

Name: \_\_\_\_\_ Lab Day and Time: \_\_\_\_\_

- I will Check next week in lab

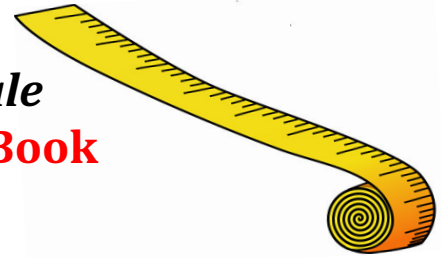


BBQ#5

## Size and Scale

### Thinking Like a Biologist in Size and Scale

**Due at start of Lab#3, Staple into Blue Book**



### Part I:

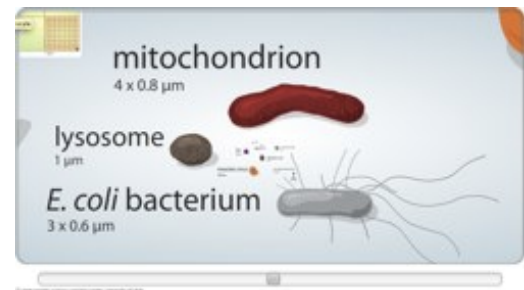
- Revisit your **Biology Size and Scale Strip Set** that you worked in class on with a partner. **Do the exercise again by yourself**, putting the strips in order from the LARGEST to the SMALLEST.
- Write out a list of YOUR predicted order of the strips from LARGEST to SMALLEST here:

- Write a paragraph ( $\geq 200$  words) about: (attach it to this paper)
  - what strategies you used to arrive at this prediction,
  - which items you are **most sure about** their relative size, and
  - which items you are **least sure about** their relative size.

### Part II:

**ONLY AFTER COMPLETING PART I (on your honor!), explore this website:**

<http://learn.genetics.utah.edu/content/cells/scale/>



1. As you move the scale bar and zoom in, think about how you would need to REVISE YOUR PREDICTED LIST of items from LARGEST to SMALLEST!

2. Also, think about **WHAT EACH OF THESE BIOLOGICAL ITEMS ARE MADE UP OF**...Think about which of the items are: ...collections of cells?

...single cells?

...only collections of molecules?

...only single molecules?

### Part III:

Write another paragraph ( $\geq 200$  words) about:

- What did you learn from the website that SURPRISED you the most.
- What did you learn that CONFUSED you the most.

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3) What new strategies might you use if you were asked to predict the relative size of a new set of biological items.

<b>Red Blood cell</b>	<b>Grain of Rice</b>
<b>Mitochondrion (organelle)</b>	<b>Ribosome (collection of molecules)</b>
<b>Amoeba cell</b>	<b>Human Egg cell</b>
<b>Yeast cell</b>	<b>Grain of Salt</b>
<b>E. Coli Bacterial cell</b>	<b>Skin cell Sperm cell</b>
<b>X Chromosome (collection of molecules)</b>	<b>Adenine molecule (nucleotide)</b>
<b>Phospholipid molecule</b>	<b>Hemoglobin molecule (protein)</b>
<b>Methionine molecule (amino acid)</b>	<b>Glucose molecule (sugar)</b>
<b>Water molecule</b>	<b>Carbon atom</b>