### Unit: Summer School Lesson: “Taking a STEP into the future”

**Objective(s) of the lesson:**
(What the students will learn and know):

Students will be able to measure distance and use this knowledge to estimate the distance between two places using technology.

**Standard:**
- 8.M.1 Select, convert (within the same system of measurement), and use appropriate units of measurement or scale
- 8.M.2 Given the formulas, convert from one system of measurement to another. Use technology as appropriate.
- 8.N.3 Ratios and proportions in solving scale factors and unit rates
- 8.M.3 Demonstrate an understanding of the concepts and apply formulas and procedures for determining measures, including those of area and perimeter
- 8.D.3 Find, describe, and interpret appropriate measures of central tendency (mean, median, mode and range) that represent a set of data

**Key Vocabulary:**
Measure, foot, inch, yard, centimeter, unit, conversion

**Materials:**
Computer lab, tape measurers, yard sticks, pencils, paper, conversion chart template

**Correlating Book and Chapter:**

**Activities that address the objectives:** (What the students will do)

1. Students will measure the distance from the front door to the edge of the sidewalk using one of four methods: 1) tape measure 2) arm to arm 3) foot to foot 4) side to side. Afterwards they will start conversions into feet and yards.

2. Day 2, students will continue their conversions with miles and centimeters then go to the computer lab to use mapquest.com or googleearth.com to measure the distance from the high school to the middle school. Using this knowledge, they will add the measurement from the front door to the sidewalk with the distance from the middle school to the high school.

3. Day 3, students will work to convert within the same system of measurements, to take the given information and convert between feet, inches, miles, yards, centimeters, etc. Students will apply these...
measurements to find a common set of averages for a poster that will be displayed.

4. Days 4 and 5, students will be broken into two groups, where one group will complete a ratio of their steps in 100 feet to use for an average of how many steps it takes to get from the middle school to the high school. While this occurs, the other group of students will calculate the mean, median, mode and range of the total data found on the first two days.

**Assessment(s):** (How the students will know if they have done a good job in meeting the objectives)

Students will be assessed on their measurement calculations of the distances between the front door and the sidewalk, the appropriate use of technology to determine the distance from the middle school, the completion of the conversion chart, as well as the poster display of all the calculations.

**Homework/ Reinforcement:**