

Content Area/Discipline:

Math/Measurement

Lesson Title: Non-Standard Units of Measurement

Estimated Duration: 45 minutes

Where in the Lesson Segment does this learning experience occur?

(Check One) ☐ Beginning ☒ Middle

End

Grade/Level: 1st

Number of Students: 25

Structure(s) of grouping for the lesson:

(Check any that apply)

Whole Class ☒

Small Group ☒

One-to-one ☐

Other (Specify) ☐

Central Focus

Objects can be measured using non-standard units of measurement.

Curriculum Standards

- **CCSS.MATH.CONTENT.1.MD.A.2:** Express the length of an object as a whole number of length units, by laying multiple copies of a shorter object (the length unit) end to end: understand that the length measurement of an object is the number of same-size length units that span it with no gaps or overlaps.
- **CCSS.ELA-LITERACY.SL.1.1:** Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups.
- **CCSS.ELA-LITERACY.SL.1.2:** Ask and answer questions about key details in a text read aloud or information presented orally through other media.

Measurable Behavioral Objectives

1. During the warm up the student will verbally discuss what the topic of the lesson could be with an elbow partner for 1 minute based on the four mystery box items.
2. During collaborative learning the student will measure the items correctly by connecting the cubes, measuring from end to end, and measuring in a straight line.
3. During collaborative learning the student will complete the "I Can Measure" worksheet, getting 4/5 items cube measurement lengths correct.

Language and Literacy/Academic Language

Listening: The student will listen to the teacher speak and listen to their classmates speak

Reading: The student will read their worksheet and the three rules of measurement on the white board.

Speaking: The student will ask and answer questions based on the whole group lecture. The student will speak to their group members during collaborative learning.

Writing: The student will write on their worksheet their name and the number of cubes each items length is.

Visual Representation: The student will watch the teacher measure objects on the document camera.

Vocabulary: Length, Measure, Measurement, About, How, Many,

Instruction

a) Anticipatory Set/Warm up

- The teacher will ask the students to sit on the carpet and will put a mystery box on her lap. Before the lesson the teacher will have put three cubes into the box and one glue stick. The teacher will ask student volunteers to come to the front of the room and pull an item out of the box. Once all four items have been pulled out she will ask all the students to turn to their elbow partner and discuss what the lesson topic could be based on the items. The students will be given one minute to discuss.
- The teacher will allow several answers before she moves on to the next segment. The teacher will ask the students to put the items back into the box and sit back down on the rug.

b) Modeling activity:

- The teacher will explain that today they will be measuring the length of different objects using cubes. She will write down and explain the three rules to remember when measuring an item with the cubes. 1. Cubes need to touch/be put together. 2. Measure from end to end. 3. Measure in a straight line. The teacher will ask, "Why do you think it is important to follow the measurement rules?" she will allow a couple different student answers.
- The teacher will go to the document camera with an item and lay it down next to the cubes. The teacher will demonstrate the correct way to measure the item by explaining the rules once more. She will also say it is helpful to draw a line where each end is, so that you can measure from end to end even if the object moves. The teacher will then ask, "What do you think we should do if an objects length does not match up exactly with our cubes when measuring?" she will allow a couple different students to answer before moving on.

c) Guided Practice:

- The teacher will put another object under the document camera, but this time she will ask for assistance with the rules. The teacher will lay the cubes, not touching and not in straight line. The teacher will ask the students, "Is this the correct way to measure, oh it's not? What do I need to do instead?". The teacher will ask a student to verbally correct her work
- Next the teacher will get a third object and place it under the document camera. She will snap the cubes together and put them into a straight line, but will go past the end of the object. The teacher will ask, "Did I measure correct now?" The students will say no and the teacher will add, "What measuring rule did I break? The teacher will choose a student to verbally tell her what she did wrong.
- The teacher will ask one more student to come up to the document camera she will ask the student, "Can you show us how to correctly measure this 'object' using the cubes?". The teacher will allow the student time to measure the items length and then will ask the student to sit down. If the student does not follow a certain measuring rule she will review the rules with the student once more and give them a chance to correct their mistake.
- The teacher will turn off the document camera and will sit by the white board again. She will list the rules again and ask the students to repeat after her. Then she will explain the rules and what they will be doing in the following group activity.

d) Collaborative Learning:

- Students will be put into groups of five, there will be five groups. The classroom desks will be split into five different centers. Each of the centers will have an item that the students need to measure with the cubes. Center 1 will have books, center 2 will have scissors, center 3 will have pencils, center 4 will have crayons, and center 5 will have construction paper.
- The student will be given the “I Can Measure” worksheet and asked to fill in the nonstandard unit of measurement length at each center. The teacher will assign each group to a center and give them approximately five minutes to complete their measurements, then she will ask the groups to break their cubes up when they are done measuring, put their cubes back in the bins, and rotate to another center. After all the groups have attended every center they will be asked to bring their worksheet and return to the rug.
- This activity should take approximately 25 minutes or less to complete.

e) Checking for understanding:

- Remembering: Is this the correct way to measure?
- Understanding: What do I need to do instead?
- Applying: Can you show us how to correctly measure this ‘object’ using the cubes?
- Analyzing: Why do you think it is important to follow the measurement rules?
- Evaluating: What do you think we should do if an objects length does not match up exactly with our cubes when measuring?”
- Creating: do you notice anything interesting about the numbers, going from shortest to longest?

f) Closure of the Learning Experience:

- The students will review the three rules of measurement once again. The teacher will ask each student to put a thumb up if they remembered to follow each measuring rule.
- The teacher will ask students to help her put the items from shortest to longest and ask for each items cube length. She will write the item name from shortest to longest and cube length then she will ask the students “do you notice anything interesting about the numbers, going from shortest to longest? What are the numbers doing as we go from shortest to longest?”
- The teacher will allow students to answer with a raised hand, if no student understands that the cube length is getting bigger the teacher will point it out. The teacher will quickly discuss the comparison before closing the lesson.

Accommodations, Adaptations, and Differentiation to Meet Individual Needs:

ELL:

- Worksheets will be provided in Spanish writing.
- If needed, student will get clarification of instructions in Spanish from cooperating teacher.

Speech:

- Student will be allowed more time to answer questions verbally.
- May ask student to repeat directions of tasks to gain clarity.

Other learning needs:

- Student may receive help during collaborative learning from more knowledgeable other with the direction of the teacher and teacher assistance when measuring with the cubes.
- Non-verbal confirmation will be accepted from student if asked a question by the teacher.

Low Level Reader:

- The teacher will verbally read the directions on the worksheet.
- The teacher will verbally read anything she writes on the white board.

Multiple Intelligences:

- Tactile: Students will use cubes to measure real objects.
- Visual: Student will watch the teacher measure objects.
- Auditory: The student will listen to the teacher verbally repeat the three rules of measurement.

Assessment/Evaluation:

Informal: Teacher will observe the students at the measurement centers to see if they are measuring correctly. The teacher will check to see if each student is following the three rules of measurement: 1. Cubes need to touch/be put together. 2. Measure from end to end. 3. Measure in a straight line.

Formal: "I Can Measure" worksheet. The worksheet will reinforce whether the student understands how to measure correctly using the cubes based upon the measurement number they get for each item.

Materials and Resources:

- Common Core. (2015). Go Math! Boston, MA: Houghton Mifflin Harcourt.

Task I: Planning for Instruction and Assessment

Part C: Instructional Materials

Learning Experience 1 Instructional Materials
Learning Experience 2 Instructional Materials
1 mystery Box
100+ pop cubes
White Board/Expo marker
Document camera
Teacher: 4 Objects to use under document camera
25 "I Can Measure" Worksheets; 4 Spanish, 21 English
25 Pencils
Centers: 5 books, 5 scissors, 5 pencils, 5 crayons, 5 pieces of construction paper
5 bins
Learning Experience 3 Instructional Materials

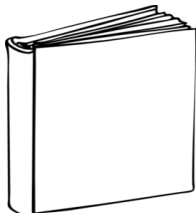
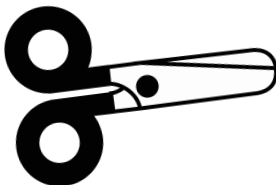
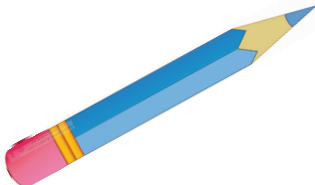
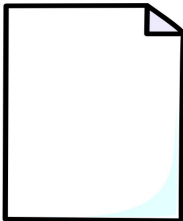
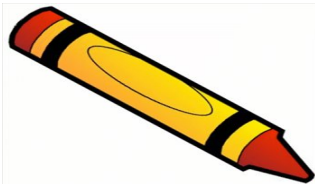
Task 1: Planning for Instruction and Assessment

Part D: Assessments

Learning Experience 1 Assessments
"I Can Measure" Worksheet
Learning Experience 2 Assessments
Learning Experience 3 Assessments
Learning Experience 4 Assessments
Learning Experience 5 Assessments

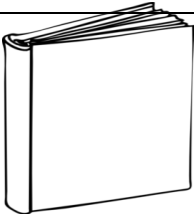
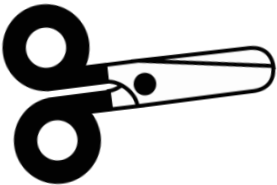
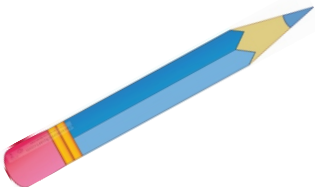
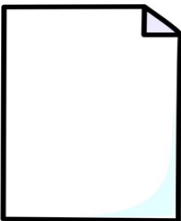
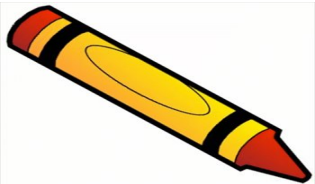
Name: _____

I Can Measure

I Measured...	It was about _____ cubes long.
 Book	
 Scissors	
 Pencil	
 Paper	
 Crayon	

Nombre: _____

Puedo Medir

He Medido...	Era alrededor de _____ cubos de largo.
 Libro	
 Tijeras	
 lápiz	
 Papel	
 Crayon	

