

CHEM 1000 Discussion Worksheet: Metric System, Conversions, and Density  
(Answers: see the laboratory page of the class website [www.uwyo.edu/chem1000](http://www.uwyo.edu/chem1000))

1. Give the metric system base unit name and symbol for the following.

	length	mass	volume	temperature	amount of substance
unit (name)					
symbol					

2. What is the metric system prefix name corresponding to each of the following symbols?

c \_\_\_\_\_       $\mu$  \_\_\_\_\_      k \_\_\_\_\_

M \_\_\_\_\_      m \_\_\_\_\_

3. Place the following in order of increasing size: cm Mm  $\mu$ m m km mm

\_\_\_\_\_ < \_\_\_\_\_ < \_\_\_\_\_ < \_\_\_\_\_ < \_\_\_\_\_  
(smallest) (largest)

4. What is the relationship between the units below? Fill in the blanks with the correct numerical values.

\_\_\_\_\_ cm = \_\_\_\_\_ m      \_\_\_\_\_ mm = \_\_\_\_\_ m      \_\_\_\_\_  $\mu$ L = \_\_\_\_\_ L

\_\_\_\_\_ Mg = \_\_\_\_\_ g      \_\_\_\_\_ kg = \_\_\_\_\_ g

5. Set up two possible conversion factors using the following relationship: 1 in = 2.54 cm.

Using a conversion factor, convert 50.2 inches to cm and report your answer with the correct number of significant figures.

6. Carry out the following conversions.

a) Convert 56.0 km to m

b) Convert 803  $\mu$ L to cL

c) Convert 5.10 mm to cm