

Algebra/Geometry Institute Summer 2006
Faculty Name: Archie Mitchell
School: Walter C. Robinson Achievement Center (Cleveland, Ms)
Grade Level: 8th Grade



Title: Measuring New Heights

Topic: Using and Understanding the Metric system

1) Teaching Objective(s)

- A. The students will be able to accurately measure units in the metric system.
- B. The students will be able to accurately convert measurement in the metric system.

2) Instructional Activities

- A. First, I would begin my lesson by explaining to the students that the metric system is the International System of measurement.
- B. Then, I would list the prefixes used in the metric system on the board

Kilo Place	Hecto Place	Deka Place	Units' Place		Deci Place	Centi Place	Milli Place
thousands	hundreds	tens	ones	.	tenths	hundredths	thousandths

After I list these prefixes I would explain how these prefixes changes the units of the number.

- C. Tell the student, “On the board, I have written the metric prefixes for some of the places in the metric system.”
- D. Have the students note that
 - 1) the metric nickname for the thousands’ place is “kilo place”
 - 2) the metric nickname for the hundreds’ place is “hecto place”
 - 3) the metric nickname for the ten’s place is “deka place”
 - 4) the metric nickname for the tenth’s place is “deci place”
 - 5) the metric nickname for the hundredth’s place is “centi place”
 - 6) the metric nickname for the thousandth’s place is “milli place”
- E. Tell students that when you point to a digit on the board, they must say the metric nickname for that place. Rapidly point to many different digits as students respond as quickly as they can. This should not be difficult, since the names are on the board
- F. Next, demonstrate how to convert metric units by moving the decimal. In doing so, explain that the scales of measurements increase or decrease as multiples of ten which facilitates expression of measurement values using the decimal system. After you have demonstrated enough have the students answer the activity sheet on converting metric units. (Attachment

1) Go over the activity sheet with the class. Then have them complete the class group activity.

G. Class Activity

- 1) Divide the class into groups of four.
- 2) Using a meter stick, each student will measure and record the height of each person in the group.
- 3) The students need to check their results against the results of the rest of the group. If there are any discrepancies the students should verify the results as a group.
- 4) When an approximate measurement has been obtained for each student, the results are recorded on the chalkboard as each student records them at their seat.
- 5) Order all the measurements from least to greatest.
- 6) Graph your results.
- 7) Find the sum of all the heights in your classroom.
- 8) After you have recorded all the data collected, then have each group convert the heights from meters to centimeters, from centimeters to kilometers, and etc.

3) Materials

- Chalkboard
- Chalk
- Graph paper
- Meter stick
- Paper
- Metric Handbook: Planning and Design Data by [David A. Adler](#)

4) Assessment

- Teacher observation

(Attachment 1)



Name _____ Date _____

Have students answer the following questions:

One deka = _____ decis

One deka = _____ Centis

One hecto = _____ centis

One unit = _____ decis

One kilo = _____ millis

One kilo = _____ hectos

One deci = _____ centis

One centi = _____ millis

One kilo = _____ units

One unit = _____ centis

One unit = _____ millis

One deci = _____ millis

One hecto = _____ dekas

One hecto = _____ units

One k_____ decis

One deka = _____ millis

