Kindergarten Math Unit 1

Content Area: **Mathematics**
Course(s):
Time Period: **Trimester 1**
Length: **59 days**
Status: **Published**

Brief Summary of Unit

In Kindergarten Math Unit 1, students will learn how to use precise positional language (including above, behind, below, beside, in front of, and next to) to describe the relative position of objects. Students will also show objects in the stated positions. Next, students will describe physical attributes of an object and use attributes to compare one object to another. Students will directly compare the length and height of two objects and use precise measurement language (long/longer, short/shorter, tall/taller) to compare length and height. Additionally, students will recognize and describe attributes, group objects with common attributes and sort objects from a larger group to smaller groups. Children will describe sorting rules and try to determine others' sorting rules. Students will count sorted groups of objects and sort categories by count.

Next, students will count, show, and write numbers 0-5. Children will recognize that the order a set of objects is counted in does not impact the total. Students will learn that when saying number words in sequential order, the last number tells how many. Students will also match a number to a count or collection of objects. In this unit, students will compare two numbers and quantities within 5, using the words more, less or the same. Students will learn to recognize that one more than a given number is the next number in the counting sequence.

Students will learn how to identify three-dimensional shapes as solid shapes and describe their attributes. They will connect solid shapes to objects in the environment and name solid shapes regardless of their orientation, overall size, and weight. Then, students will compare the weights of objects to determine which is heavier or lighter.

In this unit, students will add within 5 using their fingers or manipulatives to add two numbers. Students will learn that adding to a number makes more (except when adding 0). Students will write the starting number, the number added, and the total. Next students will tell and solve add-to story problems.

Finally, students will identify a two dimensional shape as a flat shape and describe its attributes. Students will learn to correctly name two-dimensional shapes regardless of their orientation or overall size. Students will use positional language to describe where shapes are seen and build and draw two-dimensional shapes.

Revision Date: August 2024

Essential Questions

Essential Questions:

- How can counting help make sense of the world around us?
- How can I count in sequence?
- Why is the last number you say important when counting a set of objects?
- How do geometric relationships help us to solve problems and/or make sense of the world around us?
- In what ways are spatial sense and geometric relationships a means to solve problems?
- What is dimension and how does it relate to shapes?

Enduring Understandings:

- Students will understand knowing how to count a group of objects lets you know how many are in that group
- Students will understand we use numbers to represent quantities
- Students will understand you say one number for each object in a group when you count
- Students will understand when naming objects the last number called is the number of counted objects
- Students will understand the number of objects is the same regardless of their arrangements or the order in which they are counted
- Students will understand knowing the counting sequence will help you know how much is one more than a given number
- Students will understand that a dimension is a measure of width, height or length and a shape is the outline of an object.
- Students will understand that there are ways they can measure objects' length and weight and can use that information to compare the measurement of two objects in order to find out which has more or less.

Students Will Know/Students Will Be Skilled At

Students will know:

- How to use precise positional language (including above, behind, below,beside, in front of, and next to) to describe the relative position of objects.
- How to show objects in the stated positions.
- How to describe physical attributes of an object and use attributes to compare one object to another.

- How to directly compare the length and height of two objects and use precise measurement language (long/longer, short/shorter, tall/taller) to compare length and height.
- How to recognize and describe attributes, group objects with common attributes and sort objects from a larger group to smaller groups.
- How to describe sorting rules and try to determine others' sorting rules.
- How to count sorted groups of objects and sort categories by count.
- How to count, show, and write numbers 0-5.
- How to recognize that the order a set of objects is counted in does not impact the total.
- How to match a number to a count or collection of objects. In this unit students will compare two numbers and quantities within 5, using the words more, less or same.
- How to recognize that one more than a given number is the next number in the counting sequence.
- How to identify three-dimensional shapes as solid shapes and describe their attributes.
- How to connect solid shapes to objects in the environment and name solid shapes regardless of their orientation, overall size, and weight.
- How to compare the weights of objects to determine which is heavier or lighter.
- How to add within 5 using their fingers or manipulatives to add two numbers.
- How adding to a number makes more (except when adding 0).
- How to write the starting number, the number added, and the total.
- How to tell and solve add-to story problems.
- How to identify a two dimensional shape as a flat shape and describe its attributes.
- How to correctly name two-dimensional shapes regardless of their orientation or overall size.
- How to use positional language to describe where shapes are seen and build and draw two-dimensional shapes.

Students will be skilled at:

- Using precise positional language (including above, behind, below,beside, in front of, and next to) to describe the relative position of objects.
- Showing objects in the stated positions.
- Describing physical attributes of an object and use attributes to compare one object to another.
- Comparing the length and height of two objects and using precise measurement language (long/longer,

short/shorter, tall/taller) to compare length and height.

- Recognizing and describing attributes, group objects with common attributes and sort objects from a larger group to smaller groups.
- Describing sorting rules and try to determine others' sorting rules.
- Counting sorted groups of objects and sort categories by count.
- Counting, showing, and writing numbers 0-5.
- Recognizing that the order a set of objects is counted in does not impact the total.
- How to match a number to a count or collection of objects.
- Comparing two numbers and quantities within 5, using the words more, less or same.
- Recognizing that one more than a given number is the next number in the counting sequence.
- Identifying three-dimensional shapes as solid shapes and describing their attributes.
- How to connect solid shapes to objects in the environment and name solid shapes regardless of their orientation, overall size, and weight.
- Comparing the weights of objects to determine which is heavier or lighter.
- Adding within 5 using their fingers or manipulatives to add two numbers.
- Writing the starting number, the number added, and the total.
- Telling and solving add-to story problems.
- Identifying a two dimensional shape as a flat shape and describing its attributes.
- Naming two-dimensional shapes regardless of their orientation or overall size.
- Using positional language to describe where shapes are seen and building and drawing two-dimensional shapes.

Learning Plan

Daily Warm-ups (5-10 minutes):

*As an opening to each math lesson, the instructor can use these different routines

- Number Talks- District Created Resource (linked below in materials)
- Quick Images- This routine helps students to subitize, or "instantly see how many". The teacher should briefly show an image of a quantity (using dot cards, ten frames, etc.). Students are then asked to

identify the quantity they saw and to describe the image.

- Buzz- Have students stand in a large circle around the room. Students will count around the room however, one number will be the "Buzz Number". When a student says the "Buzz Number" that child is "out" and will sit down, and the counting sequence begins again. Keep playing until there is only one student left.

- Partner Counting- The first partner will tell their partner a number to start counting from. The partner will start counting- using hand signals, the first partner can signal to partner to stop counting, begin counting backward and then forward again. (Hand signals: Fist = Stop, Pointing up = Count Up, Pointing Down= Count Down) They can count for 30 seconds and then switch partner roles.

- Counting Around the Room- Have students stand in a large U-Shape around the room (each child should be able to see the board). Have the students count around the room by a particular number. (If counting by 10s, the first person says "17", the next person says "27", the next "37", and so forth). Have students discuss what is happening with the numbers. While the students are counting, the teacher can be writing the numbers on the board as the students say each number for a visual to help with scaffolding and discussion. Take note of the patterns of each place value in the discussions.

1. Before teaching Lesson 1, instructors can review necessary prerequisite skills to prepare for the upcoming school year and familiarize students with routines.

    a. Complete Lesson 0: Lessons for the First Five Days to familiarize students with the flow of the Try-Discuss-Connect instructional routine that will be used throughout the year.

    b. Review:

        i. Math is for Everyone

        ii. Seeing Shapes (positional words)

2. Describe Position - Instruct students to describe the relative positions of objects using vocabulary such as above, behind, below, beside, in front of, next to. Students should be instructed to move and model objects in described positions using drawings, pictures, and manipulatives.

a. Complete Ready Math Lesson 1, Sessions 1-5 (5 days)

b. Possible strategies for position of shapes include but are not limited to:

    i. Use precise positional language (above, behind, below, beside, in front of, next to) to describe the relative positions of objects.

    ii. Show objects in stated positions.

    iii. Present students with a picture on a paper or in a sheet protector/communicator and ask them to draw objects, above, beside it, etc.

    iv. Ask the children to name some words that tell where an object is or its position. Listen for the responses and record them on the board. Tell students that today we will be working with words that tell position or where something is located. Ask the children to

take out their stuffed animal or other object and tell them they are going to play a game with their stuffed animal. Tell the children you are going to give them a set of directions and they are to follow by putting their animal in the identified position. Give these directions to students one at a time and allow them to complete the action:

1. Place your animal below your desk.

2. Place your animal above your desk.

3. Place your animal beside your desk.

4. Place your animal inside your desk.

5. Place your animal outside your desk.

6. Place your animal between your desk and your neighbor's desk.

7. Place your animal in front of your chair.

8. Place your animal behind your chair.

During this time, the teacher should observe the students' actions and adjust instruction as needed.

a. Lesson Vocabulary: above, behind, below, beside, next to, in front of, across sound beneath, between down, far, inside, near, nearby, on top of, outside, over, under, up, describe, notice

b. Comprehension Check, Lesson Quiz, or Exit Ticket

3. Describe and Compare Length and Height- Instruct students to compare objects using different attributes, with a particular focus on length and height. Instruct students to describe several measurable attributes of a single object. Facilitate conversations about things that are bigger or smaller, longer or shorter, and taller or shorter. Students should be instructed to describe an object as long, short, or tall and compare it to another object using terms longer, shorter, or taller. Instruct students to point to or circle the longer, shorter, or taller of two objects. Students should be instructed to draw objects that are longer, taller, or shorter than a given drawn object. While the focus on length is in one dimension, discussions may also extend to area (two dimensions) or even volume (three dimensions), and could include weight or capacity.

a. Complete Ready Math Lesson 2, Sessions 1- (5 days)

b. Possible strategies for comparing length and height include but are not limited to:

i. Describe physical attributes of an object and use attributes to compare one object to another.

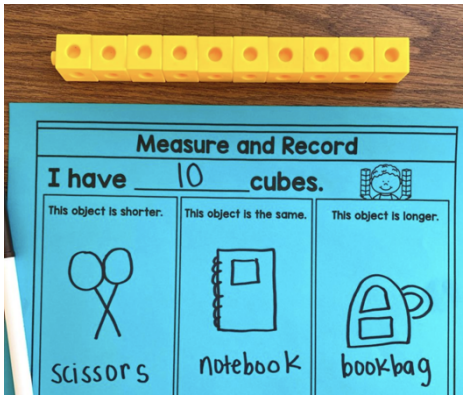
ii. Directly compare length or height of two objects

iii. Use precise measurement language (long/longer, short/shorter, tall/taller) to compare length and height.

iv. When working with length and height, students must be able to move the objects next to each other to compare their lengths. As kindergarten students continually compare objects by length, they should have opportunities to discover the importance of lining

up the ends of objects in order to have an accurate measurement. Use blocks, pencils, any classroom object students can compare.

i. Allow students opportunities to measure objects with a set number of connecting cubes. Students may locate objects that are shorter, longer, taller, or the same size as the cubes.



a. Lesson Vocabulary: attribute, height, length. long/longer, short/shorter, tall/taller, compare, wonder

b. Comprehension Check, Lesson Quiz, or Exit Ticket

Note: Kindergarten students are not expected to measure objects with standard or

non-standard units.

4. Sort and Count Objects- Students will learn to sort objects into categories and describe the categories. Instruct students to describe the attributes of a given object (color, size, shape, etc.) and circle objects that share the attribute. Students should be taught to follow directions to sort a group of objects into categories based on common attributes and describe the categories. Students should be instructed to count the number of objects in each category and identify and explain the sorting rules of different groupings of objects. Students should be taught to count the number of objects in a group and identify the total number as more or less than another grouping. Instruct students to sort categories by the number of objects in each category.

a. Complete Lesson 2, Sessions 1-5 (5 days

b. Sorting/Counting Strategies:

Group things together by like attributes (size, shape, color) independently or in a partner/group

Students analyze data already presented to them and orally describe like attributes

Students create data by coloring or circling objects that are similar in characteristics (i.e. all

animals, all clothing, etc)

What doesn't belong?- Have students look at objects or pictures that are similar (with the exception of one thing). Students will find the one that doesn't belong and describe why (i.e. watermelon, apple, sock- sock doesn't belong because it is not a fruit)

i. Recognize and describe attributes.

1. Give the student a set of pattern blocks. Can you sort the pattern blocks? Students might sort them by color, shape, size, etc.

2. Provide different counters: bears, fruit, etc. or pictures of these objects to sort/count.

ii. Group objects with common attributes

iii. Sort objects from a larger group into smaller groups.

iv. Describe sorting rules and try to determine others' sorting rules.

1. Sort and Count Activity from Illustrative Mathematics

v. Count sorted groups of objects and sort categories by count.

c. Vocabulary: category, sort, attribute, different, explain

d. Comprehension Check, Lesson Quiz, or Exit Ticket

Unit 1 Review and Assessment

5. Count Show and Write to 5- Students will develop counting skills with numbers 0-5. They will learn to recognize, count groups, and write numbers 0-5. One to one correspondence will be reinforced. They will count out groups of objects (0-5) and learn to recognize groups (0-5) in different arrangements. Students should be instructed to say and write the number that names a group of 0 to 5 objects. Students should be able to explain that the last number counted in a set tells the total number. Students should be taught to explain and show that the arrangement of objects does not change the number of objects/

a. Complete Lesson 4, Sessions 1-5 (5 days)

b. Counting/Writing Strategies:

i. Count show and write numbers 0 to 5.

Counting Strategies:

1. Count and say one number at a time in order.

2. Pair each object with one and only one number name.

3. Understanding the last number said, tells the number of objects counted.

4. Tag (or cross out) one object at a time to encourage 1:1 correspondence

i. Recognize that the order a set of objects is counted in does not impact the total.

ii. Understanding that when saying number words in sequential order, the last number said tells how many.

iii. Match a number to a count or collection of objects.

iv. Pair each object with one and only one number name.

v. Understanding the last number said, tells the number of objects counted.

vi. Tag (or cross out) one object at a time to encourage 1:1 correspondence

vii. Drawing single straight lines to match sets that are the same

viii. Circle/color sets that show a given amount

ix. Top-down and proper number formation

a. Vocabulary (review previous lesson): zero, one, two, three, four, five, count, number, agree with, arrange

b. Comprehension Check, Lesson Quiz, or Exit Ticket

6. **Compare Number to 5-** Students should be instructed to compare groups of objects and numbers up to 5. Students should be taught to recognize that each counting number is one more than the last. Instruct students to use the words more, less and same to compare the number of objects in each group. Instruct students to tell, write and show using drawings the number or quantity that is one more than a given number or quantity.

a. Complete Lesson 5, Sessions 1-5 (5 days)

b. Comparing Strategies:

i. Compare two numbers and quantities within 5 using the words: more, less and same.

ii. Recognize that one more in a given number is the net number in the counting sequence.

Use counters or fingers to model two different amounts; then compare

iiI. Use counters or fingers to model two amounts that are the same; then compare

iv. Draw lines to match objects one to one; then compare

v. Draw more or less than a given set (i.e. if 4 objects are given students draw an amount that is <4 or >4)

vi. Circle or color amounts that are greater than, less than, equal to

a. Vocabulary: compare, more, more than, less, less than, same, same as, one more, count, one, two, three, four, five, zero, after, both

b. Comprehension Check, Lesson Quiz, or Exit Ticket

Note: Most students can name shapes but we want students to understand shapes, not just identify them. To understand shapes, students need to identify the attributes of shapes, describe, build and compose them.

Students need multiple opportunities to become proficient in understanding shapes. They need to discuss them, sort them, build them with materials and compose shapes using other shapes.

7. **Three Dimensional Shapes and Weight** - Instruct students to name shapes correctly regardless of their orientation or size, which are not defining attributes. Instruct students to name shapes by defining their attributes such as the number of sides or whether the shape has curves. In addition, instruct students to identify whether the shape is flat or solid. This will aid in the students naming each shape. The instructor should use the terms solid, cube, cylinder, cone, and sphere to identify three-dimensional shapes. Students should be instructed to describe solid shapes using terms such as face, corners, edge, and curved. Students should be taught to describe the weights of two objects compare using the terms heavier and lighter

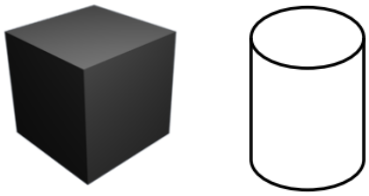
a. Complete Lesson 6, Sessions 1-5 (5 days)

b. Possible strategies for naming shapes include but are not limited to:

i. For this standard students are to correctly name three dimensional shapes that are specifically listed in the standard. Students are expected to name shapes based on what they look like regardless of their orientation.

ii. Students should identify three-dimensional shapes as solid shapes and describe their attributes. (corner/vertex, edge, face, solid, three-dimensional)

iii. Present two more shapes and pose: What do you notice about the sides of these three-dimensional shapes?



Students may respond that the sides of the cube are squares. One is a square because it has four sides that are the same size and four corners. I can see that the top and bottom of the cylinder are circles.

i. Discuss the difference between the two shapes: some are flat, some are curved, solid etc. Look in the classroom for examples of solid shapes and talk about the attributes. Start identifying them by name.

ii. Connect solid shapes to objects in the environment: cylinder/can, cube/dice, rectangular prism/tissue

box, sphere/ball, etc.

iii. Name solid shapes regardless of their orientation, overall size, or weight.

iv. Three-Dimensional Shapes (Your Reference Only, Students are Not Expected to Know This)

Cubes: Cubes are three-dimensional shapes that have 6 squares in them. No matter how a cube is oriented it will always slide.

Cones: Cones are three-dimensional shapes that have 1 circle in them (face) and at the other end there is a point (vertex). If the circle is touching the table it will slide. If the curved surface is touching the table it will roll.

Cylinders: Cylinders are three-dimensional shapes that have 2 circles in them (faces). If a circle is at the bottom of the shape it will slide. If the curved surface is at the bottom of the shape, then it will roll.

Spheres: Spheres are three-dimensional shapes that look "round" no matter which way you look at it. Spheres roll.

Rectangular Prism: Rectangular prisms is a three-dimensional shape with six rectangular faces that meet at right angles. It has two rectangular faces at the top and bottom, and four lateral faces. The faces are identical in pairs.

Square Pyramid: A square pyramid is a three-dimensional geometric shape having a square base and four triangular faces/sides that meet at a single point (called vertex).

i. Possible strategies for comparing weight include but are not limited to:

1. Compare the weights of objects to determine which is heavier or lighter.

2. Show students classroom objects. For example, Show the students a feather and a heavy book (e.g., dictionary). Allow students to examine each object. Say: "Tell me about the weight of the feather. Tell me about the weight of the book." Allow students to hold each object.

3. Show pictures on the board for students to determine which object is light or heavy.

1. Provide students opportunities to describe a single object using more than one measurable attribute. For example, a student may describe a shoe with one attribute, "My shoe is heavy!" or more than one attribute, "This shoe is heavy! It's also really long."

c. Lesson Vocabulary: cone, cylinder, sphere, prism (rectangular), pyramid (square), corner, vertex, edge, face, solid, three-dimensional, heavy, heavier, light, lighter, weight, compare

d. Comprehension Check, Lesson Quiz, or Exit Ticket

Unit 2 Review and Assessment

8. **Add within 5-** Students should be instructed to add to find totals within 5. Instruct students to twll and solve addition story problems within 5. Students will solve addition problems within 5 using pictures or objects, recognize both put-together and add-to situations as addition problems and find pairs of addends to make a given total within 5. Instruct students to demonstrate addition within 5 using fingers or manipulatives. Students should explain that adding to a number make more except when adding 0. Students should be taught to record the starting number, the number added and the total in an addition sentence. Instruct the students to use language such as and, more, and in all to tell and solve addition story problems.

a. Complete Lesson 7, Sessions 1-5 (5 days)

b. Building Addition within 5:

    i. Use fingers or manipulatives to add two number within 5.

    ii. Understand that adding to a number makes the number more except when adding 0.

    iii. Write the starting number, the number added, and the total.

    iv. Tell and solve add to story problems.

    v. Act out add-to addition situations by telling word problems in story form, then model the same situation using counters showing repetition to build fluency.

    vi. Model addition stories based off of visuals and have students create their own

        1. Pair students up or work in groups to create addition stories

    vii. Continue to use visuals, manipulatives, fingers, tens frames etc. to build strategies adding

c. Vocabulary: add, addition, total, more, more than, model (verb), record

d. Comprehension Check, Lesson Quiz, or Exit Ticket

Note: Most students can name shapes but we want students to understand shapes, not just identify them. To understand shapes, students need to identify the attributes of shapes, describe, build and compose them.

Students need multiple opportunities to become proficient in understanding shapes. They need to discuss them, sort them, build them with materials and compose shapes using other shapes.

9. **Two-Dimensional Shapes** - Students should be instructed to say the name of two-dimensional shapes that are different sizes and turned in different ways. Students should be taught that two-dimensional shapes are flat.

Students should be instructed to draw shapes and describe their attributes and positions. Instruct students to name shapes correctly regardless of their orientation or size, which are not defining attributes. Instruct students to name shapes by defining their attributes such as the number of sides or or with terms such as flat, side, and corner. Students should be taught to identify by name a variety of circles, triangles, rectangles, and squares. In addition, instruct students to identify whether the shape is flat or solid. This will aid in the students naming each shape. Students should demonstrate understanding of above, behind, below, beside, in front of, and next by drawing and describing the positon of objects.

a. Complete Lesson 8, Sessions 1-5 (5 days)

b. Possible strategies for naming shapes include but are not limited to:

   i. For this standard students are to correctly name two-dimensional listed in the standard. Students are expected to name shapes based on what they look like regardless of their orientation. The shaped listed in the standard are: squares, circles, triangles, rectangles, and hexagons

   ii. Identify a two-dimensional shape as a flat shape and describe its attributes.

   iii. Use positional language to describe where shapes are seen

   iv. Build and draw two-dimensional shapes.

   v. Present two shapes to students and pose: Compare these two shapes. How are they alike and how are they different? For example: (Shapes can be tangible or on the board.)

Students may respond that both shapes have straight sides. They both have corners and they are both flat/two dimensional. One has 6 sides. One only has 4 sides. Etc.

i. **Shape Notes for Teachers Two-Dimensional Shapes (Your Reference Only, Students are Not Expected to Know This)**

Squares: Squares are rectangles in which all four sides are the same length. Squares, like rectangles, have four corners that look like an uppercase L (square corners)

Circles: Circles have 1 curved surface and look "round." Circles are different from ovals. In Grade 1 students learn that all of the points on the curve of a circle are the same distance from the center of the circle which is not the case for an oval.

Triangles: Triangles have three straight sides and three corners (vertices). In kindergarten students should see triangles with different orientations and different size angles. Developmentally, many children in kindergarten have the misconception that a triangle must look like the traditional triangle with a corner (vertex) at the top and a horizontal line

at the bottom. Try to show a variety of triangles.

Rectangles: Rectangles and squares both have four straight sides and four corners that look like an uppercase L or as they are called in Grades 1-3 “square corners.” The opposite sides are always the same length. Avoid saying “2 long sides and 2 short sides” since that is not always true.

Hexagons: Hexagons have six straight sides.

c. Lesson Vocabulary: circle, hexagon, rectangle, square, triangle, flat, side, two-dimensional, above, behind, below, beside, in front of next to.

d. Comprehension Check, Lesson Quiz, or Exit Ticket

GENERAL QUESTIONS FOR TEACHER USE

Adapted from Growing Success and materials from Math GAINS and TIPS4RM (Georgia Department of Education)

Reasoning and Proving

• How can we show that this is true for all cases?

• In what cases might our conclusion not hold true?

• How can we verify this answer?

• Explain the reasoning behind your prediction.

• Why does this work?

• What do you think will happen if this pattern continues?

• Show how you know that this statement is true.

• Give an example of when this statement is false.

• Explain why you do not accept the argument as proof.

• How could we check that solution?

• What other situations need to be considered?

Reflecting

• Have you thought about...?

• What do you notice about...?

• What patterns do you see?

• Does this problem/answer make sense to you?

• How does this compare to...?

• What could you start with to help you explore the possibilities?

• How can you verify this answer?

• What evidence of your thinking can you share?

• Is this a reasonable answer, given that...?

Selecting Tools and Computational Strategies

• How did the learning tool you chose contribute to your understanding/solving of the problem? Assist in your communication?

• In what ways would [name a tool] assist in your investigation/solving of this problem?

• What other tools did you consider using? Explain why you chose not to use them.

• Think of a different way to do the calculation that may be more efficient.

• What estimation strategy did you use?

Connections

• What other math have you studied that has some of the same principles, properties, or procedures as this?

• How do these different representations connect to one another?

• When could this mathematical concept or procedure be used in daily life?

• What connection do you see between a problem you did previously and today's problem?

Representing

• What would other representations of this problem demonstrate?

• Explain why you chose this representation.

• How could you represent this idea algebraically? graphically?

• Does this graphical representation of the data bias the viewer? Explain.

• What properties would you have to use to construct a dynamic representation of this

situation?

• In what way would a scale model help you solve this problem?

Note: The instructor is encouraged to consult the supplemental resources located under materials to personalize and differentiate instruction for students, as well as address any learning gaps based on formative assessments.

Evidence/Performance Tasks

Formative Assessment:

- Administer Ready Math Lesson Quizzes at the end of each Lesson
- Administer Comprehension Check (digital)
- Lesson 1 Lesson Quiz Assessment or digital Comprehension Check
- Lesson 2 Lesson Quiz Assessment or digital Comprehension Check
- Lesson 3 Lesson Quiz Assessment or digital Comprehension Check
- Lesson 4 Lesson Quiz Assessment or digital Comprehension Check
- Lesson 5 Lesson Quiz Assessment or digital Comprehension Check
- Lesson 6 Lesson Quiz Assessment or digital Comprehension Check
- Lesson 7 Lesson Quiz Assessment or digital Comprehension Check
- Lesson 8 Lesson Quiz Assessment or digital Comprehension Chec

Summative Assessments:

- Administer Ready Math Mid-Unit Assessments
- Administer Ready Math End of Unit Assessments

Benchmark Assessments:

- iReady Diagnostic
- Fact Fluency Assessment
- Acadience Assessment (As a reference, these assessments are not administered by the classroom

teacher)

Alternative Assessments:

- Informal Observation
- Small Group Observation
- Exit Tickets
- Math Journal
- Oral and Written Explanations of Reasoning

Materials

The following are approved resources that teachers can include to further unit related objectives:

Core Book List

- Ready Math Teacher Toolbox Resources
    - Whole Class Instruction
        - Teach: Instruction & Practice, Interactive Tutorials,
        - Assess: Lesson Quizzes & Unit Assessments
    - Small Group Differentiation
        - Prepare: Prerequisite Lessons
        - Reteach: Tools for Instruction
        - Reinforce: Math Center Activities
        - Extend: Enrichment Activities
- Ready Math Workbook
- Ready Math Slides
- Digital Math Tools
- iReady My Path
- Learning Games
- Kindergarten Number Sense Routines

- Manipulatives: counters, tens frames, connecting cubes, base 10 blocks
- White boards
- Number paths
- Hundred charts
- Blank Bar Models
- Grid Paper
- Blank Number Bonds
- CPS District Mathematics Google Drive Folder

Supplemental Resources:

- Math Journals- Students will work to represent their number (differentiated by a pre-assessment). Teacher will show groups of cubes beginning at 3 and begin taking amount away to only show part of the desired amount. Students will say how many cubes are visible and how many are missing. TW repeat with the next number until the student stops recognizing the missing parts. That will be the number they begin working on representing in their journal. For example, if a student stops at 4, they will count out 4 in different combinations using manipulatives in 8 different ways (i.e. 2 blue, 2 red, 1 blue, 3 red, etc). They will then repeat using different manipulatives and teacher will record in their journal. When they have filled in an entire column, they move to representing the next number. Students will continue through the competency based activities and record in their journal.
- Ten Frame Mats
- Dice Greater Than Less Than- Students will compare numbers using dice or playing cards. Roll or flip a number, record number to reinforce number writing. Then orally compare two numbers independently or with a partner. Record which is greater or Less
- High- Low- Students will compare numbers using a game “high-low” which is a play on the classic card game, “War”. Students will work with a partner and split the deck of cards. Each student will flip over a card and orally say which number is higher or lower. If the numbers are equal, each student will put down three additional cards before flipping. (Use 0_5 to start in upcoming units you can increase to 10)
- Subitizing
- Subitizing Clip Cards
- Decomposing/Composing on a ten frame (or double) (Use 0_5 to start in upcoming units you can increase to 10)
- Tower Race (Use 0_5 to start in upcoming units you can increase to 10)
- Race to Trace- Print a paper with numbers 0-5 and place it in a communicator. Have students roll a dice. They then “race” to trace over the corresponding number on their gameboard. Game can be

repeated with numbers 0-10.

- Roll and Build- Students have a game board with numbers 0-10. Students roll a dice and find that number on their board. They then count out that many cubes and stack them on their board on top of the number. Students repeat by rolling again, recognizing the number on their board and building it with manipulatives. (Use 0_5 to start in upcoming units you can increase to 10)
- Shapes
- 2D and 3D Shapes
- Literature to assist in teaching:
    - 12 Ways to Get to 11, by Eve Merriam
    - Piglets Playing: Counting from 11-20, by Megan Atwood
    - Cat Count, by Betsy Lewin
    - Jack the Builder, by Stuart J. Murphy
    - Mall Mania, by Stuart J. Murphy
    - Elevator Magic, by Stuart J. Murphy
    - Zero the Hero, by Joan Holub

Any additional resources that are not included in this list will be presented to and reviewed by the supervisor before being included in lesson plans. This ensures resources are reviewed and vetted for relevance and appropriateness prior to implementation.

Standards

The standards in this unit reflect a developmental progression across grade levels and make interdisciplinary connections across content areas including the humanities, technology and career readiness.

MATH.K-12.1	Make sense of problems and persevere in solving them
MATH.K.CC.A.1	Count to 100 by ones and by tens.
MATH.K-12.2	Reason abstractly and quantitatively
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-12.3	Construct viable arguments and critique the reasoning of others
MATH.K.CC.B.4	Understand the relationship between numbers and quantities; connect counting to cardinality.
MATH.K-12.4	Model with mathematics

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-12.5	Use appropriate tools strategically
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-12.6	Attend to precision
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-12.7	Look for and make use of structure
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.CC.C.7	Compare two numbers between 1 and 10 presented as written numerals.
MATH.K-12.8	Look for and express regularity in repeated reasoning
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.5	Demonstrate accuracy and efficiency for addition and subtraction within 5.
MATH.K.M.A.1	Describe measurable attributes of objects, such as length or weight. Describe several measurable attributes of a single object.
MATH.K.M.A.2	Directly compare two objects with a measurable attribute in common, to see which object has “more of”/“less of” the attribute, and describe the difference.
MATH.K.DL.A.1	Classify objects into given categories; count the numbers of objects in each category and sort the categories by count.
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”).
MATH.K.G.B.4	Analyze and compare two- and three-dimensional shapes, in different sizes and orientations, using informal language to describe their similarities, differences, parts (e.g., number of sides and vertices/“corners”) and other attributes (e.g., having sides of equal length).
MATH.K.G.B.5	Model shapes in the world by building shapes from components (e.g., sticks and clay balls) and drawing shapes.
MATH.K.G.B.6	Compose simple shapes to form larger shapes.
ELA.SL.PE.K.1	Participate in collaborative conversations with diverse partners about kindergarten topics and texts with peers and adults in small and larger groups.
ELA.SL.PE.K.1.A	Follow agreed-upon norms for discussions (e.g., listening to others with care and taking turns speaking about the topics and texts under discussion).
ELA.SL.PE.K.1.B	Continue a conversation through multiple exchanges.

ELA.SL.II.K.2	Confirm understanding of a text read aloud or information presented orally or through other media by asking and answering questions about key details and requesting clarification if something is not understood.
ELA.SL.ES.K.3	Ask and answer questions in order to seek help, get information, or clarify something that is not understood.
ELA.SL.UM.K.5	Add drawings or other visual displays to descriptions as desired to provide additional detail.
ELA.SL.AS.K.6	Speak audibly and express thoughts, feelings, and ideas clearly.
WRK.K-12.P.1	Act as a responsible and contributing community members and employee.
WRK.K-12.P.4	Demonstrate creativity and innovation.
WRK.K-12.P.5	Utilize critical thinking to make sense of problems and persevere in solving them.
TECH.9.4.2.CI	Creativity and Innovation

Suggested Strategies for Modifications

Possible accommodations/modification for Kindergarten

Note: Teachers can find more specific modifications for English learners, learners with special needs,learners reading below grade level, and advanced learners on the Ready Math website.