

COMPLETION OF THIS PAPER IS REQUIRED. SUGGESTED DUE DATE IS: _____

Name: _____ Date: _____ Period: _____

1

Measurements and Calculations (CHEMACTIVITY: Unit Conversions)
How Are Measurements and Calculations Important in the Science of Chemistry?

2 – Mastered

1 – Not Yet Mastered

0 - Incomplete

1. **On your own...** Read section 5.3A, pp. 143-149 in your textbook.

2. Define **unit**. Explain why units are an important part of any measurement:

3. Define **conversion factor**:

4. Explain the relationship between a **conversion factor** and an **equivalence statement**:

5. Given the equivalence statement: **1 mile = 1.61 km** What two conversion factors can be created?

AND

6. What is meant by the term **dimensional analysis**? (NOTE: Some sources refer to this as the "Factor-Label" method)

7. Using the appropriate conversion factor from question #5, show **and explain** how to convert the distance 7.50km to miles:

SHOW:

EXPLAIN:

8. Practice the following conversions. Show ALL work and unit cancellation!!

- How many hours are in 34.5 years?

- How many feet are equal in length to 452 meters?

- How many liters are in 46.8 gallons?

9. Explain how the process of cancelling units can be used as a way to “double check” your work

Essential Content and Skills:

How are conversion factors written from an equivalence statement?

How is the process of dimensional analysis (factor-label method) used to convert one unit of measure to another?