

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

Lab Partners: \_\_\_\_\_

\_\_\_\_\_

## Building Physical Intuition – Measurement 2

Groups: form groups of three

Equipment: each group should have:

- a one-meterstick and meterstick caliper jaws
- a wooden block
- a wooden box

### Measurements

1. Using the meterstick and meterstick caliper jaws measure the dimensions of the provided block. Record your measurements in the table below to the nearest 0.1 cm. You may choose which dimension to label length, width and height.

Length (cm)	
Width (cm)	
Height (cm)	

2. Using the meterstick and meterstick caliper jaws measure the **interior** dimensions of the provided wooden box. Record your measurements in the table below to the nearest 0.1 cm.

Length (cm)	
Width (cm)	
Height (cm)	

### Calculations

For each calculation, show your work (what you are multiplying, dividing or adding) and round your answers to the correct number of significant figures.

1. Determine the volume of the provided block in  $\text{cm}^3$ .

2. Determine the surface area of the provided block in  $\text{cm}^2$ .
3. Determine the capacity of the provided wooden box in  $\text{cm}^3$ .
4. How many blocks identical to the one provided will fit in the wooden box?
5. Try to fit the number of blocks calculated in step 4 into your wooden box. (Obtain additional blocks from the instructor.) Did they all fit? Can you modify your calculation from step 4 to get a better result for how many blocks fit in the box?

