Data Literacy, Geometry, and Algebraic Thinking (Unit 3)

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

Unit Overview

This unit focuses on chapters 9,10,11,12,13, and 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?

Learning Objectives

Count to 100 by ones and tens.
Begin counting from any given number within a known sequence.
Write numbers from 0 to 20 and represent quantities with numerals from 0 to 20.
Understand that numbers represent quantities and connect counting to cardinality.
Count objects by pairing each one with a single number name in the correct order.

Recognize that the last number said tells how many objects were counted.
Understand that each next number represents a quantity that is one more.
Count up to 20 objects arranged in lines, arrays, circles, or scattered configurations, and count out a specific number of objects when given a numeral from 1 to 20.
Compare two groups of objects to determine which has more, less, or the same number using matching or counting strategies.
Solve addition and subtraction word problems within 10 using objects or drawings.
Break apart numbers less than or equal to 10 in multiple ways and represent them with drawings or equations.
Find the number that makes 10 when added to a given number from 1 to 9 using objects or drawings.
Demonstrate accuracy and efficiency when adding and subtracting within 5.
Compose and decompose numbers from 11 to 19 into ten ones and some further ones using drawings or equations.
Identify U.S. coins and the one-dollar bill and understand that they represent money.
Describe objects in the environment using shape names and position words such as above, below, beside, in front of, behind, and next to.
Name shapes correctly regardless of their orientation or size.
Identify shapes as two-dimensional (flat) or three-dimensional (solid).

Standards: Content

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).
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.
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.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.
MATH.K.NBT	Number and Operation in Base Ten
MATH.K.NBT.A	Work with numbers 11–19 to gain foundations for place value
MATH.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.
MATH.K.M	Measurement
MATH.K.M.B	Work with money
MATH.K.M.B.3	Understand that certain objects are coins and dollar bills, and that coins and dollar bills represent money. Identify the values of all U.S. coins and the one-dollar bill.
MATH.K.G	Geometry
MATH.K.G.A	Identify and describe shapes (squares, circles, triangles, rectangles, hexagons, cubes, cones, cylinders, and spheres)
MATH.K.G.A.1	Describe objects in the environment using names of shapes, and describe the relative positions of these objects using terms such as above, below, beside, in front of, behind, and next to.
MATH.K.G.A.2	Correctly name shapes regardless of their orientations or overall size.
MATH.K.G.A.3	Identify shapes as two-dimensional (lying in a plane, “flat”) or three-dimensional (“solid”).

Standards: Interdisciplinary

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

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. 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

	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

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

21st Century Skills & Themes

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