

# Curriculum Planning & Assessment Resource

## Mathematics Grade 2



**The Consortium**

Alberta Professional Learning Consortium



# Curriculum Planning & Assessment Resource

## Mathematics

### Grade 2 Number 1

#### About This Document

This Curriculum Planning & Assessment Resource is intended to be a collection of sample activities, assessments, and resources that teachers may wish to use as they develop their unit plans. This document is not intended to be a sequential list of activities. Rather, the intent is that teachers choose from this resource what is appropriate for their context, and sequence it in their planning.

The sample activities, assessments and resources included in this document have undergone an initial review to determine appropriateness and alignment to the curriculum. However, it is expected that teachers use their professional judgment in selecting activities, assessments and resources that are appropriate for their context.

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#### Acknowledgements

**Thank you to all the teachers, numeracy specialists, and technical expertise from Alberta school divisions and APLC who collaborated to develop, review, and revise these planning and assessment documents to support curriculum implementation.**

# Grade 2 Number 1

## Organizing Idea

Number: Quantity is measured with numbers that enable counting, labelling, comparing, and operating.

## Guiding Question

How can quantity contribute to a sense of number?

## Learning Outcome

2N1 Students analyze quantities to 1000.

## Summative Assessment(s) - Transfer *(In Progress)*

*Summative assessments can include the following.*

- *Understanding/making sense of a novel context from the real world using one or more concepts (eg. “How are place value and money related?”).*
- *Understanding/making sense of a novel context using one or more understandings (eg. Students use money to model the conversion of base 10 values and relate them to base 10 block’).*
- *Being able to describe why (linking concepts) something is true, a result, or what might be an extension using learned concepts and understandings.*
- *Apply learning (create products; undertake projects; taking action such as creating a campaign) in a novel context or taking action using the understanding(s).*
- *Construct arguments by taking a position and verifying/proving it with known understandings.*

Summative Assessment(s) [\[understanding surface vs deep vs transfer\]](#)

[Number Riddles](#)

[Place Value Riddles](#)

[Three Digit Sports Card](#)



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# KUSP 2N1.1

## Assumable Curriculum / Prerequisite Knowledge / Vocabulary

Counting Principles - stable order, one-to-one correspondence, cardinality, hierarchical inclusion, order irrelevance, abstraction. Representing numbers to 10.

### Student Language | Essential vocabulary & concepts

- **Natural numbers:** the counting numbers; 1, 2, 3, ...
- **Quantity:** an amount or number of something
- **Number line:** a line that shows how numbers are related to other numbers
- **Digit:** a single symbol used to represent a numeral, 0-9
- **Place value:** the value of each digit in a number
- **Value:** the numerical worth or amount
- **Numeral:** a symbol or group of symbols used to represent a number

### I Know Statements | Metacognition

- I know natural numbers are counting numbers.
- I know natural numbers go on forever.
- I know a natural number has its own place on a number line.

### Pre-Assessments

#### Pre-Assessments 2: Finding Each Students Pathway

- Counting - p 3
- Skip Counting - p.4
- About How Many? - p.5
- Representing Numbers - p. 6
- More or Fewer? - p. 8

**Nelson Leaps and Bounds** Pages will be referenced in the Assessments to follow up for emerging learners.

### I Can Statements | Skills

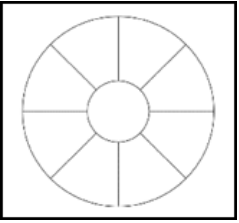
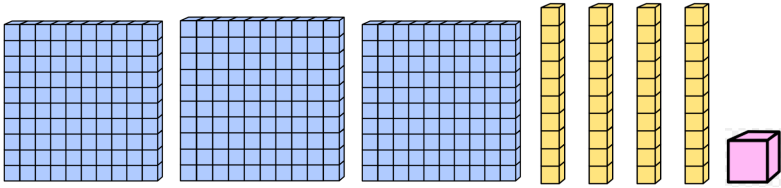
- I can show natural numbers using materials and symbols.
- I can read and write natural numbers with symbols and words.
- I can identify the value of a natural number based on its place.
- I can place natural numbers on a number line.
- I can identify natural numbers on a number line.

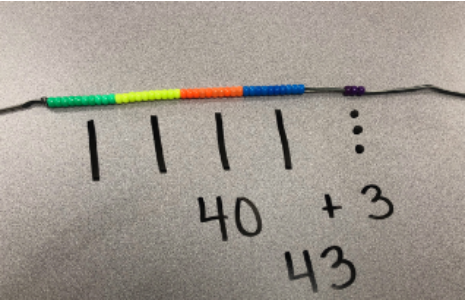
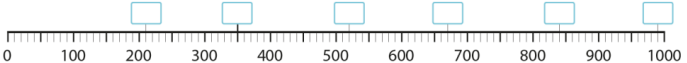

### Learning Recovery

- *Please consider sharing any great activities and ideas you have!*

### Enhancement

- *Please consider sharing any great activities and ideas you have!*

Learning Outcome 2N1 Students analyze quantity to 1000.						
Knowledge	Understanding	Skills & Procedures	Achievement Indicators	Illustrative Examples	Assessments ( <a href="#">Explainer</a> )	
<p>Any number of objects in a set can be represented by a natural number: 0, 1, 2, 3....</p> <p>The values of the places in a four-digit natural number are thousands, hundreds, tens, and ones.</p> <p>Places that have no value within a given number use zero as a place holder.</p> <p>The number line is a spatial representation of quantity.</p>	<p>There are infinitely many natural numbers.</p> <p>Every digit in a natural number has a value based on its place.</p> <p>Each natural number is associated with exactly one point on the number line.</p>	<p><b>Identify</b> the digits representing thousands, hundreds, tens, and ones based on place in a natural number.</p>	<p>Read a given 3-digit or 4-digit number (up to 1000) without using the word 'and' (e.g., 321 is three hundred twenty-one, NOT three hundred AND twenty-one).</p>	<p><a href="#">Concept Circle Overview</a></p> <p><a href="#">Concept Circle Website</a>, Copyright © 2022 Cathy Marks Krpan.</p>  <p>Give each student a 3-digit number for the center of their concept circle. At this point, students use the following 3 sections to represent their understanding of numbers to 1000.</p> <p><b>Section 1: Model It</b> Students may use Base Ten Blocks, tallies, groups of pictures, etc. Question: How does your model represent the 3-digit number? (Critical Thinking)</p> <p><b>Section 2: Place on a Number Line</b> Questions: - Is the number placed correctly? - What benchmarks did you choose? Why?</p> <p><b>Section 3: Write in Word Form</b> Ensure students are not using the word "and" in their written form (as well as in their oral response).</p>	<ul style="list-style-type: none"> <li>Randomly generate a 3 digit number               <ul style="list-style-type: none"> <li>Roll 3 dice</li> <li>Flip 3 cards</li> <li>Virtual random number generator</li> </ul> </li> <li>Student reads the number aloud, not using the word 'and'.               <ul style="list-style-type: none"> <li>Example: 483 is "four hundred eighty three"</li> <li>Identifies the digits representing the place value positions.</li> </ul> </li> </ul>	
			<p>Read a given number in symbolic or word form (0 to 1000).</p>	<p><b>Three hundred forty five - 345</b> <b>Seven hundred eighty six - 786</b> <b>Two hundred - 200</b></p>		<p><a href="#">2N1.1 Number Words - surface</a></p> <p><a href="#">2N1.1 I Have Who Has Cards - surface</a> (cards to support Number Words assessment)</p>
			<p><b>Represent</b> quantities using words and natural numbers.</p>	<p><b>Represent</b> a given number (quantity) using concrete materials and words to 1000.</p>		<p><b>Does this represent three hundred forty one?</b></p> 

				 <p>21- twenty one 36- thirty six 255- two hundred fifty five 874- eight hundred seventy four</p>																																			
	<p><b>Relate</b> a number, including zero, to its position on the number line.</p>	<p><b>Identify</b> and place natural numbers on a number line by <b>relating</b> it to its position on a number line.</p>	<p><b>Identify the missing numbers</b></p>  <p>Place the number 650 on the open number line</p> 	<p><a href="#">2N1.1 Putting Numbers on a Number line to 100 - surface</a></p> <p><a href="#">2N1.1 Numbers on a number line to 1000 - surface</a></p> <p><a href="#">2N1.1 Place Value - deep</a></p> <p><a href="#">2N1.1 Place Value question-image - deep</a></p>																																			
		<p><b>Identify</b> the value of a given digit based on its place using thousands, hundreds, tens, and ones</p>	<p>'...three hundred and forty-two.'</p> <table border="1" data-bbox="1569 1018 2222 1219"> <tr><td>1000</td><td>2000</td><td>3000</td><td>4000</td><td>5000</td><td>6000</td><td>7000</td><td>8000</td><td>9000</td></tr> <tr><td>100</td><td>200</td><td>300</td><td>400</td><td>500</td><td>600</td><td>700</td><td>800</td><td>900</td></tr> <tr><td>10</td><td>20</td><td>30</td><td>40</td><td>50</td><td>60</td><td>70</td><td>80</td><td>90</td></tr> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr> </table> <p>e.g. 3 hundreds, 4 tens, 2 ones</p>	1000	2000	3000	4000	5000	6000	7000	8000	9000	100	200	300	400	500	600	700	800	900	10	20	30	40	50	60	70	80	90	1	2	3	4	5	6	7	8	9
1000	2000	3000	4000	5000	6000	7000	8000	9000																															
100	200	300	400	500	600	700	800	900																															
10	20	30	40	50	60	70	80	90																															
1	2	3	4	5	6	7	8	9																															

## Resources

### Mathology

[Mathology Free Resources on New Learn Alberta](#)

#### Mathology Little Books

Mathology Little Book: [Ways to Count](#)

#### Mathology Activities

Mathology Grade 2: Number Cluster 3, Grouping and Place Value: Activity 14 (to 100)

Mathology Grade 2: Number Cluster 5, Number Relationships 2: Activities 23 (to 200; combined grade extension to 500), 26 (to 200)

### Math UP

#### Grade 2 Counting

- o Lesson 1: Counting Forward
- o Lesson 2: Counting Backwards
- o Lesson 3: Even and Odd Numbers
- o Lesson 4: Counting to Find How Many

#### Representing Whole Numbers

- o Lesson 1: Representing Hundreds
- o Lesson 2: Representing Three-Digit Numbers

<p>Mathology Grade 2: Number Math Every Day: Card 2B, Building an Open Number Line (to 50) and Card 5A: Which Ten is Nearer? (to 20)</p> <p><b>Links to Other Grades</b> Mathology Grade 3: Number Unit 3, Place Value: Activity 11 (representing with numbers and place value)</p>	<ul style="list-style-type: none"> <li>o Lesson 3: Comparing Representations of Three-Digit Numbers</li> <li>o Lesson 4: Exploring 1000</li> </ul>
<p><b>Existing Textbooks</b></p> <p><b>Math Focus 2</b> - Some of Chapter 2 <b>Math Focus 3</b> - Chapter 2</p> <p><b>Math Makes Sense 2</b> - Unit 2 <b>Math Makes Sense 3</b> - Unit 2</p>	<p><b>NCETM (teacher guides and resources)</b></p> <p><a href="#">NCETM - Composition and calculation: three-digit numbers (Teaching points 1-4 address these outcomes)</a> (Spine 1; Year 3; 1.18)</p> <p><a href="#">NCETM - Composition and calculation: 1000 and four-digit numbers (Teaching points 1-3 address these outcomes)</a> Spine 1; Year 4; 1.22)</p>
<p><b>Websites/Other</b></p> <p><a href="#">Sample Concept Circle Activities</a>, Copyright © 2022 Cathy Marks Krpan. <a href="#">Introduction to Concept Circles</a>: see one in action, Youtube video</p> <p><a href="#">Kentucky Intervention Guide KNP</a> - provides great lessons and activities (outcomes based) for Teachers K-3</p>	<p><b>Websites and Resources to Support Planning</b></p> <p><b>Inclusion</b> - An <a href="#">inclusive</a> approach to maths teaching <b>Inclusion</b> - <a href="#">Good Practices</a> on Inclusive Curricula in Mathematics Sciences <b>Differentiation</b>: Preview vocabulary and pre teach to students. Use various forms of media to present vocabulary including simplified explanations, visuals in the form of diagrams to label and connect concepts.</p> <hr/> <p><b>Resources Developed by School Divisions/Educational Institutions</b></p> <p><a href="#">Edmonton Catholic Pacing Guides</a> <a href="#">Edmonton Catholic Curriculum Crates</a> <a href="#">LearnAlberta Curriculum</a> APLC <a href="#">Curriculum Professional Learning Resources</a> Alberta Teachers Association Library <a href="#">General Mathematics Resources</a> Mathematics and Numeracy - <a href="#">Curriculum Implementation Toolkit, Grades 4-6</a></p>
<p><b>Indigenous Lesson Plans and Resources</b></p> <p><a href="#">Indigenous Culture Based Learning in Alberta Curriculum</a></p>	<p><b>Gizmos</b></p> <p>New Learn Alberta (Teacher Login Required)</p> <ul style="list-style-type: none"> <li><a href="#">Critter Count (Modeling Multiplication)</a></li> <li><a href="#">Modeling Whole Numbers and Decimals (Base-10 Blocks)</a></li> <li><a href="#">Number Line Frog Hop (Addition and Subtraction)</a></li> <li><a href="#">Target Sum Card Game (Multi-digit Addition)</a></li> <li><a href="#">Whole Numbers with Base-10 Blocks</a></li> <li><a href="#">Rounding Whole Numbers (Number Line)</a></li> <li><a href="#">Cannonball Clowns (Number Line Estimation)</a></li> </ul> <p>For access to additional resources, request a Gizmos account <a href="mailto:alberta@explorellearning.com">alberta@explorellearning.com</a></p>



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[Literature Connections](#)

# KUSP 2N1.2

## Assumable Curriculum / Prerequisite Knowledge / Vocabulary

Counting by 1s to 100.

### Student Language | Essential vocabulary & concepts

- **Quantity:** an amount or number of something
- **Count:** to name the numbers in a stable order and or determine quantity
- **Skip count:** to count forward or backward by a number other than 1
- **Coin:** a small, flat, round piece of metal used as money
- **Bill:** a rectangular piece of paper used as money
- **Compose:** to put together from smaller parts
- **Decompose:** to break down into smaller parts
- **Group:** a set of people or objects that have been put together
- **Collection:** a group of items that do not necessarily share a common attribute

### Pre-Assessments

#### Pre-Assessments 2: Finding Each Students Pathway

- Counting - p 3
- Skip Counting - p.4
- About How Many? - p.5
- Representing Numbers - p. 6
- More or Fewer? - p. 8

**Nelson Leaps and Bounds** Pages will be referenced in the Assessments to follow up for emerging learners.

### Learning Recovery

- Review skip counting by 2s, 5s, and 10s to ensure consolidation.
- May want to continue reviewing skip counting by 5s, although not explicitly in grade two curriculum

### I Know Statements | Metacognition

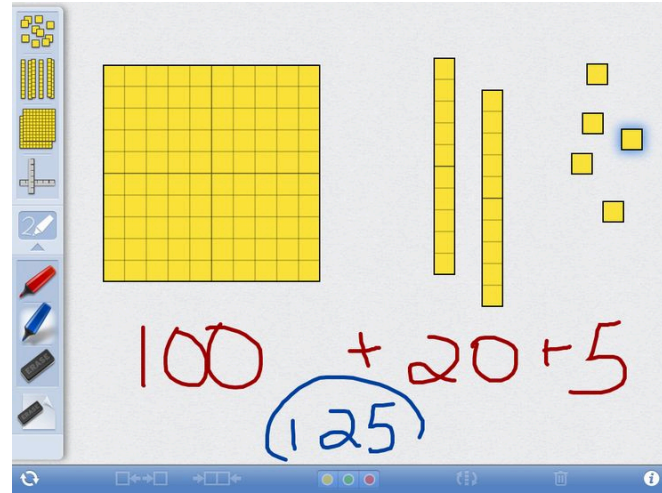
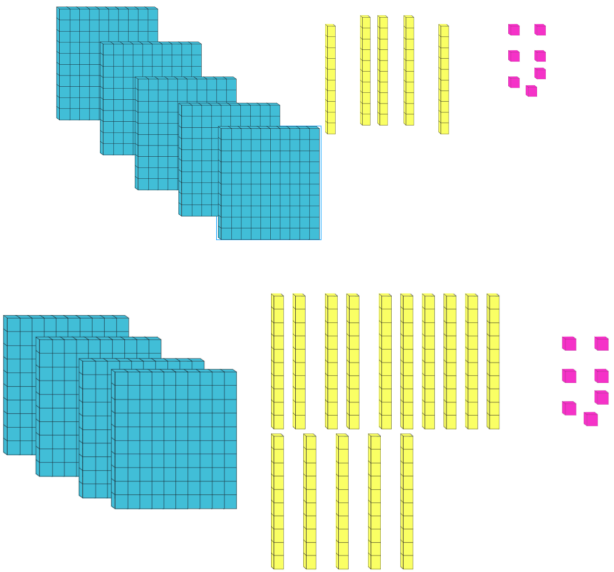
- I know that skip counting can be used to count a collection.
- I know a quantity can be made up of smaller groups.



### I Can Statements | Skills

- I can count forward and backward by 1s, starting at any number.
- I can decompose a natural number into 100s, 10s, and 1s.
- I can skip count by 20s, 25s, 50s, starting at 0.
- I can skip count by 2s and 10s from any number within 1000.
- I can skip count a collection of coins to determine its value.

### Enhancement

- Skip count from any number by 20s, 25s, or 50s forward or backward.
- Extend a given skip-counting sequence (by 20s, 25s, 50s) forward and backward.

Learning Outcome 2N2 Students analyze quantity to 1000.					
Knowledge	Understanding	Skills & Procedures	Achievement Indicators	Illustrated Examples	Assessments ( <a href="#">Explainer</a> )
<p>A quantity can be skip counted in various ways according to context.</p> <p>Quantities of money can be skip counted in amounts that are represented by coins and bills (denominations)</p>	<p>A quantity can be interpreted as a composition of groups.</p>	<p><b>Count</b> within 1000, forward and backward by 1s, starting at any number.</p>	<p><b>Count</b> forward or backward by 1s, the number sequence between two given numbers <b>within 1000</b>.</p>	<p><b>Count forwards from 23 to ..., 137 to..., 289 to..., 404 to..., etc.</b></p> <p><b>Count backwards from...18, 67, 205, 871, etc.</b></p>	<p><a href="#">2N1.2 Counting by One's - surface</a></p>
		<p><b>Decompose</b> quantities into groups of 100s, 10s, and 1s.</p>	<p><b>Decompose</b> numbers (quantities) within 1000 <b>into groups of 100s, 10s, and 1s</b> concretely, using manipulatives, pictorials or numbers.</p>	 <p>The image shows a digital workspace with a toolbar on the left. It features a 10x10 yellow grid representing 100, two vertical bars of 20 units each representing 20, and five small yellow squares representing 5. Below the grid, the equation <math>100 + 20 + 5</math> is written in red, with '125' circled in blue below it.</p>	<p><b>Represent 557 in a variety of ways</b></p>  <p>The image shows two different ways to represent the number 557 using base-ten blocks. In the top representation, there are five blue 100-blocks, five yellow 10-blocks, and seven pink 1-blocks. In the bottom representation, there are five blue 100-blocks, five yellow 10-blocks, and seven pink 1-blocks, arranged differently.</p>

			$500 + 50 + 7 =$ $500 + 25 + 25 + 7 =$  Use 10 strands of 100 beaded number lines (to show 1000). 557 is 5 strings of 100 and one string with 57 beads.		
		<b>Skip count</b> by 20s, 25s, or 50s, starting at 0.	<b>Skip count</b> by 20s, 25s, 50s starting at 0.	<b>What are the next three numbers?</b> $0, 20, 40, \underline{\quad}, \underline{\quad}, \underline{\quad}, \dots$ $0, 25, 50, 75, \underline{\quad}, \underline{\quad}, \underline{\quad}, \dots$ $0, 50, 100, 150, \underline{\quad}, \underline{\quad}, \underline{\quad}, \dots$	<a href="#">2N1.2 Skip Counting by 20, 25, 50 - surface</a>
		<b>Skip count</b> by 2s and 10s starting at any number.	<b>Skip count</b> by 2s and 10s starting at any number.	<b>What are the next three numbers?</b> $668, 670, 672, \underline{\quad}, \underline{\quad}, \underline{\quad}$ $333, 335, 337, \underline{\quad}, \underline{\quad}, \underline{\quad}$ $121, 131, 141, \underline{\quad}, \underline{\quad}, \underline{\quad}$  <b>Extension:</b> $599 \ 499 \ 399 \ \underline{\quad} \ \underline{\quad} \ \underline{\quad}$ $95 \ 90 \ 85 \ \underline{\quad} \ \underline{\quad} \ \underline{\quad}$ $24 \ 22 \ 20 \ \underline{\quad} \ \underline{\quad} \ \underline{\quad}$	<a href="#">2N1.2 Skip Count by 2's, and 10's from any number to 1000 - surface</a>
		<b>Determine</b> the value of a collection of coins or bills of the same denomination by skip counting.	<b>Determine</b> the value of a collection of coins or bills of the same denomination by skip counting.	  Counting by 2s to \$14  	<a href="#">2N1.2e Determine the Value by Skip Counting - surface</a>



Counting by 10s to \$120



Counting by 100s to \$700

## Resources

### Mathology

[Mathology Free Resources on New Learn Alberta](#)

#### Mathology Little Books

Mathology Little Book: [Family Fun Day](#) (to 100)

Mathology Little Book: [Back to Batoche](#) (to 100)

Mathology Little Book: [The Money Jar](#) (to 100)

Mathology Little Book: [Ways to Count](#) (to 100)

Mathology Little Book: [What Would You Rather?](#) (to 100)

#### Links to Other Grades

Mathology Little Book: [Fantastic Journeys](#) (3) (to 1000)

Mathology Little Book: [Finding Buster](#) (3) (to 1000)

Mathology Little Book: [How Numbers Work](#) (3) (3-digit numbers)

#### Mathology Activities

Mathology Grade 2: Number Cluster 1, Counting: Activity 2 (to 200)

Mathology Grade 2: Number Math Every Day: Card 1A, Skip-Counting on a Hundred Chart; Card 1B: Skip-Counting with Actions (by 2s, 5s, 10s); Card 1B: What's Wrong? What's Missing? (by 2s, 5s, 10s), Card 9: Collections of Coins (by 5s, 10s)

Mathology Grade 2: Number Intervention: Activities 1, 17

Mathology Grade 1 : [Lesson 36: Value of Coins](#)

#### Links to Other Strands

Mathology Grade 2: Patterning Intervention: Activities 3, 4 (by 2s, 5s, 10s)

### Math UP

#### Counting

- o Lesson 1: Counting Forward
- o Lesson 2: Counting Backwards
- o Lesson 3: Even and Odd Numbers
- o Lesson 4: Counting to Find How Many

#### Representing Whole Numbers

- o Lesson 1: Representing Hundreds
- o Lesson 2: Representing Three-Digit Numbers
- o Lesson 3: Comparing Representations of Three-Digit Numbers
- o Lesson 4: Exploring 1000

<p><b>Links to Other Grades</b>  Mathology Grade 3: Number Unit 3, Place Value: Activities 9, 10 (to 1000)  Mathology Grade 3: Number Unit 1, Counting: Activities 2-4</p>	
<p><b>Existing Textbooks</b></p> <p><b>Math Focus 3</b> - Chapter 2</p> <p><b>Math Makes Sense 3</b>  Student Textbook Unit 2 pages 37-80</p>	<p><b>NCETM (teacher guides and resources)</b></p> <p><a href="#">NCETM - Composition and calculation: three-digit numbers (Teaching points 3- 5 address these outcomes)</a>  (Spine 1; Year 3; 1.18)  <a href="#">NCETM - Composition and calculation: 1000 and four-digit numbers (Teaching points 1-3 address these outcomes)</a>  Spine 1; Year 4; 1.22)</p>
<p><b>Websites/Other</b></p> <p><a href="#">Counting Money and Making Change</a> - Bank of Canada Museum lesson plan</p> <p><a href="#">Kentucky Intervention Guide KNP</a> - provides great lessons and activities (outcomes based) for Teachers K-3</p>	<p><b>Gizmos</b> New Learn Alberta (Teacher Login Required)</p> <p><a href="#">Critter Count (Modeling Multiplication)</a></p> <p><a href="#">Modeling Whole Numbers and Decimals (Base-10 Blocks)</a></p> <p><a href="#">Number Line Frog Hop (Addition and Subtraction)</a></p> <p><a href="#">Target Sum Card Game (Multi-digit Addition)</a></p> <p><a href="#">Whole Numbers with Base-10 Blocks</a></p> <p><a href="#">Rounding Whole Numbers (Number Line)</a></p> <p><a href="#">Cannonball Clowns (Number Line Estimation)</a></p> <p>For access to additional resources, request a Gizmos account <a href="mailto:alberta@explorellearning.com">alberta@explorellearning.com</a></p>
<p><b>Indigenous Lesson Plans and Resources</b></p> <p><a href="#">Counting Sticks</a>: an odd/even counting game from <a href="#">Aboriginal Perspectives</a>, University of Regina</p>	



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# KUSP 2N1.3

## Assumable Curriculum / Prerequisite Knowledge / Vocabulary

### Student Language | Essential vocabulary & concepts

- **Even number:** a number that, when arranged in pairs, has no remainders
- **Odd number:** a number that, when arranged in pairs, has one left over (remainder)
- **Quantity:** an amount or number of something
- **Remainder:** a value that is left after division
- **Equal:** having the same amount, size, number, or value
- **Natural numbers:** the counting numbers; 1, 2, 3, ...
- **Sharing:** to give out or distribute
- **Grouping:** a set of people or objects that have been put together
- **Partition:** to separate the whole into groups

### Pre-Assessments

#### Pre-Assessments 2: Finding Each Students Pathway

- Counting - p 3
- Skip Counting - p.4
- About How Many? - p.5
- Representing Numbers - p. 6
- More or Fewer? - p. 8

**Nelson Leaps and Bounds** Pages will be referenced in the Assessments to follow up for emerging learners.

### Learning Recovery

- *Please consider sharing any great activities and ideas you have!*

### I Know Statements | Metacognition

- I know an even number of objects can be arranged into two equal groups (pairs) with no leftovers.
- I know an odd number of objects can be arranged into two equal groups with one left over.

### I Can Statements | Skills

- I can show and explain if a number is even or odd.

### Enhancement

- *Please consider sharing any great activities and ideas you have!*

Learning Outcome 2N3 Students analyze quantity to 1000.					
Knowledge	Understanding	Skills & Procedures	Achievement Indicators	Illustrated Examples	Assessments ( <a href="#">Explainer</a> )
<p>An even quantity will have no remainder when partitioned into two equal groups or groups of two.</p> <p>An odd quantity will have a remainder of one when partitioned into two equal groups or groups of two.</p>	All natural numbers are either even or odd.	<p><b>Model</b> even and odd quantities by sharing and grouping.</p> <p><b>Partition</b> a set of objects by sharing or grouping, with or without remainders.</p>	Use concrete materials or pictorial representations to <b>describe</b> if a given number is even or odd, by <b>partitioning</b> into two equal groups or groups of two.	<p>A Grade 2 class is going outside to play soccer. Before they start the game, the teacher divides the students into two teams. One team has 9 players, while the other team has 11 players. In pairs, have students discuss these questions.</p> <p><b>What do you notice about the teams?</b>            Do students use specific math vocabulary (even, odd, etc.)            Do students notice they are odd numbers?            Do students notice the teams are not fair?            Do students discuss how to make the teams fair?  <b>Is the total number of students in the class an even or odd number?</b>            How do students decide whether a number is even or odd (e.g., guessing, pairing counters, skip-counting by 2s, using patterns)?</p> <p>Have students use ten frames, linking cubes, counters, or a hundred chart to model and explain how they know if the number of students in the class is even or odd.</p> <p>Then, in pairs, have students shade the odd and even numbers on a hundred chart and discuss the patterns that emerge.</p>	<p><a href="#">2N1.3 Model even and odd, Partition a set in groups - surface</a></p> <p><a href="#">2N1.3 Rabbit Gets a New Home - deep</a></p>
		<p><b>Describe</b> a quantity as even or odd.</p>	Identify even and odd numbers in a given sequence, such as in a hundred chart.	<p><b>Even and odd numbers can be reviewed daily using the calendar numbers.</b></p>	
		Sort a given set of numbers into even and odd.		<p>23    odd    even              ○       ○</p> <hr/> <p>8        odd    even              ○       ○</p> <hr/> <p>76     odd    even              ○       ○</p> <hr/> <p>64     odd    even              ○       ○</p> <p>Count the blocks. Write the number. Circle odd or even.</p>	<p><a href="#">2N1.3 Describe a quantity as even or odd - surface</a></p> <p><a href="#">2N1.3 Odd and Even sort - surface</a></p>



	<p>Spine 1; Year 1; 1.9)</p> <p><a href="#">NCETM - Composition of numbers: 11 - 19</a> (Teaching points 3-4 address these outcomes)</p> <p>Spine 1; Year 1; 1.10)</p>
<p><b>Websites/Other</b></p> <p><a href="#">Kentucky Intervention Guide KNP</a> - provides great lessons and activities (outcomes based) for Teachers K-3</p>	<p><b>Gizmos</b></p> <p>New Learn Alberta (Teacher Login Required) For access to additional resources, request a Gizmos account <a href="mailto:alberta@explorellearning.com">alberta@explorellearning.com</a></p>
<p><b>Indigenous Lesson Plans and Resources</b></p> <p><a href="#">Indigenous Culture Based Learning in Alberta Curriculum</a></p>	<p><b>Problem Solving</b></p> <p>Coming Soon</p>



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# KUSP 2N1.4

## Assumable Curriculum / Prerequisite Knowledge / Vocabulary

Equal (meaning & symbol); Equality; Unequal (meaning & symbol); Addition (meaning & symbol); Subtraction (meaning & symbol); More/less than

### Student Language | Essential vocabulary & concepts

- **Benchmark:** a known quantity used to estimate or compare
- **Quantity:** an amount or number of something
- **Compare:** to look at how two or more numbers or items are alike as well as different
- **Estimate:** to find a number that is close to the actual number; close to an amount, but not exact

### I Know Statements | Metacognition

- I know I can estimate how many when I don't need an exact number.
- I know a known quantity (benchmark) can be used to help estimate another quantity.

### Pre-Assessments

#### Pre-Assessments 2: Finding Each Students Pathway

- Counting - p 3
- Skip Counting - p.4
- About How Many? - p.5
- Representing Numbers - p. 6
- More or Fewer? - p. 8

**Nelson Leaps and Bounds** Pages will be referenced in the Assessments to follow up for emerging learners.

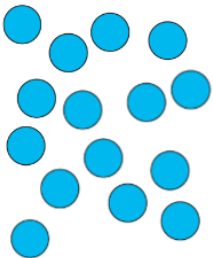
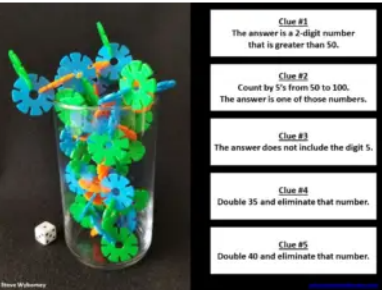
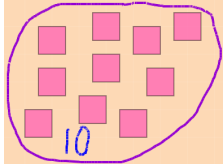
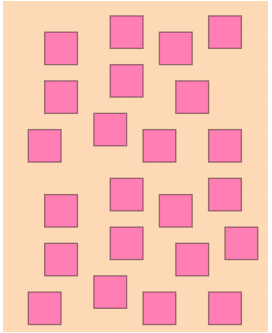
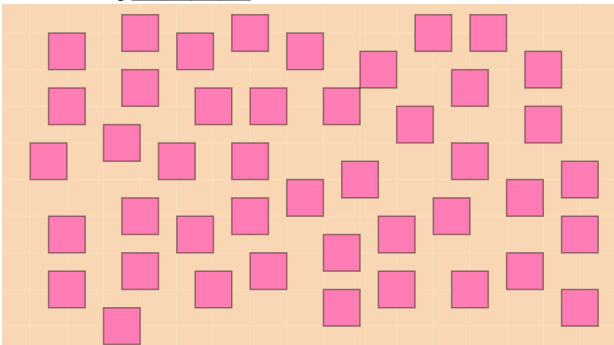
### I Can Statements | Skills

- I can estimate quantities using benchmarks.
- I can identify benchmark numbers.

### Learning Recovery

- [APLC Numeracy Intervention Support](#)

### Enhancement

Learning Outcome 2N4 Students analyze quantity to 1000.					
Knowledge	Understanding	Skills & Procedures	Achievement Indicators	Illustrated Examples	Assessments ( <a href="#">Explainer</a> )
A benchmark is a known quantity to which another quantity can be compared.	A quantity can be estimated when an exact count is not needed.	<b>Estimate</b> quantities using benchmarks.	Select an estimate for a given quantity from at least two possible choices and explain the choice.	 <p>Estimate how many dots, then count to see if you were correct.</p> <p>a. 38 b. 15 c. 9</p>	<p>A large variety of estimation activities are available through <a href="#">Steve Wyborney</a> providing excellent graphics and powerpoints to allow student practice in Estimating and using Benchmarks.</p> <p>Grades 1-2: <a href="#">Esti-Mystery 174 – “Disc-a-Mystery”</a></p>  <p><a href="#">Steve Wyborney - Esti-Mysteries</a></p>
			Estimate a given quantity by comparing it to a benchmark.	 <p>Use this as a benchmark to estimate the quantities below</p>  <p>Estimate of how many _____</p>  <p>Estimate of how many _____</p>	

Identify useful benchmarks for estimation, such as multiples of 10, 25, 50, and 100.

**Example 1:**



**Example 2:**

This full coin roll holds 40 quarters.



The partial roll is more than half full, so it might have about 25 quarters.

**Example 3:**

Use benchmarks of 10, 25, 50 or 100 on a number line to estimate a given point on a number line.

## Resources

### Mathology

[Mathology Free Resources on New Learn Alberta](#)

#### Mathology Little Books

Mathology Little Book: [Family Fun Day](#)

Mathology Little Book: [Ways to Count](#)

Mathology Little Book: [What Would You Rather?](#)

### Math UP

#### Representing Whole Numbers

- o Lesson 1: Representing Hundreds
- o Lesson 2: Representing Three-Digit Numbers
- o Lesson 3: Comparing Representations of Three-Digit Numbers
- o Lesson 4: Exploring 1000

<p><b>Mathology Activities</b>  Mathology Grade 2: Number Cluster 2, Number Relationships 1: Activity 10 (to 200)  Mathology Grade 2: Number Cluster 5, Number Relationships 2: Activity 23 (to 200, Combined Grades to 500)  Mathology Grade 2: Number Math Every: Card 5A, Which Ten is Nearer? (to 20)</p> <p><b>Links to Other Grades</b>  Mathology Grade 3: Number Unit 2, Number Relationships: Activity 5 (to 1000)</p>	<ul style="list-style-type: none"> <li>· <b>Estimating and Comparing Whole Numbers</b> <ul style="list-style-type: none"> <li>o Lesson 1: Estimating Quantities</li> <li>o Lesson 2: Comparing Numbers Using Simpler, Related Numbers</li> <li>o Lesson 3: Building a Number Line Using a Scale</li> <li>o Lesson 4: Nearest Ten, Nearest Hundred</li> <li>o Lesson 5: Using Benchmarks to Compare Three-Digit Numbers</li> <li>o Lesson 6: Comparing and Ordering Three-Digit Numbers</li> </ul> </li> <li>· <b>Money</b> <ul style="list-style-type: none"> <li>o Lesson 1: Counting Money</li> <li>o Lesson 2: Representing Money Amounts</li> </ul> </li> </ul>
<p><b>Existing Textbooks</b></p> <p><b>Math Focus 2</b> - Some of Chapter 2  <b>Math Focus 3</b> - Chapter 2</p> <p><b>Math Makes Sense 2</b> - Unit 2  <b>Math Makes Sense 3</b> - Unit 2</p>	<p><b>NCETM (teacher guides and resources)</b></p> <p><a href="#">Comparison of quantities and measures (Teaching point 3 addresses this outcome)</a>  (Spine 1; Year 1; 1.1)</p> <p><a href="#">Additive structures: introduction to aggregation and partitioning (Teaching point 2 addresses this outcome)</a>  (Spine 1; Year 1; 1.5)</p> <p><a href="#">Composition of numbers: multiples of 10 up to 100 (Teaching point 3 addresses this outcome)</a>  (Spine 1; Year 1; 1.8)</p> <p><a href="#">Composition of numbers: 20-100 (Teaching point 3 addresses this outcome)</a>  (Spine 1; Year 1; 1.9)</p> <p><a href="#">Composition and calculation: three-digit numbers (Teaching point 2 addresses this outcome)</a>  (Spine 1; Year 3; 1.18)</p>
<p><b>Websites/Other</b></p> <p><a href="#">Kentucky Intervention Guide KNP</a> - provides great lessons and activities (outcomes based) for Teachers K-3</p>	<p><b>Gizmos</b> New Learn Alberta (Teacher Login Required)</p> <p>For access to additional resources, request a Gizmos account <a href="mailto:alberta@explorellearning.com">alberta@explorellearning.com</a></p>
<p><b>Indigenous Lesson Plans and Resources</b></p> <p>Coming Soon</p>	<p><b>Problem Solving</b></p> <p>Coming Soon</p>



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# KUSP 2N1.5

## Assumable Curriculum / Prerequisite Knowledge / Vocabulary

Equal (meaning & symbol); Equality; Unequal (meaning & symbol); Addition (meaning & symbol); Subtraction (meaning & symbol); More/less than

### Student Language | Essential vocabulary & concepts

- **Compare:** to look at how two or more numbers or items are alike as well as different
- **Order:** to arrange according to size, amount, or value
- **Greater than:** more than (when comparing two quantities)
- **Less than:** not as many as (when comparing two quantities)
- **Equal:** having the same amount, size, number, or value
- **Equality:** The state of being equal. Having the same amount or value.
- **Inequality:** The state of being unequal. Having a different amount or value.

### I Know Statements | Metacognition

- I know different ways to compare and order natural numbers.
- I know inequality is when there is a difference between two quantities.

### Pre-Assessments

#### Pre-Assessments 2: Finding Each Students Pathway

- Counting - p 3
- Skip Counting - p.4
- About How Many? - p.5
- Representing Numbers - p. 6
- More or Fewer? - p. 8

*Nelson Leaps and Bounds Pages will be referenced in the Assessments to follow up for emerging learners.*

### I Can Statements | Skills

- I can model an equality and an inequality using a balance.
- I can use  $>$ ,  $<$ ,  $=$  symbols, objects, as well as my words, to compare quantities.
- I can compare and order natural numbers.

Learning Recovery

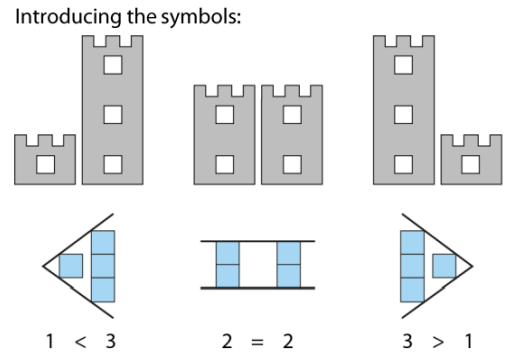
Enhancement

Learning Outcome 2N1 Students analyze quantity to 1000.																																																																																																									
Knowledge	Understanding	Skills & Procedures	Achievement Indicators	Illustrated Examples	Assessments ( <a href="#">Explainer</a> )																																																																																																				
<p>Words that can describe a comparison between two unequal quantities include</p> <ul style="list-style-type: none"> <li>not equal</li> <li>greater than</li> <li>less than</li> </ul> <p>The less than sign, &lt;, and the greater than sign, &gt;, are used to indicate inequality between two quantities.</p> <p>Equality and inequality can be modeled using a balance.</p>	<p>Inequality is an imbalance between two quantities.</p>	<p><b>Compare</b> and <b>order</b> natural numbers. <i>Note: Provide strategies for identifying the larger and smaller number when using a 100's or 1000's chart, a number line, number of digits, etc.</i></p>	<p><b>Order</b> a given set of numbers in ascending or descending order, and verify the result, using a hundred chart, number line, ten frames, money or by making references to place value.</p>	<p><b>Put the following numbers in order from least to greatest.</b> <b>25 78 32 99 67</b></p> <p><b>Verify your result with a hundreds chart.</b></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <caption>Hundreds Chart</caption> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr> <tr><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td></tr> <tr><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td></tr> <tr><td>31</td><td>32</td><td>33</td><td>34</td><td>35</td><td>36</td><td>37</td><td>38</td><td>39</td><td>40</td></tr> <tr><td>41</td><td>42</td><td>43</td><td>44</td><td>45</td><td>46</td><td>47</td><td>48</td><td>49</td><td>50</td></tr> <tr><td>51</td><td>52</td><td>53</td><td>54</td><td>55</td><td>56</td><td>57</td><td>58</td><td>59</td><td>60</td></tr> <tr><td>61</td><td>62</td><td>63</td><td>64</td><td>65</td><td>66</td><td>67</td><td>68</td><td>69</td><td>70</td></tr> <tr><td>71</td><td>72</td><td>73</td><td>74</td><td>75</td><td>76</td><td>77</td><td>78</td><td>79</td><td>80</td></tr> <tr><td>81</td><td>82</td><td>83</td><td>84</td><td>85</td><td>86</td><td>87</td><td>88</td><td>89</td><td>90</td></tr> <tr><td>91</td><td>92</td><td>93</td><td>94</td><td>95</td><td>96</td><td>97</td><td>98</td><td>99</td><td>100</td></tr> </table> <p><b>Give students different amounts of money, ex.</b> <b>3 - \$100</b> <b>5 - \$50</b> <b>15 - \$10</b> <b>Determine who has the greatest amount to least amount.</b></p>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	<p><a href="#">2N1.5 Comparing Numbers up to 100</a> - K5 Learning - Surface</p> <p><a href="#">2N1.5 Comparing numbers up to 1000</a> - K5 Learning - Surface</p> <p><a href="#">2N1.5 Ordering Numbers up to 100</a> - K5 Learning Surface</p> <p><a href="#">2N1.5 Ordering Numbers up to 1000</a> - K5 Learning - Surface</p>
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<p>Create as many different three-digit numbers as possible, given three different digits. Place the numbers in ascending or descending <b>order</b>.</p>	<p>Amy has made a three digit number with these cards</p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td style="border: 1px solid black; padding: 5px; text-align: center;">8</td> <td style="border: 1px solid black; padding: 5px; text-align: center;">4</td> <td style="border: 1px solid black; padding: 5px; text-align: center;">7</td> </tr> </table> <p>What other three digit numbers can she make with these cards?</p> <table style="margin-left: auto; margin-right: auto;"> <tr> <td style="border: 1px solid black; width: 30px; height: 30px;"></td> <td style="border: 1px solid black; width: 30px; height: 30px;"></td> <td style="border: 1px solid black; width: 30px; height: 30px;"></td> <td style="border: 1px solid black; width: 30px; height: 30px;"></td> <td style="border: 1px solid black; width: 30px; height: 30px;"></td> <td style="border: 1px solid black; width: 30px; height: 30px;"></td> </tr> <tr> <td style="border: 1px solid black; width: 30px; height: 30px;"></td> <td style="border: 1px solid black; width: 30px; height: 30px;"></td> <td style="border: 1px solid black; width: 30px; height: 30px;"></td> <td style="border: 1px solid black; width: 30px; height: 30px;"></td> <td style="border: 1px solid black; width: 30px; height: 30px;"></td> <td style="border: 1px solid black; width: 30px; height: 30px;"></td> </tr> <tr> <td style="border: 1px solid black; width: 30px; height: 30px;"></td> <td style="border: 1px solid black; width: 30px; height: 30px;"></td> <td style="border: 1px solid black; width: 30px; height: 30px;"></td> <td style="border: 1px solid black; width: 30px; height: 30px;"></td> <td style="border: 1px solid black; width: 30px; height: 30px;"></td> <td style="border: 1px solid black; width: 30px; height: 30px;"></td> </tr> </table> <p><b>Put the numbers in ascending order.</b></p>	8	4	7																																																																																																					
8	4	7																																																																																																							

**Describe** a quantity as less than, greater than, or equal to another quantity.

*The description should be able to use (identify) a strategy that students use in making their decision.*

Identify, using words or symbols, whether two given numbers are greater than, less than, or equal.



Compare the following numbers

23 < 67  
123 = 123  
674 > 456

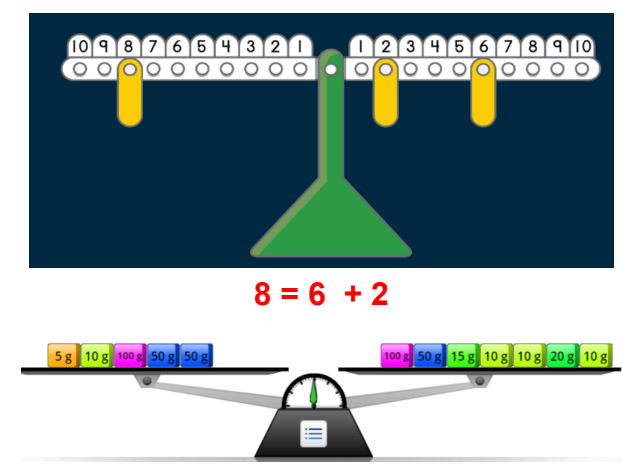
66 is greater than 45 because it has more tens  
789 is less than 889 because it has less hundred's  
523 is equal to 523

**2N1.5 What's My Thinking - Deep**

Alternately, ask students to use benchmarks to make their conclusion whether \$636 is greater/less than \$663

**Model** equality and inequality between two quantities, including with a balance.

Determine **equality** given two or more quantities of the same object by using a balance. Write the appropriate symbol and justify the answer.



215g = 100 + 50 + 10 + 10 + 10 + 20 + 15

There are several ways for students to model but this should be a very interactive approach. If you have a balance scale available, you could have students use Cuisenaire rods to model equality/inequality. Require them to identify the value each time and perhaps ask what values could be added or taken away to make both sides balanced.

A virtual balance is available at [Illuminations](#) which also allows students to generate the number sentence at the same time.

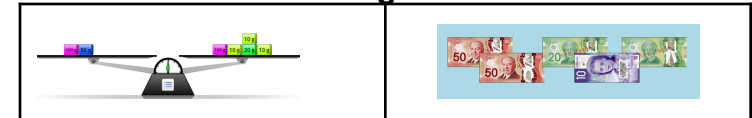
Choose from three or more given sets the one that does not have a quantity equal to the others (**inequality**) and explain why.

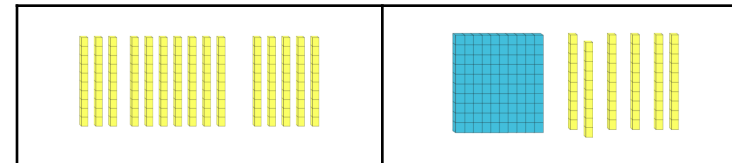
Which set does not belong?

100 + 40 + 5	50 + 50 + 40 + 5
100 + 30 + 10	100 + 25 + 20

Why does it not belong?

Which set does not belong?





Why does it not belong?

## Resources

### Mathology

#### [Mathology Free Resources on New Learn Alberta](#)

Mathology Little Book: [The Great Dogsled Race](#)

Mathology Little Book: [Back to Batoche](#)

Mathology Little Book: [Kokum's Bannock](#)

Mathology Little Book: [Ways to Count](#)

#### Mathology Activities

Mathology Grade 2: Number Cluster 2, Number Relationships 1: Activities 6 (to 100), 7 (to 100), 8 (to 200)

#### Links to Other Grades

Mathology Grade 3: Number Unit 2, Number Relationships: Activity 7 (to 1000)

### Math UP

#### Representing Whole Numbers

- o Lesson 1: Representing Hundreds
- o Lesson 2: Representing Three-Digit Numbers
- o Lesson 3: Comparing Representations of Three-Digit Numbers
- o Lesson 4: Exploring 1000

#### Estimating and Comparing Whole Numbers

- o Lesson 1: Estimating Quantities
- o Lesson 2: Comparing Numbers Using Simpler, Related Numbers
- o Lesson 3: Building a Number Line Using a Scale
- o Lesson 4: Nearest Ten, Nearest Hundred
- o Lesson 5: Using Benchmarks to Compare Three-Digit Numbers
- o Lesson 6: Comparing and Ordering Three-Digit Numbers

#### Money

- o Lesson 1: Counting Money
- o Lesson 2: Representing Money Amounts

### Existing Textbooks

**Math Focus 2** - Some of Chapter 2

**Math Focus 3** - Chapter 2

**Math Makes Sense 2** - Unit 2

**Math Makes Sense 3** - Unit 2

### NCETM (teacher guides and resources)

[NCETM - Addition and subtraction: bridging 10](#)

(Spine 1; Year 2; 1.11)

[NCETM - Subtraction as difference](#)

(Spine 1; Year 2; 1.12)

[NCETM - Addition and subtraction: two-digit and single-digit numbers](#)

(Spine 1; Year 2; 1.13)

[NCETM - Addition and subtraction: two-digit numbers and multiples of ten](#)

(Spine 1; Year 2; 1.14)

[NCETM - Addition: two-digit and two-digit numbers](#)

(Spine 1; Year 2; 1.15)

[NCETM - Subtraction: two-digit and two-digit numbers](#)

(Spine 1; Year 2; 1.16)

<p><b>Websites/Other</b></p> <p><a href="#">Kentucky Intervention Guide KNP</a> - provides great lessons and activities (outcomes based) for Teachers K-3</p> <p><a href="#">Mathematics Developmental Continuum</a> - Indicators of Progress Tasks/Activities (Australia)</p>	<p><b>Gizmos</b> New Learn Alberta (Teacher Login Required)</p> <p>For access to additional resources, request a Gizmos account <a href="mailto:alberta@explorellearning.com">alberta@explorellearning.com</a></p>
<p><b>Indigenous Lesson Plans and Resources</b></p> <p>Coming Soon</p>	<p><b>Problem Solving</b></p> <p>Coming Soon</p>

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[Literature Connections](#)

# Literature Connections

Title	Author	Format	Publisher	ISBN	Notes
Even Steven and Odd Todd	Kathryn Cristaldi	Picture Book	Cartwheel Books; Illustrated edition (April 1 1996)	0590227157, 978-0590227155	Odd and Even Numbers
My Even Day	Doris Fisher	Picture Book	Arbordale Publishing; Illustrated edition (September 8, 2007)	193435922X, 978-1934359228	Even Numbers
One Odd Day	Doris Fisher	Picture Book	Sylvan Dell Publishing; Illustrated edition (Feb. 1 2008)	1934359335, 978-1934359334	Odd Numbers
Even or Odd	Joanne Mattern	Picture Book	Rourke Educational Media	9781617411502, 1617411507	Odd and Even Numbers
Splitting the Herd: A Corral of Odds and Evens	Trudy Harris	Picture Book	Millbrook Pr Trade (September 1, 2008)	0822574667, 978-0822574668	Odd and Even Numbers
Missing Mittens	Stuart J. Murphy	Picture Book	HarperCollins; Illustrated edition (Dec 26 2000)	9780064467339, 978-0064467339	Odd and Even Numbers
Leaping Lizards	Stuart J. Murphy	Picture Book	HarperCollins; Illustrated edition (Aug. 23 2005)	0060001321, 978-0060001322	Skip Counting by 5's and 10's to 50
How Many Seeds in a Pumpkin?	Margaret McNamara	Picture Book	Picture Window Books (January 1, 2005)	1404811249, 978-1404811249	Estimating
Betcha!	Stuart J. Murphy	Picture Book	HarperCollins; Illustrated edition (Sept. 1 1997)	9780064467070, 978-0064467070	Estimating
Penguin Place Value: A Math Adventure	Kathleen L. Stone	Picture Book	CreateSpace Independent Publishing Platform; 1st edition (May 1 2014)	1499190336, 978-1499190335	Decomposing into Groups of 10
Earth Day--Hooray!	Stuart J. Murphy	Picture Book	HarperCollins; Illustrated edition (Jan. 20 2004)	9780060001292, 978-0060001292	Decomposing into Groups of 10
The Grapes of Math	Greg Tang	Picture Book	Scholastic Paperbacks; Illustrated edition (June 1 2004)	0439598400, 978-0439598408	
Greater Estimations: A Fun Introduction to Estimating Large Numbers	Bruce Goldstone	Picture Book	Square Fish; Reprint edition (March 29 2016)	1250079616, 978-1250079619	Estimating
How Much, How Many, How Far, How Heavy, How Long, How Tall Is 1000?	Helen Nolan	Picture Book	Kids Can Press; 1st edition (Feb. 1 2001)	1550748165, 978-1550748161	Numbers within 1000
More or Less	Stuart J. Murphy	Picture Book	HarperCollins; Illustrated edition (March 1 2005)	0060531673, 978-0060531676	Greater and less than, comparing

					numbers
Emma's Big Counting	JL Cornish	Picture Book	Independently published (Oct. 6 2021)	979-8482669617	Estimating, grouping amounts to make counting easier