>                            |
| Number concepts to 1 000 000   | Reading & writing numbers up to 6 digits       |
|  | Comparing & ordering numbers up to 6 digits    |
|  | Identifying place value of 6-digit numbers     |
|  | Using place value to partition 6-digit numbers |
|  | Skip counting by 100s, 1000s, 10 000 & 100 000 |

| <b>N5.2</b><br>Analyze models of, develop strategies for, and carry out multiplication of whole numbers. |                                 |
|--|---------------------------------|
| <b>Course Topics</b>   | <b>Activities</b>               |
| Number-Multiplication & Division   | Times Tables                    |
|  | Multiply: 2-Digit by 1-Digit    |
|  | Multiplication Properties       |
|  | Multiply More Multiples of 10   |
|  | Mental Methods Multiplication 1 |
|  | Mental Methods Multiplication 2 |
|  | Multiply 2 Digits Area Model    |
|  | Multiply 3 single-digit numbers |
|  | Double and Halve to Multiply    |
| <b>Topics</b>  | <b>Skill Quests</b>             |
| Multiplication facts to $9 \times 9$   | Multiplication facts for 2      |
|  | Multiplication facts for 3      |
|  | Multiplication facts for 4      |
|  | Multiplication facts for 5      |

|                                     |   |
|-------------------------------------|---|
|                                     | Multiplication facts for 6                        |
|                                     | Multiplication facts for 7                        |
|                                     | Multiplication facts for 8                        |
|                                     | Multiplication facts for 9                        |
|                                     | Multiplying by 1 or 0                             |
|                                     | Recalling multiplication facts to 9 x 9           |
|                                     | Relationship between multiplication & division    |
| Multiply 2-digits by up to 2-digits | Multiplying 2-digits by 2-digits, area model      |
|                                     | Multiplying 2-digits by 2-digits, factoring       |
|                                     | Multiplying 2-digits by 2-digits, use known facts |
| Mental strategies to multiply       | Multiplying by multiples of 10, 100 & 1000        |
|                                     | Multiplying using doubling                        |
|                                     | Multiplying using doubling & halving              |
|                                     | Multiplying using distributive property           |

| <b>N5.3</b><br>Demonstrate, with and without concrete materials, an understanding of division (3-digit by 1-digit) and interpret remainders to solve problems. |  |
|--|--|
| Course Topics  | Activities                                       |
| Number-Multiplication & Division   | Division Facts 1                                 |
|  | Remainders by Arrays                             |
|  | Remainders by Tables                             |
|  | Divide: 1-Digit Divisor 2                        |
|  | Fact Families: Multiply and Divide               |
|  | Divide: 1-Digit Divisor, Remainder               |
|  | Divide: 1-Digit Divisor 1                        |
|  | Divide: 2-Digit Divisor, Remainder               |
| Topics   | Skill Quests                                     |
| Divide up to 3-digits by 1-digit   | Dividing up to 3-digit by 1-digit, no remainders |
|  | Dividing by partitioning, no remainders          |
|  | Dividing 3-digits by 1-digit, factoring          |
|  | Finding the remainder, 2 digits by 1 digit       |
|  | Dividing by partitioning with remainders         |
| Division facts to $81 \div 9$  | Dividing by 2 & 5                                |
|  | Dividing by 3 & 6                                |
|  | Dividing by 4 & 8                                |
|  | Dividing by 9                                    |
|  | Recall multiplication & division facts to 9 x 9  |

| <b>N5.4</b>   |  |
|---|--|
| Develop and apply personal strategies for estimation and computation including: front-end rounding, compensation, compatible numbers. |  |
| <b>Course Topics</b>  | <b>Activities</b>                                  |
| Number-Estimation & Computation   | Rounding Numbers                                   |
|   | Estimation: Add and Subtract                       |
|   | Estimate Sums                                      |
|   | Estimation: Multiply and Divide                    |
|   | Estimate Products                                  |
|   | Estimate Differences                               |
|   | Estimate Quotients                                 |
|   | Rounding Numbers for Division                      |
|   | Compensation - Add                                 |
|   | Compensation - Subtract                            |
| <b>Topics</b>   | <b>Skill Quests</b>                                |
| Strategies for estimation & computation   | Rounding numbers up to 6-digits                    |
|   | Round numbers to estimate - addition & subtraction |
|   | Using compensation to add & subtract               |
|   | Checking calculations when adding & subtracting    |
|   | Round numbers to estimate - multiply & divide      |
|   | Checking calculations when multiplying & dividing  |

| <b>N5.5</b>   |   |
|---|---|
| Demonstrate an understanding of fractions by using concrete and pictorial representations to: create sets of equivalent fractions, compare fractions with like and unlike denominators. |   |
| <b>Course Topics</b>  | <b>Activities</b>                                 |
| Number-Fractions  | Shading Equivalent Fractions                      |
|   | Equivalent Fraction Wall 1                        |
|   | Comparing Fractions 1                             |
|   | Comparing Fractions 2                             |
|   | Equivalent Fractions on a Number Line 1           |
|   | Equivalent Fractions on a Number Line 2           |
|   | Equivalent Fraction Wall 2                        |
| <b>Topics</b>   | <b>Skill Quests</b>                               |
| Equivalent fractions  | Finding equivalent fractions with models          |
|   | Finding equivalent fractions using multiplication |
|   | Finding equivalent fractions using a number line  |
| Compare & order fractions   | Comparing unit fractions, different denominators  |
|   | Comparing & ordering proper fractions             |

| <b>N5.6</b><br>Demonstrate understanding of decimals to thousandths by: describing and representing, relating to fractions, comparing and ordering. |   |
|---|---|
| <b>Course Topics</b>  | <b>Activities</b>                               |
| Number-Decimals   | Comparing Decimals                              |
|   | Decimals on a Number Line=                      |
|   | Decimals from Words to Digits 2                 |
|   | Decimal Place Value                             |
| <b>Topics</b>   | <b>Skill Quests</b>                             |
| Decimals to thousandths   | Understanding decimals to thousandths           |
|   | Comparing & ordering decimals to thousandths    |
|   | Partitioning decimal numbers to thousandths     |
|   | Relating fractions & decimals up to thousandths |

| <b>N5.7</b><br>Demonstrate an understanding of addition and subtraction of decimals (limited to thousandths). |  |
|---|--|
| <b>Course Topics</b>  | <b>Activities</b>                            |
| Number-Decimals   | Adding Decimals                              |
|   | Subtracting Decimals                         |
|   | Adding and Subtracting Decimals              |
|   | Estimate Decimal Differences 1               |
|   | Estimate Decimal Sums 1                      |
|   | Estimate Decimal Operations                  |
|   | Decimal Complements                          |
| <b>Topics</b>   | <b>Skill Quests</b>                          |
| Add & subtract decimals to thousandths  | Adding decimals to thousandths               |
|   | Subtracting decimals to thousandths          |
|   | Adding & subtracting decimal word problems   |
|   | Estimating sums & differences to thousandths |

## 2 Patterns and Relations

### 2.1 Patterns and Relations

| <b>P5.1</b><br>Represent, analyse, and apply patterns using mathematical language and notation. |  |
|---|--|
| <b>Course Topics</b>  | <b>Activities</b>                                  |
| Patterns and Relations  | Describing Patterns                                |
| <b>Topics</b>   | <b>Skill Quests</b>                                |
| Represent, analyze & apply patterns   | Additive & subtractive number patterns             |
|   | Generating add/subtract patterns from a given rule |
|   | Working with repeating number & shape patterns     |
|   | Multiplication & division number patterns          |
|   | Modelling number patterns from a table of values   |
|   | Writing pattern rules as algebraic expressions     |
|   | Working with shape patterns & rules                |
|   | Solving one-step equations using a bar model       |

| <b>P5.2</b><br>Write, solve, and verify solutions of single-variable, one-step equations with whole number coefficients and whole number solutions. |  |
|---|--|
| <b>Course Topics</b>  | <b>Activities</b>                          |
| Patterns and Relations  | Missing Values                             |
|   | Find the Missing Number 1                  |
|   | I am Thinking of a Number!                 |
|   | Missing Numbers: Variables                 |
| <b>Topics</b>   | <b>Skill Quests</b>                        |
| One-step equations with variables   | Writing one-step equations using variables |
|   | Solving one-step equations & word problems |

## 3 Shape and Space

### 3.1 Shape and Space

| SS5.1  |   |
|--|---|
| Design and construct different rectangles given either perimeter or area, or both (whole numbers), and draw conclusions. |   |
| Course Topics  | Activities                                    |
| Length, Area and Perimeter   | Area of Shapes                                |
|  | Equal Areas                                   |
|  | Perimeter of Shapes                           |
|  | Perimeter                                     |
|  | Perimeter: Squares and Rectangles             |
|  | Calculate Perimeter of Squares and Rectangles |
|  | Perimeter Detectives 1                        |
| Topics   | Skill Quests                                  |
| Perimeter of rectangles  | Introducing perimeter                         |
| Area of rectangles, formula  | Finding the area of rectangles, formula       |
| Relationship between area & perimeter  | Solving perimeter & area problems             |

| SS5.2   |   |
|---|---|
| Demonstrate understanding of measuring length (mm) by: selecting and justifying referents for the unit mm, modelling and describing the relationship between mm, cm, and m units. |   |
| Course Topics   | Activities  |
| Length, Area and Perimeter  | Centimetres and Metres                            |
|   | Converting cm and mm                              |
|   | Converting Units of Length                        |
|   | Which unit of Measurement?                        |
| Topics  | Skill Quests                                      |
| Measure length in millimetres   | Introducing millimetres                           |
|   | Recording length in decimal notation              |
| Relationship between mm, cm & m   | Comparing & ordering lengths in mm & cm           |
|   | Converting between mm & cm                        |
|   | Converting between m & cm                         |
|   | Selecting appropriate units of length: mm, cm & m |

| SS5.3   |                                      |
|---|--------------------------------------|
| Demonstrate an understanding of volume by: selecting and justifying referents for $\text{cm}^3$ or $\text{m}^3$ units, estimating volume by using referents for $\text{cm}^3$ or $\text{m}^3$ , measuring and recording volume ( $\text{cm}^3$ or $\text{m}^3$ ), constructing rectangular prisms for a given volume. |                                      |
| Course Topics   | Activities                           |
| Volume and Capacity   | Comparing Volume                     |
|   | How many Blocks?                     |
| Topics  | Skill Quests                         |
| Measure volume in cubic units   | Introducing volume                   |
|   | Using cubic cm & m to measure volume |
|   | Estimating volume using cubic cm & m |

| SS5.4  |   |
|--|---|
| Demonstrate an understanding of line symmetry by: identifying symmetrical 2-D shapes, creating symmetrical 2-D shapes, drawing one or more lines of symmetry in a 2-D shape. |   |
| Course Topics  | Activities                                  |
| Volume and Capacity  | Millilitres and Litres                      |
|  | Comparing Volume                            |
|  | Litre Conversions                           |
|  | using a Litre                               |
| Topics   | Skill Quests                                |
| Measure capacity in L & mL   | Introducing litres & millilitres            |
|  | Using millilitres & litres as references    |
|  | Measuring capacity in mL                    |
|  | Estimating capacity using mL & L            |
|  | Selecting units to measure capacity (mL, L) |

| SS5.5   |                                     |
|---|-------------------------------------|
| Describe and provide examples of edges and faces of 3-D objects, and sides of 2-D shapes that are: parallel, intersecting, perpendicular, vertical, horizontal. |                                     |
| Course Topics   | Activities                          |
| 2D Shapes and 3D Objects  | What Line am I?                     |
|   | Faces, Edges and Vertices           |
| Topics  | Skill Quests                        |
| Features of 2-D shapes & 3-D objects  | Identifying features on 3-D objects |
|   | Identifying features on 2-D objects |

| SS5.6  |                                 |
|--|---------------------------------|
| Identify and sort quadrilaterals, including: rectangles, squares, trapezoids, parallelograms, rhombuses according to their attributes. |                                 |
| Course Topics  | Activities                      |
| 2D Shapes and 3D Objects   | Collect the Objects 2           |
| Topics   | Skill Quests                    |
| Identify & sort quadrilaterals   | Sorting & naming quadrilaterals |
|  | Classifying quadrilaterals      |

| <b>SS5.7</b><br>Identify, create, and analyze single transformations of 2-D shapes (with and without the use of technology). |  |
|--|--|
| Course Topics  | Activities                                     |
| 2D Shapes and 3D Objects   | Transformations                                |
|  | Flip, Slide, Turn                              |
| Topics   | Skill Quests                                   |
| Single transformations of 2-D shapes   | Introducing slides/translations                |
|  | Introducing flips/reflections                  |
|  | Introducing turns/rotations                    |
|  | One-step translations, reflections & rotations |

## 4 Statistics and Probability

### 4.1 Statistics and Probability

| <b>SP5.2</b><br>Construct and interpret double bar graphs to draw conclusions. |                                      |
|--|--------------------------------------|
| <b>Course Topics</b>   | <b>Activities</b>                    |
| Statistics and Probability   | Reading from a Column Graph          |
| <b>Topics</b>  | <b>Skill Quests</b>                  |
| Double bar graphs  | Interpreting data, double bar graphs |
|  | Representing data, double bar graphs |

| <b>SP5.3</b><br>Describe, compare, predict, and test the likelihood of outcomes in probability situations. |  |
|--|--|
| <b>Course Topics</b>   | <b>Activities</b>                                  |
| Statistics and Probability   | Possible Outcomes                                  |
|  | What are the Chances?                              |
|  | Most Likely and Least Likely                       |
|  | Probability Scale                                  |
|  | Counting Techniques 1                              |
|  | Fair Games   |
| <b>Topics</b>  | <b>Skill Quests</b>                                |
| Probability  | Exploring the language of probability              |
|  | Describing chances of everyday events              |
|  | Understanding chance experiments, equal outcomes   |
|  | Understanding chance experiments, unequal outcomes |
|  | Understand chance experiments, independent events  |

# Grade 6

## 1 Number

### 1.1 Number

| <b>N6.1</b><br>Demonstrate understanding of place value including: greater than one million, less than one thousandth with and without technology |  |
|---|--|
| <b>Course Topics</b>  | <b>Activities</b>  |
| Number-Place Value, Integers  | Place Value to Millions  |
|   | Multiply Decimals: 10, 100, 1000   |
|   | Divide Decimals: 10, 100, 1000   |
|   | Numbers from Words to Digits 2   |
|   | Place Value to Billions  |
|   | Numbers from Words to Digits 3   |
|   | Decimals from Words to Digits 2  |
|   | Decimal Place Value  |
| <b>Topics</b>   | <b>Skill Quests</b>  |
| Place value to billions   | Reading & writing numbers up to billions<br>Identifying place value up to billions |
| Place value smaller than thousandths  | Understanding place value smaller than thousandths                                 |
| Situational questions   | Situational questions, larger than one million                                     |
|   | Situational questions, smaller than one thousandth                                 |

| <b>N6.2</b><br>Demonstrate understanding of factors and multiples (concretely, pictorially, and symbolically) including: determining factors and multiples of numbers less than 100, relating factors and multiples to multiplication and division, determining and relating prime and composite numbers. |  |
|---|--|
| <b>Course Topics</b>  | <b>Activities</b>                          |
| Factors and Multiples   | Multiples                                  |
|   | Prime or Composite?                        |
|   | Greatest Common Factor                     |
|   | Least Common Multiple                      |
|   | Product of Prime Factors                   |
|   | Factors                                    |
|   | Find the Factor                            |
|   | Divisibility - Tests                       |
| <b>Topics</b>   | <b>Skill Quests</b>                        |
| Prime & composite numbers   | Introducing prime & composite numbers      |
| Prime factors   | Using prime factors                        |
| Factors & multiples   | Finding multiples up to 100, including LCM |
|   | Finding factors up to 100, including GCF   |
|   | Situational questions, factors & multiples |

| <b>N6.3</b>  |  |
|--|--|
| Demonstrate understanding of the order of operations on whole numbers (excluding exponents) with and without technology. |  |
| <b>Course Topics</b>   | <b>Activities</b>                              |
| Number-Place Value, Integers   | Order of Operations 1 (BEDMAS)                 |
|  | Ordering Integers                              |
|  | Comparing Integers                             |
|  | Integers on a Number Line                      |
|  | Integers: Order of Operations (BEDMAS)         |
| <b>Topics</b>  | <b>Skill Quests</b>                            |
| Order of operations with whole numbers   | Order of operations, addition & subtraction    |
|  | Order of operations, multiplication & division |
|  | Order of operations, 4 operations              |
|  | Order of operations, grouping symbols          |
|  | Situational questions, order of operations     |

| <b>N6.4</b>   |   |
|---|---|
| Extend understanding of multiplication and division to decimals (1-digit whole number multipliers and 1-digit natural number divisors). |   |
| <b>Course Topics</b>  | <b>Activities</b>                           |
| Decimals, Fractions, Percents & Ratios  | Divide by Powers of 10                      |
|   | Decimal by Whole Number                     |
|   | Divide Decimal by Whole Number              |
|   | Multiply Decimals and Powers of 10          |
| <b>Topics</b>   | <b>Skill Quests</b>                         |
| Multiply decimals to thousandths  | Multiplying decimals & whole numbers        |
|   | Multiplying decimals, base 10 blocks        |
|   | Situational questions, multiplying decimals |
| Divide decimals to thousandths  | Dividing decimals, base 10 blocks           |
|   | Dividing whole numbers & decimals           |
|   | Situational questions, dividing decimals    |

| <b>N6.5</b><br>Demonstrate understanding of percent (limited to whole numbers to 100) concretely, pictorially, and symbolically. |  |
|--|--|
| Course Topics  | Activities                                     |
| Decimals, Fractions, Percents & Ratios   | Fractions to Decimals                          |
|  | Percent of a Number                            |
|  | Decimal to Percentage                          |
|  | Percents and Decimals                          |
|  | Percents to Fractions                          |
|  | Modelling Percentages                          |
| Topics   | Skill Quests                                   |
| Whole number percentages   | Introducing percentages                        |
| Percentage equivalents   | Representing percentage & fraction equivalents |
|  | Representing percentage & decimal equivalents  |
|  | Fraction, decimal & percentage equivalents     |
| Calculate percentage discounts   | Calculating percentage discounts               |
| Calculate percentages of whole numbers   | Calculating simple percentages                 |

| <b>N6.6</b><br>Demonstrate understanding of integers concretely, pictorially, and symbolically. |  |
|---|--|
| Course Topics   | Activities                                   |
| Number-Place Value, Integers  | Order of Operations 1 (BEDMAS)               |
|   | Ordering Integers                            |
|   | Comparing Integers                           |
|   | Integers on a Number Line                    |
| Topics  | Skill Quests                                 |
| Read & represent integers   | Investigating integers                       |
|   | Understanding integers in real-life contexts |
|   | Comparing & ordering integers                |

| <b>N6.7</b><br>Extend understanding of fractions to improper fractions and mixed numbers. |  |
|---|--|
| Course Topics   | Activities                                     |
| Decimals, Fractions, Percents & Ratios  | Mixed to Improper                              |
|   | Improper to Mixed                              |
|   | What Mixed Number Is Shaded?                   |
|   | Identifying fractions beyond 1                 |
|   | Mixed and Improper Fractions on a Number Line  |
| Topics  | Skill Quests                                   |
| Improper fractions & mixed numbers  | Comparing & ordering mixed numbers             |
|   | Comparing & ordering improper fractions        |
|   | Comparing & ordering fractions & mixed numbers |
|   | Converting improper fractions to mixed numbers |
|   | Converting mixed numbers to improper fractions |

| <b>N6.8</b><br>Demonstrate an understanding of ratio concretely, pictorially, and symbolically |  |
|--|--|
| Course Topics  | Activities                             |
| Decimals, Fractions, Percents & Ratios   | Ratios                                 |
|  | Ratio Word Problems                    |
|  | Simplify Ratios: 2 Whole Numbers       |
| Topics   | Skill Quests                           |
| Introduction to ratios   | Introducing ratios                     |
|  | Simplifying ratios                     |
|  | Dividing a quantity into a given ratio |
|  | Identifying equivalent ratios          |

| <b>N6.9</b><br>Research and present how First Nations and Métis peoples, past and present, envision, represent, and use quantity in their lifestyles and worldviews. |              |
|--|--------------|
| Course Topics  | Activities   |
| Teacher directed   |              |
| Topics   | Skill Quests |
| Teacher directed   |              |

## 2 Patterns and Relationships

### 2.1 Patterns and Relationships

| <b>P6.1</b>  |   |
|--|---|
| Extend understanding of patterns and relationships in tables of values and graphs. |   |
| Course Topics  | Activities                                      |
| Patterns and Relationships   | Table of Values                                 |
|  | Find the Missing Number 2                       |
|  | Missing Values: Decimals                        |
|  | Graphing from a Table of Values                 |
|  | Writing Algebraic Expressions                   |
|  | Write an Equation: Word Problems                |
|  | Venn Diagram1                                   |
| Topics   | Skill Quests                                    |
| Patterns in tables of values & graphs  | Creating a table of values, visual pattern      |
|  | Determining missing values in a table of values |
|  | Representing linear patterns, tables & graphs   |

| <b>P6.2</b>   |  |
|---|--|
| Extend understanding of preservation of equality concretely, pictorially, physically, and symbolically. |  |
| Course Topics   | Activities                                   |
| Teacher directed  |  |
| Topics  | Skill Quests                                 |
| Preservation of equality  | Solving 1-step equations                     |
|   | Solving 1-step equations using a balance     |
|   | Solving 1-step equations using algebra tiles |
|   | Understanding the preservation of equality   |
|   | Creating equivalent forms of an equation     |

| <b>P6.3</b>  |  |
|--|--|
| Extend understanding of patterns and relationships by using expressions and equations involving variables. |  |
| Course Topics  | Activities   |
| Patterns and Relationships   | Writing Equations                                  |
| Topics   | Skill Quests                                       |
| Patterns, expressions & equations  | Writing an equation to represent a table of values |
|  | Writing expressions, rule for a pattern            |

## 3 Shape and Space

### 3.1 Shape and Space

| SS6.1   |  |
|---|--|
| Demonstrate understanding of angles including: identifying examples, classifying angles, estimating the measure, determining angle measures in degrees, drawing angles, applying angle relationships in triangles and quadrilaterals. |  |
| Course Topics   | Activities                                   |
| Shape and Space   | What Type of Angle?                          |
|   | Classifying Angles                           |
|   | Measuring Angles                             |
|   | Labelling Angles                             |
|   | Angle Sum of a Triangle                      |
|   | Angle Measures in a Triangle                 |
|   | Angle Sum of a Quadrilateral                 |
| Topics  | Skill Quests                                 |
| Angle measurement & classification  | Classifying angles                           |
|   | Finding the missing angle of a triangle      |
|   | Finding the missing angle of a quadrilateral |
| Angles up to 360°   | Measuring angles with a circular protractor  |

| SS6.2  |   |
|--|---|
| Extend and apply understanding of perimeter of polygons, area of rectangles, and volume of right rectangular prisms (concretely, pictorially, and symbolically) including: relating area to volume, comparing perimeter and area, comparing area and volume, generalizing strategies and formulae, analyzing the effect of orientation, solving situational questions. |   |
| Course Topics  | Activities  |
| Shape and Space  | Perimeter: Squares and Rectangles                 |
|  | Perimeter: Triangles                              |
|  | Area: Squares and Rectangles                      |
|  | Volume: Rectangular Prisms 1                      |
|  | Perimeter: Composite Shapes                       |
|  | Perimeter Detectives 1                            |
|  | Perimeter Detectives 2                            |
| Topics   | Skill Quests                                      |
| Relationships between area & perimeter   | Solving perimeter & area problems                 |
| Volume of rectangular prisms   | Finding the volume of rectangular prisms          |
|  | Finding the missing dimension, rectangular prisms |
| Area of rectangles   | Finding the area of rectangles                    |
| Perimeter of polygons  | Determining the perimeter of polygons             |

| <b>SS6.3</b><br>Demonstrate understanding of regular and irregular polygons including: classifying types of triangles, comparing side lengths, comparing angle measures, differentiating between regular and irregular polygons, analyzing for congruence. |   |
|--|---|
| Course Topics  | Activities                                    |
| Shape and Space  | Triangle Tasters                              |
|  | Congruent Figures                             |
|  | Triangles: Acute, Right, Obtuse               |
| Topics   | Skill Quests                                  |
| Regular & irregular polygons   | Understanding regular & irregular polygons    |
| Triangles  | Classifying triangles by their sides & angles |

| <b>SS6.4</b><br>Demonstrate understanding of the first quadrant of the Cartesian plane and ordered pairs with whole number coordinates. |                                       |
|---|---------------------------------------|
| Course Topics   | Activities                            |
| Location and Transformation   | Transformations                       |
|   | Ordered Pairs                         |
|   | Coordinate Graphs                     |
|   | Map Coordinates                       |
|   | Coordinate Graphs: 1st Quadrant       |
| Topics  | Skill Quests                          |
| The Cartesian plane, 1st quadrant   | Plotting points in the first quadrant |
|   | Plotting points that create a shape   |

| <b>SS6.5</b><br>Demonstrate understanding of single, and combinations of, transformations of 2-D shapes (with and without the use of technology) including: identifying, describing, performing. |   |
|--|---|
| Course Topics  | Activities                                  |
| Location and Transformation  | Transformations: Coordinate Plane           |
|  | Rotations: Coordinate Plane                 |
| Topics   | Skill Quests                                |
| Transformations  | Translations in the first quadrant          |
|  | Reflections in the first quadrant           |
|  | Rotations in the first quadrant             |
|  | Identifying combinations of transformations |

## 4 Statistics and Probability

### 4.1 Statistics and Probability

| SP6.1  |                                   |
|--|-----------------------------------|
| Extend understanding of data analysis to include: line graphs, graphs of discrete data, data collection through questionnaires, experiments, databases, and electronic media, interpolation and extrapolation. |                                   |
| Course Topics  | Activities                        |
| Statistics and Probability   | Line Graphs: Interpretation       |
|  | Pie Chart Calculations            |
|  | Travel Graphs                     |
|  | Dot Plots                         |
| Topics   | Skill Quests                      |
| Line graphs  | Constructing a line graph         |
|  | Interpreting data in a line graph |
|  | Continuous vs discrete data       |
| Data collection  | Data collection: questionnaires   |
|  | Selecting data displays           |

| SP6.2   |  |
|---|--|
| Demonstrate understanding of probability by: determining sample space, differentiating between experimental and theoretical probability, determining the theoretical probability, determining the experimental probability, comparing experimental and theoretical probabilities. |  |
| Course Topics   | Activities                                       |
| Statistics and Probability  | How many Combinations?                           |
|   | Simple Probability                               |
|   | Probability Scale                                |
|   | Complementary Events                             |
|   | Find the Probability                             |
| Topics  | Skill Quests                                     |
| Theoretical & experimental probability  | Comparing observed & expected frequencies        |
|   | Probability of 0 and 1                           |
|   | Predicting the probability of a specific outcome |
|   | Listing the sample space for an event            |



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