WORKING WITH LAB TOOLS

Name _____

CUP# _____ Date _____ Per. _____

Define Magnification:

Using a hand lens and a stereomicroscope, make and record your observations about your two objects. ***Include 3-4 different observations for each object with each tool.*** Make sure to record magnification that you use to make the observations.

	Hand Lens Magnification Used _____X_	**Stereomicroscope** Magnification Used _____X_
Object 1: _____		
Object 2: _____	Magnification Used _____X_	Magnification Used _____X_

1. How are objects #1 and #2 alike? ***(Give two responses)***

2. How are objects #1 and #2 different? ***(Give two responses)***

3. How does changing the magnification change the image you see? ***(Give 2-3 responses)***

WORKING WITH LAB TOOLS:
Metric Measurement

Name _____
Date _____ Per. _____

Define Mass:

Define Volume:

Mass of a Solid Object: Using the triple beam balance, find the mass of the same two objects chosen ***Measure in grams (g)***.

Mass of Object # 1 –

Mass of Object # 2 –

Volume of a Solid Object: Using volume displacement can and a graduated cylinder, find the volume of the same two objects chosen. ***Measure in milliliters (mL)***.

Volume of Object # 1 –

Volume of Object # 2 –

Volume of a Liquid: Record the correct volume in each of the following graduated cylinders. ***Measure in milliliters (mL)***.

Cylinder A –

Cylinder B –

Cylinder C –

Cylinder D –

Cylinder E –

METRIC MEASUREMENT

Name _____
Date _____ Per # ___

Define Linear Measurement:

Estimate the length of the following items using the appropriate **metric units**. Then measure and record the actual lengths using the appropriate **metric units.**
Metric units for linear measurement include (meter, decimeter, centimeter, millimeter, etc)

ITEM	**ESTIMATE (metric units only)**	**ACTUAL (metric units only)**
Height of classroom door	_____	_____
Height of front table	_____	_____
Width of classroom	_____	_____
Width of a science book	_____	_____
Width of front table	_____	_____
Length of index finger	_____	_____
Length of a dollar bill	_____	_____
Length of a small paper clip	_____	_____

BONUS - Find the "Mystery Object" in this room with the following measurements:

Width = 29.5 cm

Length = 60 cm

The mystery object is: _____

TESTING FOR ACCURACY - Beaker vs. Graduated Cylinder

Using the four beakers and the graduated cylinder, determine which one measures more accurately.

1. Measure 200 mL of water in each size beaker using the scale on the beaker.
2. Pour the water from one beaker into the graduated cylinder and record the volume as seen in the graduated cylinder in column C.
3. Subtract: Column B - Column C = Column D (Record answer in column D)
4. Repeat for each size beaker.

A	B	C	D
SIZE of BEAKER	VOLUME MEASURED in BEAKER	VOLUME MEASURED in GRADUATED CYLINDER	DIFFERENCE BETWEEN BEAKER and GRADUATED CYLINDER
1000 mL	200 mL		
600 mL	200 mL		
400 mL	200 mL		
250 mL	200 mL		

QUESTIONS:

1. Which size beaker measures more accurately?

2. Why can this beaker measure more accurately than the other beakers?

3. Which measures more accurately, a graduated cylinder or a beaker?

4. Explain why this tool measures more accurately.