

Name: \_\_\_\_\_

Hour: \_\_\_\_\_ Date: \_\_\_\_\_

## Chemistry: *The SI System and Measurement*

**Introduction:** Chemistry is a physical science (as opposed to a life science, such as biology) based on measurements. Chemists use measurements from many different instruments to form conclusions about the nature of matter and energy. For scientists to understand each other, they must all use the same standards of measurement.

**What is the name of the measuring system used by scientists?** \_\_\_\_\_

### SI Base Units

Quantity Being Measured	Base Unit
Length	
Mass	
Time	
Temperature	
Amount of Substance	

### SI Prefixes

Prefix	Meaning	Conversion Factors
kilo- (k)		
centi- (c)		
milli- (m)		

### Length, Surface Area, and Volume

**Object to be measured:** \_\_\_\_\_

**Simple Diagram  
of Object**

Edge	Length in cm (measured)	Conversion from cm to mm	Length in mm (calculated)
Edge A			
Edge B			
Edge C			

**Find the volume of the object in  $cm^3$  and  $mm^3$ .**

## The SI System and Measurement (continued)

Find the surface areas of each face as well as the total area, in  $\text{cm}^2$  and  $\text{mm}^2$ .

Sample Calculations...

	$\text{cm}^2$	$\text{mm}^2$
Face AB		
Face BC		
Face CA		
Total Area		

Describe two ways to find the volume of a solid.

**Finding Mass:** Describe three ways to measure out 15 grams of water.

**Problem Solving:** In the next problem, your job is to identify the number of objects in the container.

**Objects:** \_\_\_\_\_ **Container:** \_\_\_\_\_

Describe the procedure you would follow to figure out how many objects are in the container.

Do the calculation. Show your work.

### Measuring Temperature

To measure temperature, we use an instrument called a \_\_\_\_\_.

List three different temperature systems.

Now, circle the two we will use in Chemistry and put an X through the one we will never use.

There are formulas to convert between the various temperature systems, but we will go over these formulas at a later time.