Unit 3 - Addition and Subtraction, Foundations of Place Value

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

Enduring Understandings

Understand addition as putting together and adding to, and understand subtraction as taking apart and taking from
Know number names and the count sequence to 20
Count to tell the number of objects to 20
Compose and Decompose Numbers 11 to 19
Work with numbers 11-19 to gain foundations for place value

Essential Questions

How can I show addition and subtraction with objects, fingers, mental images, drawings and sounds?

How can I solve addition and subtraction word problems by adding and subtracting within 10?

How can I use drawings and objects to solve an addition or subtraction problem within 10?

When using numbers from 0-9, how can I use addition to come up with a total of 10 by using objects and drawings?

How can I record answers to addition problems by using drawings and equations?

How can I separate numbers less than or equal to 10 into pairs in more than one way?

How can I easily add and subtract within 5?

Content

Key Vocabulary:

Topic 7 : left, separate, subtraction sentence, take away, minus sign (-), subtract, difference
Topic 8: break apart, operation
Topic 9: eleven, twelve, thirteen, fourteen, fifteen, sixteen, seventeen, eighteen, nineteen, twenty, row
Topic 10: “How many more?”

Count forward beginning from a given number within the known sequence (instead of having to begin at 1).

Understand the relationshipbetween numbers and quantities;connect counting to cardinality.

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

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. *(benchmarked)

Solve addition and subtraction word problems, and add and subtract within 10, e.g., by using objects or drawings to represent the problem.

Demonstrate fluency for addition and subtraction within 5 (by the end of Kindergarten). *(benchmarked)

Classify objects into given categories; count the numbers of objects in each category and sort the categories by count. *(benchmarked)

Skills

Students will:

- count orally by ones up to 50 , beginning at any number.

- identify the last number named as the number of objects counted
- identify the next number name in counting as one greater than the previous number

- 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 object.

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

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

- create subtraction and addition events with objects (up to10).
- 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.

- use objects and drawings to represent addition and subtraction.

- add and subtract within 10.
- add within 5 with accuracy and efficiency.
- sort objects into groups.
- sort the group by count.

Resources

EnVision Materials for Topic 7, 8, 9, and 10 including student edition worksheets, problem solving mat, interactive math story, vocabulary cards, and center ideas which are listed in each topic

www.illustrativemathematics.org

Start-Stop Counting

Assessing Writing Numbers

Number TIC TAC TOE

Counting Mat

Finding Equal Groups

What makes a Teen Number

Ten Frame Addition

Dice Addition 2

What's missing?

Pick Two

Shake and Spill

Many Way to do Addition I

Addition and Subtraction within 20 ideas and activities

Paper Plate Addition

Kindergarten Math Printabkes for Review/Centers

70 Math Games/Activities for the Classroom

Literature Connection:

Interactive Math Stories for each Topic from Pearson 2.0
100 Days of Cool by Stuart J. Murphy
100 School Days by Anne Rockwell
100th Day Worries by Margery Cuyler
Miss Bindergarten Celebrates the 100th Day of Kindergarten by Joseph Slate
Curious George Learns to Count from 1 to 100 by H. A. Rey
From One to One Hundred by Teri Sloat
One Hundred Hungry Ants By Elinor J. Pinczes
The Mission of Addition By Brian P. Cleary
The Action of Subtraction By Brian P. Cleary
Heavy and Light by Joan Chapman
Is it Larger? Is It Smaller? by Tana Hoban
The Long and Short of It by Cheryl Nathan
Math Counts: Weight by Henry Arthur Pluckrose
Mighty Maddie by Stuart J. Murphy
Who's Short? Who's Tall? by Kailee Herbst
Size (Math Counts) by Henry Pluckrose
The Giant Carrot by Jan Peck
The Enormous Potato by Aubrey Davis
Block City by Robert Louis Stevenson
Each Peach Pear Plum by Janet and Allan Ahlberg
Jump, Frog, Jump! by Robert Kalan
Math Counts: Sorting by Henry Arthur Pluckrose
Rosie's Walk by Pat Hutchins
3 Little Firefighters by Stuart J. Murphy
More or Less by Rebecca Fjelland Davis

Technology Connection

Animated Glossary

Brain Pop

Brain Pop Jr

Educreations

enVisions 2.0

Google Classroom

i-Ready

ixl.xom

Kahoot

Khan Academy

Learn Zillion

Math Playground

Poppet

Scholastic Study Jams

SeeSaw

ThatQuiz

XtraMath

IPAD APPS

Flash to Pass

Animal Math

123 My Connect Dots Animal

Number Frames

Park Math

Geoboard

Pattern Shapes

Standards

MA.K-12.1	Make sense of problems and persevere in solving them.
MA.K-12.2	Reason abstractly and quantitatively.
MA.K.CC.A.2	Count forward beginning from a given number within the known sequence (instead of

	having to begin at 1).
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-12.4	Model with mathematics.
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.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.
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.
MA.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.
MA.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.
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).
MA.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.
MA.K.OA.A.5	Demonstrate fluency for addition and subtraction within 5.
MA.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.