Grade K Unit 3: Understanding Place Value

Content Area: **Math**
Course(s): **Math Grade K**
Time Period: **MP3**
Length: **45**
Status: **Published**

NJSLS Math

K.CC.A.1	Count to 100 by ones and by tens.
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.OA.A.5	Demonstrate accuracy and efficiency for addition and subtraction within 5.
K.NBT.A.1	Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (e.g., 18 = 10 + 8); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.

Unit Focus

- Know number names and the counting sequence up to 100
- Count to tell the number of objects
- Compose and decompose numbers 11-19 to gain an understanding of place value

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.
MA.K-12.8	Look for and express regularity in repeated reasoning.

Critical Knowledge & Skills

NJSLS Math	Suggested Math Practices	Critical Knowledge and Skills
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 20. • Represent a quantity of objects, from 0 to 20, with the corresponding written numeral. Learning Goal 1: • Write the numbers from 0 to 20 accurately. • Represent the number of objects with a written numeral up to 20.
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. MP.8 Look for and express regularity in repeated reasoning.	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 1-20, count out that many objects. Learning Goal 2: • Count accurately up to 20 objects in different

		arrangements. • Answer “how many?” questions for groups of up to 20 objects.
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 20, beginning at any number. Learning Goal 3: • Count forward from any given number within the known sequence up to 20.
K.CC.B.4 (M) Understand the relationship between numbers and quantities; connect counting to 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	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: • Objects can be counted in 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

that is one larger.		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 4: • Count a set of up to 20 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.NBT.A.1 (**M**) Compose and decompose numbers from 11 to 19 into ten ones and some further ones, e.g., by using objects or drawings, and record each composition or decomposition by a drawing or equation (e.g. 18 = 10 + 8); understand that these numbers are composed of ten ones and one, two, three, four, five, six, seven, eight, or nine ones.	MP.1 Make sense of problems and persevere in solving them. MP.2 Reason abstractly and quantitatively. MP.4 Model with mathematics. MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concepts: • Numbers from 11 to 19 can be represented as ten ones and one to nine additional ones. Students will be able to: • Compose and decompose numbers from 11 to 19 into a group of ten ones and another group of one(s). • Use the term ones to describe the number of objects in each group. • Record each composition or decomposition using

		objects and drawings. • Record each composition or decomposition by a drawing or equation. Learning Goal 5: • Compose and decompose numbers from 11 to 19 into a group of ten and one(s) with or without manipulatives; record each composition or decomposition through a drawing or equation.
K.CC.A.1 (**M**) Count to 100 by ones and by tens.	MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concepts: • Number names and the count sequence up to 50 Students will be able to: • Count orally by ones up to 50. • Count orally by tens up to 50. Learning Goal 6: • Count to 50 by ones and by tens.
K.OA.A.5 (**M**) Demonstrate accuracy and efficiency for addition and subtraction within 5.	MP.7 Look for and make use of structure. MP.8 Look for and express regularity in repeated reasoning.	Concepts: • No new concepts introduced Students will be able to: • Add and subtract within 5 with accuracy and efficiency. Learning Goal 7: • Use mental math strategies to solve addition and

		subtractions facts within 5.

School/District Formative Assessment Plan

- Topic 9-1 through 9-7 Quick Check (found in Savvas Realize)
- Topic 10-1 through 10-6 Quick Check (found in Savvas Realize)
- Topic 11-1 through 11-5 Quick Check (found in Savvas Realize)
- Topic 12-1 through 12-7 Quick Check (found in Savvas Realize)

School/District Summative Assessment Plan

- Topic 9 Assessment
- Topic 10 Assessment
- Topic 11 Assessment
- Topic 12 Assessment

Benchmark & Alternative Assessments

- STAR Renaissance
- 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 think that the count word used to tag an item is permanently connected to that item. So when the item is used again for counting and should be tagged with a different count word, the student uses the original count word. For example, a student counts four geometric figures: triangle, square, circle and rectangle with the count words: one, two, three, four. If these items are rearranged as rectangle, triangle, circle and square and counted, the student says these count words: four, one, three, two.

- Students have difficulty with ten as a singular word that means 10 things. For many students, the understanding that a group of 10 things can be replaced by a single object and they both represent 10 is confusing. Help students develop the sense of 10 by first using groupable materials then replacing the group with an object or representing 10. Watch for and address the issue of attaching words to materials and groups without knowing what they represent. If this misconception is not addressed early on it can cause additional issues when working with numbers 11-19 and beyond.

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

- 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-ESS3-1	Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.
SL.UM.K.5	Add drawings or other visual displays to descriptions as desired to provide additional detail.