Grade K Unit 2: Addition and Subtraction

Content Area: **Math**
Course(s): **Math Grade K**
Time Period: **MP2**
Length: **45**
Status: **Published**

NJSLS Math

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.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.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.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).
MATH.K.OA.A.4	For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.
MATH.K.OA.A.5	Demonstrate accuracy and efficiency for addition and subtraction within 5.

Unit Focus

- Understand addition as putting together and adding to
- Understand subtraction as taking apart and taking from

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.OA.A.1 (**M**) 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.	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: • Understand addition as putting together and adding to. • Understand subtraction as taking apart and taking from. Students will be able to: • Create subtraction and addition events with objects (up to 10). • Create subtraction and addition events with drawings and sounds (up to 10). • Create subtraction and addition events by acting out situations and with verbal explanations (up to 10). Learning Goal 1: • Create addition and subtraction events with objects, fingers, drawings, sounds (e.g., claps), acting out situations and verbal explanations (up to 10).
K.OA.A.2 (**M**) 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	MP.1 Make sense of problems and persevere in solving them. MP. 2 Reason abstractly and quantitatively. MP.4 Model with mathematics.	Concepts: • No new concepts introduced Students will be able to: • Solve addition and subtract word problems within 10 using objects or drawings.

door, in a backyard, from a classroom window). With prompting and support, they may ask and answer questions about how trees may reduce the warming effect of sunlight.	MP.5 Use appropriate tools strategically.	Learning Goal 2: Use objects or drawings to represent and solve addition and subtraction word problems (within 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 3: • Write the numbers from 0 to 10 accurately. • Represent the number of objects with a written numeral up to 10.
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 1-10, 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.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 within 5 with accuracy and efficiency. Learning Goal 5: • Use mental math strategies to solve addition facts within 5.
K.OA.A.3 (**M**) 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).	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: • Part-to-whole relationships • Some groups of objects can be broken into two smaller groups while the total number remains the same. • Some groups of objects can be broken into two smaller groups in more than one way. Students will be able to: • Decompose numbers less than or equal to ten in different ways, using objects or drawings to represent the decompositions. • Record decompositions using both drawings and

		equations. Learning Goal 6: • Decompose numbers less than or equal to ten into pairs of numbers in more than one way and record with a drawing or equation.
K.OA.A.4 (**M**) For any number from 1 to 9, find the number that makes 10 when added to the given number, e.g., by using objects or drawings, and record the answer with a drawing or equation.	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: • Relationships between numbers that make a ten. Students will be able to: • Find a missing part of 10 using objects. • Given a number from 1 to 9, use drawings, or equations to find the number that makes 10. Learning Goal 7: • Identify the missing number that makes 10 when added to numbers from 1 to 9. • Represent the addition process using objects, drawings, or equations.

School/District Formative Assessment Plan

- Topic 6-1 through 6-8 Quick Check (found in Savvas Realize)
- Topic 7-1 through 7-7 Quick Check (found in Savvas Realize)
- Topic 8-1 through 8-10 Quick Check (found in Savvas Realize)

School/District Summative Assessment Plan

- Topic 6 Assessment
- Topic 7 Assessment
- Topic 8 Assessment

Focus Mathematical Concepts

Pre-requisite skills

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

Common Misconceptions

- Students may over-generalize the vocabulary in word problems and think that certain words indicate solution strategies that must be used to find an answer. They might think that the word more always means to add and the words take away or left always means to subtract. When students use the words take away to refer to subtraction and its symbol, teachers need to repeat students' ideas using the words minus or subtract.

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 and Supplementary Resources

- Envisions by Savvas
- STAR Renaissance

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 Awareness, Exploration, Preparation, and Training

WRK.9.1.2.CAP.1	Make a list of different types of jobs and describe the skills associated with each job.

Life Literacies & Key Skills

TECH.9.4.2.CT.3	Use a variety of types of thinking to solve problems (e.g., inductive, deductive).
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).

Interdisciplinary Connections

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