

Name _____ Partner _____ Date _____

Measurement Lab

Purpose: To practice measuring distance with the SI system, calculate area and volume, change units and correctly express size of errors.

Materials: Meter stick, board or other similar object, weight, scale.

Procedure: Work in groups of **two**

1. You measure the length, width and depth (height) of the board as accurately as possible using the SI (*System International*) units. As you read off the measurements, your partner records them in his/her data table on his/her lab sheet..

Measurer	length	width	depth

2. Trade places with your partner so that you will be recording his/her data in your table above.
3. Trade your board with another group and repeat.

Measurer	length	width	depth

4. Combine your data from all four measurements in the table below.

Measurer	Recorder	length	width	depth
Average	-----			

5. Measure the weight of your “weight”. Pay special attention to the units. What color scale did you use?
Why?

Measurer	Recorder	weight	scale color
Average	-----		-----

Average Calculation Sample

Area Calculation: (area=length x width)

Volume Calculation: (volume=length x width x depth)

6. Transfer your calculations and the calculations of your partner to complete the table below.

Measurer	Recorder	area	volume
Average	-----		

7. Use the average values and calculate the area and volume into the units indicated in the table below. Use **scientific notation for all your numbers and show your calculations on the next page.**

	Area	Volume
centimeters		
millimeters		
meters		
kilometers		

Calculations – Change in units.

Summary:

1. Are the length measurements for all the people the same? Width? Depth? Explain.
2. What is your source of error and how big is that error?
3. What have you learned about accuracy and precision?