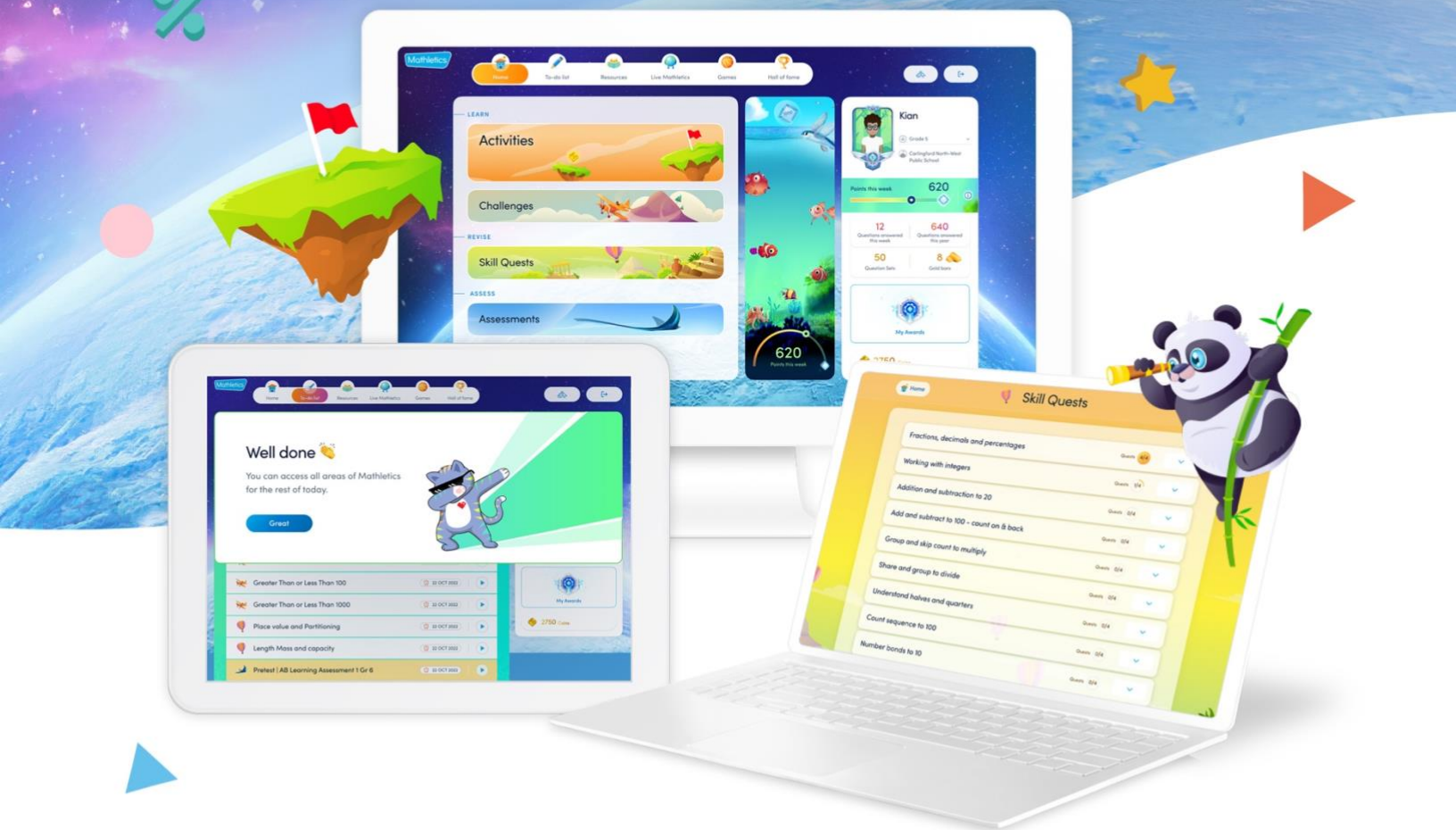
Mathletics

New Brunswick Curriculum

Activities (Courses) and Skill Quests



Grades 1-2

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Kindergarten

1 Number

1.1 Develop number sense

K.N1 Say the number sequence by 1s starting anywhere from 1 to 10 and from 10 to 1.	
Course Topics	**Activities**
Number	Count to 5
	Order Numbers to 10
	How Many?

K.N2 Recognize, at a glance, and name familiar arrangements of 1 to 5 objects or dots.	
Course Topics	**Activities**
Number	How many dots?

K.N3 Relate a numeral, 1 to 10, to its respective quantity.	
Course Topics	**Activities**
Number	Who has the Goods?
	Balancing Act

K.N4 Represent and describe numbers 2 to 10, concretely and pictorially.	
Course Topics	**Activities**
Teacher directed	

K.N5 Compare quantities, 1 to 10, using one-to-one correspondence.	
Course Topics	**Activities**
Number	More or Less?
	More, Less or the Same to 10

2 Patterns and Relations

2.1 Use patterns to describe the world & solve problems

K.PR1 Demonstrate an understanding of repeating patterns (two or three elements) by:	
Course Topics	**Activities**
Patterns and Relations	Complete the Pattern
	Missing it!
	Colour Patterns
	Simple Patterns

3 Shape & Space

3.1 Use direct or indirect measurement to solve problems

K.SS1 Use direct comparison to compare two objects based on a single attribute, such as length (height), mass (weight) and volume (capacity).	
Course Topics	**Activities**
Shape and Space	Which Holds More?
	Filling Fast!
	Everyday Length
	Everyday Mass
	Same and Different
	How Heavy?

3.2 3-D Objects and 2-D Shapes

K.SS2 Sort 3-D objects using a single attribute.	
Course Topics	**Activities**
Shape and Space	Collect the Objects
	Collect the Objects 1

K.SS3 Build and describe 3-D objects.	
Course Topics	**Activities**
Shape and Space	Match the Object
	Match the Solid 1
	Match the Solid 2

Grade 1

1 Number

1.1 Develop number sense

1.N1 Say the number sequence, 0 to 100, by: 1s forward and backward between any two given numbers; 2s to 20, forward starting at 0; 5s and 10s to 100, forward starting at 0.	
Course Topics	**Activities**
Number-Counting	Making Numbers Count
	1 to 30
	Making Big Numbers Count
	Number Lines
	Counting Forward
	Counting by Twos
	Counting by Fives
	Count by 2s, 5s and 10s
	Counting by Tens
	Going Up
	Going Down
	Counting Up to 20
	Before, After and Between to 20
	Counting Back Within 20
	Before, After & Between to 100
	Making Teen Numbers
Number-Comparing & Ordering	Matching Numbers to 10
	Matching Numbers to 20
	Arranging Numbers
Topics	**Skill Quests**
Number sequences to 100	Counting by 1s to 100
	Skip counting by 2s to 20
	Skip counting by 5s to 100
	Skip counting by 10s to 100
	Skip counting by 2s, 5s & 10s

1.N2 Recognize, at a glance, and name familiar arrangements of 1 to 10 objects or dots.	
Course Topics	**Activities**
Number-Counting	How Many?
Topics	**Skill Quests**
Teacher directed	

1.N3 Demonstrate an understanding of counting by: indicating that the last number said identifies “how many”;

showing that any set has only one count; using the counting on strategy; using parts or equal groups to count sets.	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Counting strategies	Counting collections to 20

1.N4 Represent and describe numbers to 20 concretely, pictorially and symbolically.	
Course Topics	**Activities**
Number-Counting	How many Blocks?
Number-Comparing & Ordering	Number Line Order
Topics	**Skill Quests**
Represent & describe numbers to 20	Number names to 20
	Sequencing numbers to 20
	Partitioning numbers to 20

1.N5 Compare sets containing up to 20 elements to solve problems using: referents; one-to-one correspondence.	
Course Topics	**Activities**
Number-Comparing & Ordering	More or Less?
	Comparing Groups of Objects
	Order Numbers to 20
Topics	**Skill Quests**
Compare & order sets up to 20	Comparing & ordering sets up to 20
	Exploring change in quantity up to 20

1.N6 Estimate quantities to 20 by using referents.	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Teacher directed	

1.N7 Demonstrate, concretely and pictorially, how a given number can be represented by a variety of equal groups with and without singles.	
Course Topics	**Activities**
Number-Comparing & Ordering	Groups of Two
	Groups of Five
	Making Equal Groups
	Divide Into Equal Groups
	Groups
Topics	**Skill Quests**

Represent numbers to 20	Representing numbers to 20 in equal groups

1.N8 Identify the number, up to 20, that is one more, two more, one less and two less than a given number.	
Course Topics	**Activities**
Number-Addition & Subtraction	1 more, 2 less
Topics	**Skill Quests**
Numbers more than & less than	Numbers more than & less than

1.N9 Demonstrate an understanding of addition of numbers with answers to 20 and their corresponding subtraction facts, concretely, pictorially and symbolically by: using familiar and mathematical language to describe additive and subtractive actions from their experience; creating and solving problems in context that involve addition and subtraction; modeling addition and subtraction using a variety of concrete and visual representations, and recording the process symbolically.	
Course Topics	**Activities**
Number-Addition & Subtraction	Addition Facts
	Addition
	Model Addition
	Adding In Any Order
	Subtraction Facts to 18
	Simple Subtraction
	Model Subtraction
	Addictive Addition
	Add and Subtract Using Graphs
	Problems: Add and Subtract
	All about Ten
	All about Twenty
	Add and Subtract Problems
	Adding to 10 Word Problems
Topics	**Skill Quests**
Addition & subtraction to 20	Adding to 20
	Adding to 20 by bridging to 10
	Subtracting within 20
	Subtracting within 20 by bridging to 10
	Adding & subtracting using a bar model
	Creating addition & subtraction word problems
	Finding fact families for addition & subtraction

1.N10 Describe and use mental mathematics strategies (memorization not intended), such as: counting on and counting back to determine the basic addition facts to 18 and related subtraction facts; making 10 to determine the basic addition facts to 18 and related subtraction facts; doubles to determine the basic addition facts to 18 and related subtraction facts; using addition to subtract to determine the basic addition facts to 18 and related subtraction facts.	
Course Topics	**Activities**
Number-Addition & Subtraction	Fact Families: Add and Subtract

	Related Facts 1
	Composing Additions to 20
	Adding to make 5 and 10
	Adding to Ten
	Doubles and Halves to 10
Topics	**Skill Quests**
Addition & subtraction strategies	Making a 10
	Adding & subtracting to 18
	Adding & subtracting using doubles
	Introducing commutative property of addition

2 Patterns and Relations

2.1 Use patterns to describe the world and solve problems

1.PR1 Demonstrate an understanding of repeating patterns (two to four elements) by: describing, reproducing, extending and creating patterns using manipulatives, diagrams, sounds and actions.	
Course Topics	**Activities**
Patterns and Relations	Simple Patterns
	Missing it!
	Pattern Error
	Balancing Act
	Colour Patterns
	Missing Values
	Increasing Patterns
	Patterns - Increasing
Topics	**Skill Quests**
Repeating patterns	Recognizing repeating patterns
	Reproducing repeating patterns
	Manipulating repeating patterns
	Extending repeating patterns
	Replicating repeating patterns
	Describing & creating repeating patterns

1.PR2 Translate repeating patterns from one representation to another.	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Translate repeating patterns	Translating repeating patterns

2.2 Represent algebraic expressions in multiple ways

1.PR3 Describe equality as a balance and inequality as an imbalance, concretely and pictorially (0 to 20).	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Equality & inequality	Exploring equality & inequality

1.PR4 Record equalities using the equal symbol.	
Course Topics	**Activities**

Patterns and Relations	More, less or the same to 10
	More, less or the same to 20
Topics	**Skill Quests**
Record equalities	Recording equalities
	Solving addition & subtraction equality problems

3 Shape & Space

3.1 Use direct or indirect measurement to solve problems

1.SS1 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.	
Course Topics	**Activities**
Shape and Space	Biggest Shape
	Filling Fast!
	Everyday Length
Topics	**Skill Quests**
Measurement	Exploring length
	Exploring volume
	Exploring mass
	Exploring area

3.2 Describe 3-D objects and 2-D shapes, and analyze the relationships

1.SS2 Sort 3-D objects and 2-D shapes using one attribute, and explain the sorting rule.	
Course Topics	**Activities**
Shape and Space	Which Holds More?
	Sort It
	Collect the Shapes
	Collect the Objects
	Collect Simple Shapes
Topics	**Skill Quests**
Sort 2-D shapes & 3-D objects	Sorting 2-D shapes
	Sorting 3-D objects

1.SS3 Replicate composite 2-D shapes and 3-D objects.	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Replicate composite 2-D shapes	Replicating composite 2-D shapes
Replicate composite 3-D objects	Replicating composite 3-D objects

1.SS4 Compare 2-D shapes to parts of 3-D objects in the environment.	
Course Topics	**Activities**
Shape and Space	Match the Object

	Match the Solid 1
Topics	**Skill Quests**
Compare 2-D shapes to 3-D objects	Comparing 2-D shapes to parts of 3-D objects

Grade 2

1 Number

1.1 Develop number sense

2.N1 Say the number sequence, 0 to 100, by: 2s, 5s and 10s, forward and backward, using starting points that are multiples of 2, 5 and 10 respectively; 10s using starting points from 1 to 9; 2s starting from 1.	
Course Topics	**Activities**
Number-Counting	Counting by Twos
	Counting by Fives
	Counting by Tens
	Count by 2s, 5s and 10s
	Counting on a 100 grid
	Skip Counting
	Skip Counting with coins
	Going Up
	Going Down
	Counting Forwards
	1 to 30
Number-Place Value & Ordering	Number Line Order
	Repartition Two-digit Numbers
Topics	**Skill Quests**
Number sequences	Counting by 2s to 100
	Counting by 2s to 100 from any number
	Counting by 5s to 100
	Counting by 10s to 100
	Counting by 10s to 100 from any number
	Counting in 2s, 5s or 10s
	Counting a sum of money to 100¢

2.N2 Demonstrate if a number (up to 100) is even or odd.	
Course Topics	**Activities**
Number-Counting	How Many?
Number-Place Value & Ordering	Odd and Even Numbers 1
	Odd or Even
Topics	**Skill Quests**
Even & odd numbers	Even & odd numbers

2.N3 Describe order or relative position using ordinal numbers (up to tenth).

Course Topics	Activities
Number-Counting	Ordinal Numbers
	1st to 31st
Topics	**Skill Quests**
Ordinal numbers	Introducing ordinal numbers

2.N4 Represent and describe numbers to 100, concretely, pictorially and symbolically.	
Course Topics	**Activities**
Number-Counting	Reading Numbers to 30
Number-Place Value & Ordering	Model Numbers
Topics	**Skill Quests**
Numbers to 100	Number names to 100
	Counting collections to 50
	Counting to 100
	Numbers to 100 using a tally
	Using coins to represent numbers to 100

2.N5 Compare and order numbers up to 100.	
Course Topics	**Activities**
Number-Place Value & Ordering	Arranging Numbers
	Place value 1
	Greater or Less to 100
	Understanding Place Value 1
Pattern, Relations, Variables, Equations	Compare Numbers to 50
Topics	**Skill Quests**
Compare & order numbers to 100	Comparing & ordering numbers to 100
	Identifying numbers before & after up to 100

2.N6 Estimate quantities to 100 using referents.	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Teacher directed	

2.N7 Illustrate, concretely and pictorially, the meaning of place value for numerals to 100.	
Course Topics	**Activities**
Number-Place Value & Ordering	Making Equal Groups
	Making Numbers Count

	Making Big Numbers Count
	Make Numbers Count
	Number Lines
Topics	**Skill Quests**
Place value partitioning up to 100	Place value partitioning of numbers to 50
	Non-standard partitioning of numbers to 100
Solve 2-digit place value problems	Solving place value problems with 2-digit numbers

2.N8	
Demonstrate and explain the effect of adding zero to or subtracting zero from any number.	
Course Topics	**Activities**
Number-Place Value & Ordering	Concept of zero
Topics	**Skill Quests**
Add & subtract a zero	Adding & subtracting a zero

2.N9	
Demonstrate an understanding of addition (limited to 1 and 2-digit numerals) with answers to 100 and the corresponding subtraction by: using personal strategies for adding and subtracting with and without the support of manipulatives; creating and solving problems that involve addition and subtraction; explaining that the order in which numbers are added does not affect the sum; explaining that the order in which numbers are subtracted may affect the difference.	
Course Topics	**Activities**
Number-Addition	Compensation – Add
	Add Three 1-Digit Numbers
	Add Numbers: Regroup a Ten
	Commutative Property of Addition
	Complements to 10, 20, 50
	Addictive Addition
	Add Two 2-Digit Numbers
	Adding to 2-digit numbers
	Adding In Any Order
	Model Addition
	Related Facts 1
	Doubles and Near Doubles
	Doubles and Halves to 20
	Doubles and Halves to 10
	Bar model problems 1
	Add 3 Numbers Using Bonds to 10
Number-Subtraction	Subtract Tens
	Compensation – Subtract
	Subtract Numbers
	Subtract Numbers: Regroup
	Simple Subtraction
	Mental Subtraction
Topics	**Skill Quests**
Addition to 100	Adding 2-digit & 1-digit numbers using place value
	Adding by bridging to 10 with 2 & 1-digit numbers

	Adding tens to a 2-digit number using models
	Adding two 2-digit numbers using place value
	Adding two 2-digit numbers using a number line
	Adding by compensating
	Adding using compatible numbers
	Using number bonds to 100
Subtraction within 100	Subtracting by bridging to 10
	Subtracting 2 & 1-digit numbers using place value
	Subtracting using mixed strategies
	Subtracting tens from a 2-digit number
	Subtracting two 2-digit numbers using place value
	Subtracting two 2-digit numbers, number line
	Subtracting by compensating
Addition & subtraction within 100	Adding up to find the difference
	Add/subtract place value patterns
	Add/subtract using mixed strategies
	Add/subtract two 2-digit numbers using place value
	Solving addition & subtraction word problems
	Number sentences to solve word problems
	Estimating sums & differences
	Judging the reasonableness of answers

2.N10

Apply mental mathematics strategies, such as: using doubles to determine basic addition facts to 18 and related subtraction facts; making 10 to determine basic addition facts to 18 and related subtraction facts; one more, one less to determine basic addition facts to 18 and related subtraction facts; two more, two less to determine basic addition facts to 18 and related subtraction facts; building on a known double to determine basic addition facts to 18 and related subtraction facts; addition for subtraction to determine basic addition facts to 18 and related subtraction facts.

Course Topics	Activities
Number-Subtraction	Repartition to Subtract
Topics	**Skill Quests**
Addition & subtraction to 18	Addition & subtraction to 18
	Adding using doubles
	Subtracting using doubles
	Adding doubles or near doubles
	Finding fact families for addition & subtraction
	Using the commutative property of addition
	Counting on by bridging to 10
	Addition & subtraction facts — word problems

2 Patterns and Relations

2.1 Use patterns to describe the world and solve problems

2.PR1 Demonstrate an understanding of repeating patterns (three to five elements): identify the core of a given repeating pattern; describe and extend a given double attribute pattern; explain the rule used to create a given repeating non-numerical pattern; predict an element in a given repeating pattern using a variety of strategies; predict an element of a given repeating pattern and extend the pattern to verify the prediction.	
Course Topics	**Activities**
Pattern, Relations, Variables, Equations	Count Forward Patterns
	Increasing Patterns
	Pattern Error
	Describing Patterns
	Missing Values
Topics	**Skill Quests**
Explore repeating patterns	Creating & extending repeating patterns
	Identifying repeating patterns
	Numeric patterns

2.PR2 Demonstrate an understanding of increasing patterns (for PR1 and PR2) by: describing, extending, comparing and creating patterns using manipulatives, diagrams, sounds and actions (numbers to 100).	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Explore increasing number patterns	Exploring addition & subtraction patterns to 100
	Exploring patterns to 100 using multiples
	Connecting objects & symbols to number patterns
	Exploring growing number patterns up to 100
	Exploring visual patterns

2.2 Represent algebraic expressions in multiple ways

2.PR3 Demonstrate and explain the meaning of equality and inequality by using manipulatives and diagrams (0 to 100).	
Course Topics	**Activities**
Pattern, Relations, Variables, Equations	Balancing Act
Topics	**Skill Quests**
Equality & inequality	Introducing equality & inequality
2.PR4 Record equalities and inequalities symbolically, using the equal symbol or the not equal symbol.	

Course Topics	Activities
Pattern, Relations, Variables, Equations	Compare Numbers to 20
	Compare Numbers to 100
Topics	**Skill Quests**
Use the equal & not-equal symbols	Using the equal & not-equal symbols

3 Shape & Space

3.1 Use direct or indirect measurement to solve problems

2.SS1 Relate the number of days to a week and the number of months to a year in a problem-solving context.	
Course Topics	**Activities**
Shape and Space-Measurement	Using a Calendar
	Days of the Week
	Months of the Year
Topics	**Skill Quests**
Explore the passing of time	Calendars
	Days of the week & months of the year

2.SS2 Relate the size of a unit of measure to the number of units (limited to nonstandard units) used to measure length and mass (weight).	
Course Topics	**Activities**
Shape and Space-Measurement	Everyday Length
	Comparing Length
	Everyday Mass
	How Long is That?
	Measuring length with blocks
Topics	**Skill Quests**
Non-standard measurement	Non-standard measurement of length
	Non-standard measurement of mass

2.SS3 Compare and order objects by length, height, distance around and mass (weight) using nonstandard units, and make statements of comparison.	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Compare & order objects	Comparing & ordering objects by length
	Comparing & ordering objects by mass

2.SS4 Measure length to the nearest non-standard unit by: using multiple copies of a unit; using a single copy of a unit (iteration process).	
Course Topics	**Activities**

Teacher directed	
Topics	**Skill Quests**
Measure length using non-standard units	Measuring length using non-standard units

2.SS5 Demonstrate that changing the orientation of an object does not alter the measurements of its attributes.	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Teacher directed	

3.2 Describe 3-D objects and 2-D shapes, and analyze the relationships

2.SS6 Sort 2-D shapes and 3-D objects using two attributes, and explain the sorting rule.	
Course Topics	**Activities**
Shape & Space-3-D Objects & 2-D Shapes	Sort It
	Collect the Objects
	Collect the Objects 1
	Collect the Objects 2
	Collect Simple Shapes
	Collect the Shapes
	Collect the Shapes 1
	Collect the Shapes 2
Topics	**Skill Quests**
Sort 2-D shapes & 3-D objects	Sorting 2-D shapes
	Sorting 3-D shapes

2.SS7 Describe, compare and construct 3-D objects, including: cubes; spheres; cones; cylinders; pyramids.	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Introduce 3-D objects	Introducing spheres
	Introducing cones
	Introducing cubes
	Introducing cylinders
	Introducing pyramids
	Introducing prisms
	Identifying 3-D objects
	Identifying attributes of 3-D objects
	Comparing 3-D objects

2.SS8 Describe, compare and construct 2-D shapes, including: triangles; squares, rectangles; circles.	
Course Topics	**Activities**
Teacher directed	
Topics	**Skill Quests**
Identify and compare 2-D shapes	Naming 2-D shapes
	Comparing 2-D shapes

2.SS9 Identify 2-D shapes as parts of 3-D objects in the environment	
Course Topics	**Activities**
Shape & Space-3-D Objects & 2-D Shapes	Relate Shapes and Solids
	Match the Object
	Match the Solid 1
	Match the Solid 2
Topics	**Skill Quests**
Identify 2-D shapes in the environment	Identifying 2-D shapes in the environment

4 Statistics and Probability

4.1 Collect, display and analyze data to solve problems

2.SP1 Gather and record data about self and others to answer questions.	
Course Topics	**Activities**
Statistics & Probability-Data Analysis	Tallies
	Making Graphs
	Sorting Data
Topics	**Skill Quests**
Gather & record data	Gathering & recording data

2.SP2 Construct and interpret concrete graphs and pictographs to solve problems.	
Course Topics	**Activities**
Statistics & Probability-Data Analysis	Pictographs
	Add and Subtract Using Graphs
Topics	**Skill Quests**
Interpret data	Using pictographs
	Using basic graphs
	Using a tally
	Making a graph
	Answering questions about a graph

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