# Counting and Shapes (Unit 1)

Content Area: **Math**
Course(s):
Time Period: **Full Year**
Length: **Full Year**
Status: **Published**

## Unit Overview

This unit focuses on the first three chapters, and chapter 14.

## Enduring Understandings

Understand the relationship between numbers and quantities when using objects and illustrations to count to 10.
Count groups of objects to 10 regardless of their arrangement.
Recognize numbers to 10.
Identify zero as a group with no objects and recognize the numeral 0.
Identify numbers 1 to 10 in sequence understanding that each successive number name is referring to an amount that is one larger.
Use one-to-one correspondence to determine whether one groups is greater or less than the other group.
Use counting to compare two groups.
Write numerals to 10 and represent a number of objects with a written number.
Describe similarities and differences in the attributes of a given set of objects.
Sort objects into groups by attribute.
Determine the number of objects in sorted groups.
Describe sorted groups based on the attributes and the number of objects in the group.

## Essential Questions

What does it mean to do math?
How can you count, show, and compare numbers up to 10?
How can you use attributes to sort a collection of objects?

## Standards: Content

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| MATH.K.CC | Counting and Cardinality |
| MATH.K.CC.A | Know number names and the count sequence |
| MATH.K.CC.A.1 | Count to 100 by ones and by tens. |
| MATH.K.CC.A.2 | Count forward beginning from a given number within the known sequence (instead of having to begin at 1). |

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| MATH.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). |
| MATH.K.CC.B | Count to tell the number of objects |
| MATH.K.CC.B.4 | Understand the relationship between numbers and quantities; connect counting to cardinality. |
| MATH.K.CC.B.4.a | 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. |
| MATH.K.CC.B.4.b | 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. |
| MATH.K.CC.B.4.c | Understand that each successive number name refers to a quantity that is one larger. |
| MATH.K.CC.B.5 | 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. |
| MATH.K.CC.C | Compare numbers |
| MATH.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. |
| | Include groups with up to ten objects. |
| MATH.K.CC.C.7 | Compare two numbers between 1 and 10 presented as written numerals. |
| MATH.K.OA | Operations and Algebraic Thinking |
| MATH.K.OA.A | Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from |
| MATH.K.OA.A.1 | Represent addition and subtraction up to 10 with objects, fingers, mental images, drawings, sounds (e.g., claps), acting out situations, verbal explanations, expressions, or equations. |
| MATH.K.OA.A.2 | Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem. |
| MATH.K.M | Measurement |
| MATH.K.M.A | Describe and compare measurable attributes |
| MATH.K.M.A.1 | Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object. |
| MATH.K.M.A.2 | Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and describe the difference. |
| | For example, directly compare the heights of two children and describe one child as taller/shorter. |

## Learning Objectives

Describe ways that math is in our lives and in the world.
Talk about numbers.
Show a real world situation using mathematics.
Explain the thinking of a math doer.
Notice and describe patterns.
Work well independently and in a group.
Explain how to count objects to 10.
Show numbers to 10.

Explain how to show numbers to 10.
Identify 0.
Explain how to identify 0.
Identify a number that is one more.
Explain how to identify a number that is one more.
Tell if groups are equal by matching the objects in the groups.
Use matching to determine if the number if objects in one group is greater than or less than the number of objects in another group.
Explain how to use matching to determine if the number if objects in one group is greater than or less than the number of objects in another group.

Use matching to determine if the number if objects in one group is greater than, less than, or equal to the number of objects in another group.
Explain how to use matching to determine if the number if objects in one group is greater than, less than, or equal to the number of objects in another group.
Write numbers to 10 show how many.
Explain how to write numbers to 10 show how many.
Identify and explain how objects are alike and different.
Recognize different attributes and sort objects into groups.
Sort and count objects
Describe sorted groups by attribute and number of objects in each group.
Compare sorted groups based on attribute and number of objects in each group.

Explore math identities as doers of math.
Explore what a problem is.
Explore ways to show real-world problems with mathematics.
Explore way to explain the thinking of a math doer.
Explore patterns.
Think about the behaviors and mindsets that contribute to a productive learning environment.
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 number name and each number name with one 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.
Count to answer “how many?” questions about as many as nine things arranged in a line, a rectangular array, or a circle or as many as nine things in a scattered configuration.
Write numbers from 0-10. Represent a number of objects with a written numeral 0-10 (with 0 representing a count of no objects).

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.
Classify objects into given categories.
Count the number of objects in a category and sort the categories of objects by their count.

Describe measurable attributes of objects, such as length or weight.
Describe several measurable attributes of a single object.
Directly compare two objects with a measurable attribute in common, to see which object has "more of"/"'less of" the attribute and describe the difference. (weights, heights, and capacities)

Climate Change - K.OA.A.2: Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.

Climate Change Example: Students may use counters when adding to find the total number of trees that they and a partner observed (e.g., from their front door, in a back yard, from a classroom window). With prompting and support, they may ask and answer questions about how trees may reduce the warming effect of sunlight.

## Standards: Interdisciplinary

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| PFL.9.1.2.PB.1 | Determine various ways to save and places in the local community that help people save and accumulate money over time. |
| PFL.9.1.2.PB.2 | Explain why an individual would choose to save money. |
| CS.K-2.8.1.2.AP.1 | Model daily processes by creating and following algorithms to complete tasks. |
| CS.K-2.8.1.2.AP.4 | Break down a task into a sequence of steps. |
| CS.K-2.8.1.2.DA.3 | Identify and describe patterns in data visualizations. |
| CS.K-2.8.2.2.EC.1 | Identify and compare technology used in different schools, communities, regions, and parts of the world. |
| CS.K-2.8.2.2.ITH.2 | Explain the purpose of a product and its value. |
| CS.K-2.8.2.2.ITH.4 | Identify how various tools reduce work and improve daily tasks. |
| WRK.9.1.2.CAP.1 | Make a list of different types of jobs and describe the skills associated with each job. |
| TECH.9.4.2.CT.3 | Use a variety of types of thinking to solve problems (e.g., inductive, deductive). |
| TECH.9.4.2.DC.2 | Explain the importance of respecting digital content of others. |
| TECH.9.4.2.IML.1 | Identify a simple search term to find information in a search engine or digital resource. |
| TECH.9.4.2.IML.2 | Represent data in a visual format to tell a story about the data (e.g., 2.MD.D.10). |

## Assessment Evidence

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| Formative | Collaborative Activities, Homework, Daily Classwork, Discussion, Independent Class Assignment, Informal Observations of Students, Games, Exit Slips, Questioning, Teacher Made Pages, Learning Centers, Problem of the Day, Reveal Workbooks, Fluency Checks, Curious, Activity Based Exploration, Guided Exploration, On My Own. |
| Summative | Tests, Mid-Chapter Checkpoint assessments, teacher generated assessments |
| Alternative & Benchmark | Alternative – Reteaching, One on One Conferencing, Learning Centers, student portfolio of assignments, Homework, Higher Order Thinking Problems, Additional leveled practice, orally administered assessments.<br>Benchmark - LinkIt Benchmark Assessments, Totowa TPA |
| Assessment Evidence Resource | |

## Instructional Resources

Smartboard, Computers, websites and digital interactives/models, Multi-media presentations, video streaming, Brain Pop, Microsoft 365, Primary and Secondary Source Documents, Reveal Resources, manipulatives, post-it notes, markers, number lines, chart & graph paper, construction paper, glue, scissors, paperclips, crayons, envelopes, dot ink & cards, geo blocks, number cubes/dice.
The Best Bug Parade, Stuart Murphy (literature)
Seven Little Monsters, Maurice Senduck (literature)
Missing Mittens, Stuart Murphy (literature)
The Quilt, Ann Jonas (literature)
Five Little Monkeys Jumping on the Bed, Eileen Christelow (literature)

Instructional Resource List

## Curricular Mandates

*Below are the curricular requirements as defined in NJ Administrative Code and Statute*

| | | | |
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| | Amistad | | Diversity, Equity, and Inclusion |
| | Holocaust | | LGBT and Disabilities (Grades 6-12) |
| X | Climate Change | | Asian American & Pacific Islander |

## Social Emotional Learning (SEL) Competencies

*NJ Social and Emotional Learning Competencies & Sub-Competencies*

| | | | |
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| | Self-Awareness | X | Relationship Skills |
| X | Responsible Decision-Making | X | Social Awareness |
| X | Self-Management | | |

## 21st Century Skills & Themes

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|---|---|---|---|---|---|
| | Global and Cultural Awareness | X | Technology Literacy | | Planning and Budgeting |
| X | Creativity and Innovation | | Financial Institutions | | Risk Management and Insurance |

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| | Information and Media Literacy | | Digital Citizenship | | Economic and Government Influences |
| X | Critical Thinking and Problem Solving | | Credit Profile | | Career Awareness and Planning |
| X | Civic Financial Responsibility | | Financial Psychology | | |