# Unit 1 - Connecting Counting to Cardinality

Content Area: **Mathematics**
Course(s): **Mathematics 1, Mathematics K**
Time Period: **September**
Length: **10 weeks**
Status: **Published**

## Enduring Understandings

Topic 1: Numbers 0 to 5

- Know number names and the count sequence to 5
- Count to tell the number of objects to 5

Topic 2: Compare Numbers 0 to 5

- Compare numbers to 5

Topic 3: Numbers 6 to 10

- Know number names and the count sequence to 10
- Count to tell the number of objects to 10

## Essential Questions

What are numbers?

What is counting and how can it be used?

How does counting help us in our everyday lives?

How do I count to find out “how many”?

How do I compare and order numbers?

## Content

**Key Vocabulary**

Topic 1: count, one, two, three, number, four, five, none, zero, part, whole, order
Topic 2: compare, equal, group, same number as, greater than, less than, model

Topic 3: six, seven, eight, nine, ten

* Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects). *(benchmarked)

* Understand the relationship between numbers and quantities; connect counting to cardinality.

* When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name withone and only one object.

* Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted.

* Understand that each successive number name refers to a quantity that is one larger.
* Count to answer "how many?" questions about as many as 20 things arranged in a line, a rectangular array, or a circle, or as many as 10 things in a scattered configuration; given a number from 1-20, count out that many objects. *(benchmarked)
* Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group e.g. by using matching and counting strategies.
* Compare two numbers between 1 and 10 presented as written numerals.
* Decompose numbers less than or equal to 10 into pairs in more than one way, e.g. using objects or drawings , and record each decomposition by a drawing or equation (e.g. 5 = 3 + 2 and 5 = 4 + 1)

## Skills

Students will:

● write numbers from 0 to 10.

● say number names in the standard order.
● pair each object with one number name (one-to-one correspondence).
● count to tell the number of objects.
● count objects arranged in any order.
● identify the last number named as the number of objects counted.

● count to tell the number of objects arranged in a line, rectangular array, circle, or scattered configuration.
● count to tell the number of objects when asked how many? questions .
● given a number from 1-10, count out that many object.

● compare the number of objects (up to 10) in two groups.
● identify whether the number of objects in one group is greater than, less than, or equal to to the number of objects in another group.

- compare numbers (up to 10) written as numerals.

- decompose numbers less than or equal to ten into two numbers

- record the decomposition with a drawing.
- record the decomposition with an equation.
- decompose the same number in more than one way.

## Resources

EnVision Materials for Topic 1, 2, and 3 including student edition worksheets, problem solving mat, interactive math story, vocabulary cards, and center ideas which are listed in each topic

**https://www.illustrativemathematics.org**

K.CC.A.3 Assessing Writing Numbers

K.CC.A.3 Number TIC TAC TOE

K.CC.B.4 Counting Mat

K.CC.B.5 Finding Equal Groups

K.CC.C.6 Which number is greater? Which number is less? How do you know?

K.CC.C.7 Guess the Marbles in the Bag

K.OA.A.3 Pick Two

K.OA.A.3 Shake and Spill

Kindergarten Math Printables for Review/Centers

70 Math Games/Activities for the Classroom

**RESOURCES**
- Animated Glossary
- BrainPop
- BrainPop Jr.
- Educreations
- enVisions 2.0
- Google Classroom
- i-Ready

● Ixl.com
● Kahoot
● Khan Academy
● Learn Zillion
● Math Playground
● Popplet

- Scholastic Study Jams
- SeeSaw
- ThatQuiz
- XtraMath
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**IPAD APPS**

Flash to Pass

Animal Math

123 My Connect Dots Animal

Number Frames

Park Math

Geoboard

Pattern Shapes

**Literature Connection:**
Interactive Math Stories for each Topic from Pearson 2.0
Bears at the Beach: Counting 10 - 20 by Niki Yektai
Count and See by Tana Hoban
Counting is for the Birds by Frank Mazzola, jr.
Dragon Naps by Lynne Bertrand
The Handmade Counting Book by Laura Rankin
Math Counts: Sorting by Henry Arthur Pluckrose
Monster Munches by Laura Numeroff
Teeth, Tails, & Tentacles: An Animal Counting Book by Christopher Wormell
Twelve Days of Kindergarten by Deborah Lee Rose
Chicka 123 by Bill Martin Jr.
How Many How Many How Many by Rick Walton
The Icky Bug Counting Book by Jerry Pallotta
Let's Count It Out, Jesse Bear by Nancy White Carlstrom
Monster Math by Anne Miranda
One Guinea Pig Is Not Enough by Kate Duke
One Moose, Twenty Mice by Clare Beaton
One…Two…Three…Sassafras! by Stuart J. Murphy
One Woolly Wombat by Rod Trinca and Kerry Argent
How Do Dinosaurs Count? by Jane Yolen and Mark Teague
Count! by Denise Fleming

Counting Crocodiles by Judy Sierra
Counting Kisses by Karen Katz
How Many Kisses Good Night? by Jean Monrad Thomas
One Big Building by Michael Dahl
123 A Child's First Counting Book by Alison Jay
Pizza Counting by Christina Dobson

Ten Little Ladybugs by Melanie Gerth
How Many Snails? by Paul Giganti, Jr.
How Many? by Ron Van Der Meer
Eye Count by Linda Bourke
Five Little Penguins Slipping on the Ice By Steve Metzger
Ten Black Dots By Donald Crews
Five Little Monkeys Jumping on the Bed By Eileen Christelow
Five Little Monkeys Sitting in a Tree By Eileen Christelow

## Standards

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| MA.K-12.1 | Make sense of problems and persevere in solving them. |
| MA.K-12.2 | Reason abstractly and quantitatively. |
| MA.K-12.3 | Construct viable arguments and critique the reasoning of others. |
| MA.K.CC.A.3 | Write numbers from 0 to 20. Represent a number of objects with a written numeral 0-20 (with 0 representing a count of no objects). |
| MA.K.CC.B.4 | Understand the relationship between numbers and quantities; connect counting to cardinality. |
| MA.K-12.4 | Model with mathematics. |
| MA.K.CC.B.4a | When counting objects, say the number names in the standard order, pairing each object with one and only one number name and each number name with one and only one object. |
| MA.K.CC.B.4b | Understand that the last number name said tells the number of objects counted. The number of objects is the same regardless of their arrangement or the order in which they were counted. |
| MA.K-12.5 | Use appropriate tools strategically. |
| MA.K.CC.B.4c | Understand that each successive number name refers to a quantity that is one larger. |
| MA.K-12.6 | Attend to precision. |
| MA.K-12.7 | Look for and make use of structure. |
| MA.K.CC.C.6 | Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group, e.g., by using matching and counting strategies. |
| MA.K-12.8 | Look for and express regularity in repeated reasoning. |
| MA.K.CC.C.7 | Compare two numbers between 1 and 10 presented as written numerals. |

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| MA.K.OA.A.3 | Decompose numbers less than or equal to 10 into pairs in more than one way, e.g., by using objects or drawings, and record each decomposition by a drawing or equation (e.g., 5 = 2 + 3 and 5 = 4 + 1). |