

Algebra/Geometry Institute Summer 2006

Introduction to Measuring Length in Customary Units

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**School: Grenada Middle School
Grenada, MS**

Grade Level: 5-7

1. Teaching objectives

The student will be able to measure in inches, feet, and yards.

2. Instructional Activities

- Tell the students, “Today we are going to explore how to measure using a yard stick and a ruler.” Show the student a yard stick and a ruler, discuss which side of the ruler to use if necessary. Discuss with the students how the customary system was derived from measurement of body parts. Include in the discussion why it is important to have standard system.
- Divide the class into small groups of three to four. Give each group a yard stick, ruler, and worksheet.
- Instruct the students to have one person in a group at a time stand-up and measure from their waist to the floor. Instruct the students to use the ruler to measure the length of their index finger to the nearest inch. Students should record both the measurements on their own paper
- Hand-out one piece of adding machine paper to each group. The teacher should have pre-cut the paper slightly larger than 1 yard.
- Instruct the students to lay the adding machine paper flat on the desk.
 - Instruct the students to place the yard stick on the paper and make sure that a small amount of paper is left on each side. Draw a line at the 0 and label it and draw a line at the thirty-six inch and label on the paper yard stick.
 - Instruct the students to place the wooden yard stick on their paper yard stick. One end should be at 0 and the other at 36. Students are now to draw a line for each of the inches and label accordingly.
 - The teacher should walk around and make sure everyone has successful completed the task.
- Tell the students to take out the ruler.
 - Ask the students, “How many feet are in one yard?” If students are not successful ask them to place the ruler on the paper yard stick and see how many rulers will go on a yard stick.
- Instruct the students to lay the ruler at the zero mark on the paper yard stick. Tell the students they are going to divide the first inch into small units.
 - Instruct the students to divide the inch into half by drawing a line in the center. Ask the students what would be its label.

- Instruct the students to divide each half into equal parts. This will make the $\frac{1}{4}$ th of an inch.
- Instruct the students to divide the $\frac{1}{4}$ th into half. This will make the $\frac{1}{8}$ th of an inch
- Instruct the students to divide the $\frac{1}{8}$ th into half. This will make the $\frac{1}{16}$ th of an inch.
- Draw on the board an inch with all 16 of the lines. Label each of the lines $\frac{1}{16}, \frac{2}{16}, \frac{3}{16}, \dots$
 - Ask the students if any of the fractions can be simplified. Simplify the fractions accordingly.
- Instruct the students to label their inch like the one on the board.
- Instruct the students to measure from the floor to their waist using the paper ruler and record the result on their paper.
- In closing the teacher will ask the student the following questions.
 - How many feet are in one yard? *3 feet*
 - How many inches are in foot? *12 inches*
 - How many inches are in one yard? *36 inches*
 - How many $\frac{1}{16}$ ths are in an inch? *16*
- Hand-out an activity sheet on measuring in inches. (Attachment 1)
 - Tell the students to measure to the nearest sixteenth of an inch.
 - The class will orally go over the activity sheet.
- Collect paper rulers and supplies.

3. Materials and Resources

Activity Sheet

Pencil

Board

Marker

Per group:

Adding machine tape cut slightly larger than one yard

Ruler

Yard stick

Resources: Mississippi Math and Science Partnership Program p
Workshop Manual

4. Assessment

- The teacher will observe students as they work in their groups.
- The concept will be covered on the next chapter test.

Name _____

Date _____

Measuring Length

Directions: Fill in the blank.

1. 1 yard = _____ feet
2. 1 yard = _____ inches
3. 1 foot = _____ inches
4. How many sixteenths are in an inch? _____

Direction: Using a ruler measure each line segment to the nearest sixteenth of an inch and record your measurement.

5. _____

6. _____

7. _____

8. _____