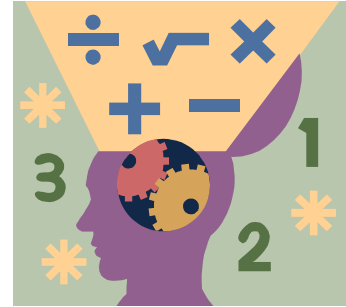


Algebra/Geometry Institute Summer 2010

Faculty Name: Cynthia Jones

School: Summer Institute 2010

Grade Level: 5th



1 Teaching objective(s)

- MDE Standard 4d.) Select and apply units for measuring length, mass, volume and temperature in the standard systems. (DOK1)
 - (MS Revised Framework p.34, Measurement Obj. 4d.
http://www.mde.k12.ms.us/acad/id/curriculum/math/2007_framework/2007%20MS%20Math%20Framework%20Competencies%20and%20Objectives%2009-18-07.pdf)
 - “Institute Content Based on the Mississippi Mathematics Framework” III. Identify and apply geometric principles to polygons and angles as well as to two- and three- dimensional figures: C. Develop measurement concepts and formulas through the use of geometry.
- Students will be able to explore and apply common units of measurement (inches, feet and centimeters) and will be able to determine what units of measurements are appropriate to use for measuring different sized objects.

2 Instructional Activities

- Do Now
 - Students will be given a “Do Now”/ Enrichment problem related to the lesson
- Guess the measurement of the length of the table that you are at in feet. Then determine what number of sheets of paper could be placed length wise from one end of the table to the other end.
- Introduction/Lesson
 - Teachers will introduce the lesson by mentioning that the information gathered from the “Do Now” will be used later in the lesson.
 - Teacher will go over content
 - Ask students what are the most common units of measurement used (ft, in, cm) and describe which unit would be most appropriately used in given situations.
 - Examples:
 - If we were asked to find the length of our jump drives, what unit of measurement would we use? cm

- What unit of measurement would be most appropriately used to find the height of one of your group members? Ft
 - Explain how each measurement relates to an object that can be used in place of a ruler to measure another object in that unit of measurement.
 - Ex) You can use the length of your thumb from its tip to the first knuckle bone to approximate an inch, the length of a sheet of paper can be used to substitute for a foot, and width of a pencil can be used to approximate a centimeter. This information has been extracted from
 - (“Metric and Customary” Units <http://www.studyzone.org/testprep/math4/d/measure4l.cfm>)
 - You can use the width of a pencil to approximate length of your jump drive.
 - Other examples of objects that may be measured are binder, calculators, paper clips, etc.
 - Each group will be given materials that they can use to measure these objects using their customary and metric units and a worksheet to record their measurements.
 - Ex) Students will use their thumbs to approximate the length of their phones as maybe 3 inches. Then students will measure their phones again using a ruler or tape measure, which should give them around the same measurement.

➤ Activity

- Students will determine which unit of measurement is most appropriate to measure the perimeter of the classroom. Then first using their chosen unit of measurement each group will use their approximate units of measurement to find the length of one wall of the classroom and record their findings. Then each group of four members (3) will use a ruler or tape measure to find the measurement of their assigned wall and record their findings. Afterwards, each group will bring forth their information and as a class we will determine the approximate perimeter of the classroom using the recordings of appropriate units of measurement and the ruler measurements. Lastly we will compare the two perimeters found using customary and metric units of measurements.
- Randomly chosen students will share their answers and explanations with the class using the overhead.

3 Materials and Resources

- Paper
- Pencils
- Paper clips
- Binders
- Rulers
- Objects within the classroom
- Paper clips, pencil length, binder, calculator, etc.

- Teacher created record keeping sheet (There is not a key because different students will have different objects recorded on their sheets)
- Tape measures
- Resources
 - <http://www.studyzone.org/testprep/math4/d/measure4l.cfm>
 - http://www.mde.k12.ms.us/acad/id/curriculum/math/2007_framework/2007%20MS%20Math%20Framework%20Competencies%20and%20Objectives%2009-18-07.pdf
 - “Institute Content Based on the Mississippi Mathematics Framework”

4 Assessment

- The assessment for this lesson will consist of two parts. There will be an informal and formal assessment given. The informal assessment will occur at the beginning of and during the lesson to gauge current knowledge base students regarding units of measurement. This will be primarily teacher-guided questions and brief discussion following.
- The formal assessment will be a group activity to be completed by each student. Students will be arranged into groups by their table seats. Students will then be given each a worksheet to which they will be asked to identify the appropriate unit of measurement to measure a given object on the worksheet. They will be asked to then measure the object based on the unit of measurement they selected.
- After students have completed and turned in assessment, the teacher will go over the assessment. This will be done by the teacher randomly selecting a student to share answers to the class. The teacher will then allow for questions and answers. The teacher and or the students will then close the lesson by going over the units of measurement introduced, and discuss appropriate uses for each.