Grade K Unit 1: Counting and Cardinality

Content Area: **Math**
Course(s): **Math Grade K**
Time Period: **MP1**
Length: **45**
Status: **Published**

NJSLS Math

K.CC.A.2	Count forward beginning from a given number within the known sequence (instead of having to begin at 1).
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).
K.CC.B.4	Understand the relationship between numbers and quantities; connect counting to cardinality.
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.
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.
K.CC.C.7	Compare two numbers between 1 and 10 presented as written numerals.
K.DL.A.1	Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.

Unit Focus

- Know number names and the counting sequence up to 10
- Count to tell the number of objects and write the numeral
- Compare numbers
- Classify objects and count the number of objects in each category

Standards for Math Practice

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-12.4	Model with mathematics.
MA.K-12.5	Use appropriate tools strategically.
MA.K-12.6	Attend to precision.
MA.K-12.7	Look for and make use of structure.

Critical Knowledge & Skills

NJSLS	Suggested Mathematical Practices	Critical Knowledge and Skills
K.CC.A.2 (**M**) Count forward beginning from a given number within the known sequence (instead of having to begin at 1).	MP.3 Construct viable arguments and critique the reasoning of others.	Concepts: • Each successive number represents a quantity that is one larger than the last. Students will be able to: • Count orally by ones up to 10, beginning at any number. Learning Goal 1: Count forward from any given number within the known sequence up to 10.
K.CC.A.3 (**M**) 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).	MP.2 Reason abstractly and quantitatively. MP.7 Look for and make use of structure.	Concepts: • Represent the number of objects with a numeral. Students will be able to: • Write numbers from 0 to 10. • Represent a quantity of objects, from 0 to 10, with the corresponding written numeral. Learning Goal 2: • Write the numbers from 0 to 10 accurately. • Represent the number of objects with a written numeral up to 10.
K.CC.B.4 (**M**) Understand the relationship between numbers and quantities; connect counting to	MP.2 Reason abstractly and quantitatively.	Concepts: • Objects can be counted in

cardinality. 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. 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. c. Understand that each successive number name refers to a quantity that is one larger.	MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	any order. Each object is counted once (one-to-one correspondence). • The next number name in counting is always one greater than the previous number. • The final number counted represents the total quantity. • Quantities do not change based on the order of counting or arrangement. Students will be able to: • 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. Learning Goal 3: • Count a set of up to 10 objects in the correct order. • Pair each object with a corresponding number name in the standard counting sequence. • Identify the last number spoken as representing the total quantity counted. • Demonstrate understanding by correctly identifying

		numbers that are one more than a given number.
K.CC.B.5 (**M**) 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.	MP.2 Reason abstractly and quantitatively. MP.7 Look for and make use of structure.	Concepts: • No new concepts introduced Students will be able to: • 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 objects. Learning Goal 4: • Count accurately up to 10 objects in different arrangements. • Answer "how many?" questions for groups of up to 10 objects.
K.CC.C.6 (**M**) 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. (Clarification: Include groups with up to ten objects.)	MP.2 Reason abstractly and quantitatively. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concepts: • Different groups can have different numbers of objects. • Numbers of objects can be compared using phrases such as greater than, less than and equal to. Students will be able to: • Compare the number of objects (up to 5) in two groups. • Identify whether the

		number of objects in one group is greater than, less than, or equal to the number of objects in another group. Learning Goal 5: • Identify whether the number of objects in one group is greater than, less than, or equal to the number of objects in another group (groups of up to 5 objects).
K.CC.C.7 (**M**) Compare two numbers between 1 and 10 presented as written numerals.	MP.2 Reason abstractly and quantitatively.	Concepts: • Number names and the count sequence • The next number name in counting is always one greater than the previous number. • Count to tell the number of objects. Students will be able to: • Compare numbers (up to 10) written as numerals. Learning Goal 6: • Compare numbers (up to 10) written as numerals.
K.DL.A.1 (**S**) Classify objects into given categories; count the numbers of objects in each category and sort the categories by count. (Clarification: Limit category counts to be less than or equal to 10) **Climate Change Example: With prompting and support, students may ask and answer**	MP.2 Reason abstractly and quantitatively. MP.7 Look for and make use of structure.	Concepts: • Objects can be sorted based on their properties. Students will be able to: • Sort objects into categories. • Count the number of

questions about objects that may be reused, objects that may be recycled, and objects that must be placed in the trash. Students may classify used objects into those categories with no more than 10 objects in each category. Students may count the number of objects in each category and sort the categories by count.		objects in each category. • Arrange the categories in order based on the count of objects in each category. Learning Goal 7: • Classify objects into given categories and count the objects in each category (up to 10 objects). • Arrange the categories in order based on the count of objects in each category.

School/District Formative Assessment Plan

- Topic 1-1 through 1-10 Quick Check (found in Savvas Realize)
- Topic 2-1 through 2-5 Quick Check (found in Savvas Realize)
- Topic 3-1 through 3-8 Quick Check (found in Savvas Realize)
- Topic 4-1 through 4-5 Quick Check (found in Savvas Realize)
- Topic 5-1 through 5-4 Quick Check (found in Savvas Realize)

School/District Summative Assessment Plan

- Topic 1 Assessment
- Topic 2 Assessment
- Topic 3 Assessment
- Topic 4 Assessment
- Topic 5 Assessment

Benchmark & Alternative Assessments

- Benchmark: STAR Renaissance
- Alternative: Performance Tasks (found in Savvas Realize)

Focus Mathematical Concepts

Pre-requisite skills

- General number recognition
- Oral counting up to 10
- 1:1 correspondence

Common Misconceptions

- Some students might not see zero as a number. Ask students to write 0 and say zero to represent the number of items left when all items have been taken away. Avoid using the word none to represent this situation.

Number Fluency

- K.OA.A.5 Add and subtract within 5.

District/School Tasks

- Pick A Project (found in Savvas Realize)
- Performance Tasks (found in Savvas Realize)

District/School Primary, Supplemental & Intervention Resources Resources

- Envisions by Savvas
- STAR Renaissance
- Freckle Math
- Connecting Math Concepts
- Corrective Math

Instructional Best Practices/Open Educational Resources

Illustrative Mathematics

Desmos

Numeracy Tasks

Building Thinking Classrooms Tasks

Open Middle Math Tasks

Resources from Dr. Eric Milou

Career Readiness, Life Literacies, and Key Skills

9.1.2.CAP.1	Make a list of different types of jobs and describe the skills associated with each job.
9.1.2.CR.1	Recognize ways to volunteer in the classroom, school and community.
9.4.2.CT.3	Use a variety of types of thinking to solve problems (e.g., inductive, deductive).
9.4.2.IML.2	Represent data in a visual format to tell a story about the data (e.g., 2.MD.D.10).

Computer Science and Design Thinking

8.1.2.DA.1	Collect and present data, including climate change data, in various visual formats.
8.1.2.DA.2	Store, copy, search, retrieve, modify, and delete data using a computing device.
8.1.2.DA.3	Identify and describe patterns in data visualizations.
8.1.2.DA.4	Make predictions based on data using charts or graphs.

Interdisciplinary Connections

K-ESS2-1	Use and share observations of local weather conditions to describe patterns over time.
K-ESS3-1	Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.
W.WR.K.5	With prompting and support, generate questions through shared research in response to a topic, text, or stimulus (e.g., event, photograph, video, book).

SL.UM.K.5	Add drawings or other visual displays to descriptions as desired to provide additional detail.