**Comparing the Size of Things**

**Name: Date: Period:**

**Metric Measurement of Size**

1 Meter (m) = 1m

10 Decimeters (dm) = 1m

100 Centimeters (cm) = 1m

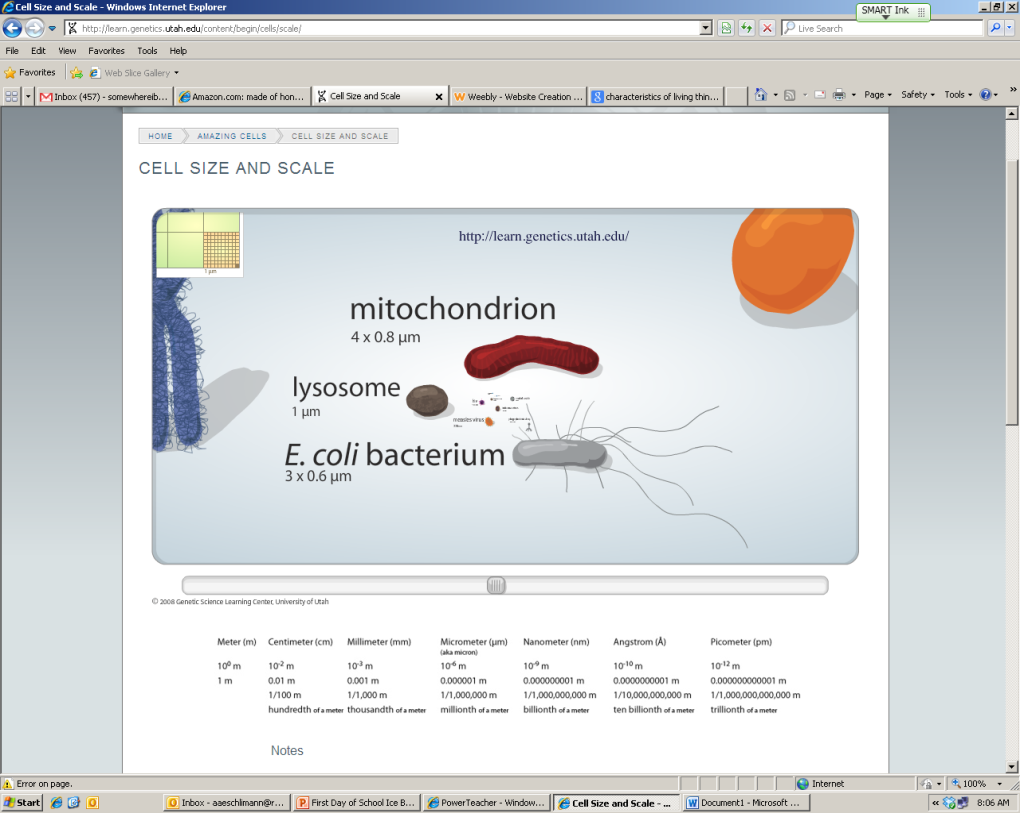
1, 000 Millimeters (mm) = 1m

1,000,000 Micrometers (mm) = 1m

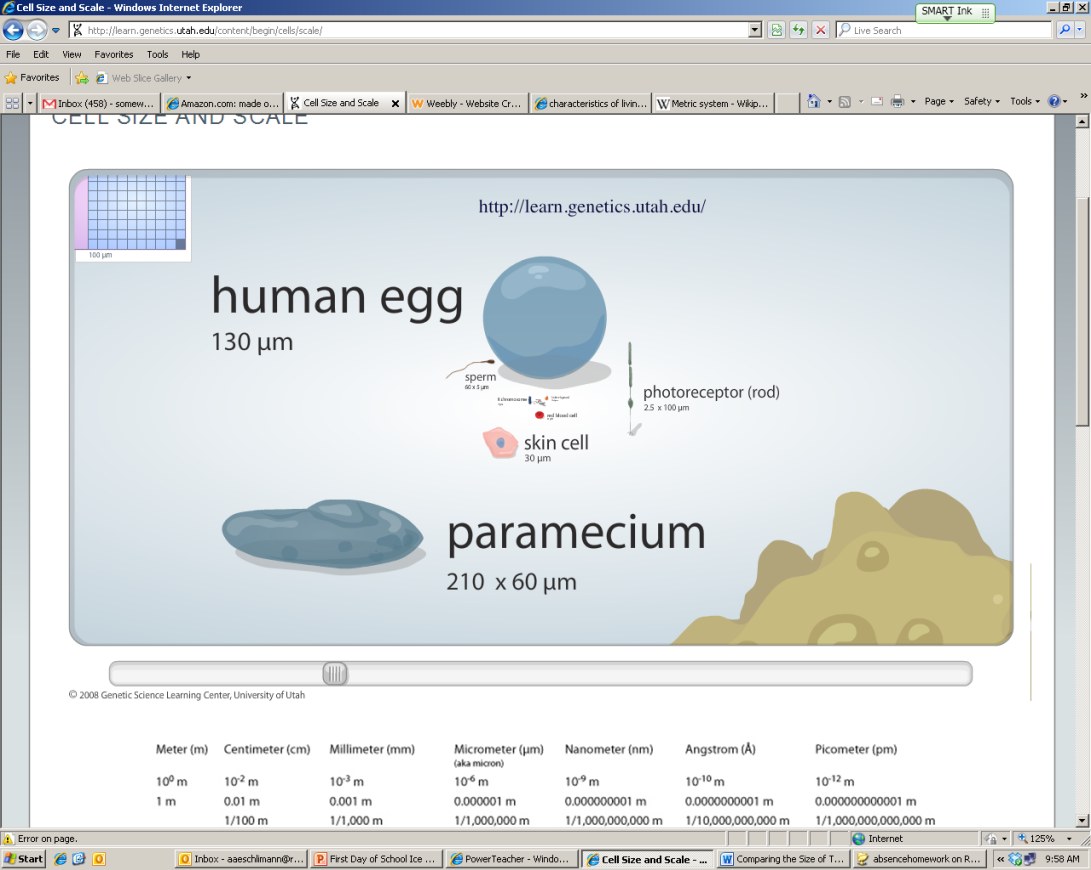
1,000,000,000 Nanometers (nm) = 1m

1,000,000,000,000 Picometers (pm) = 1m

**Background:** The size of objects is hard to determine once things get very large or very small. We measure very small things in “Millimeters (mm)”, “Micrometers (mm)”, “Nanometers (nm)”, and “Picometers (pm)”. One Millimeter is equal to one thousandth of a meter. One Micrometer(mm) is equal to one millionth of a meter. One Nanometer is equal to one billionth of a meter. And one Picometer(pm) is equal to one trillionth of a meter.

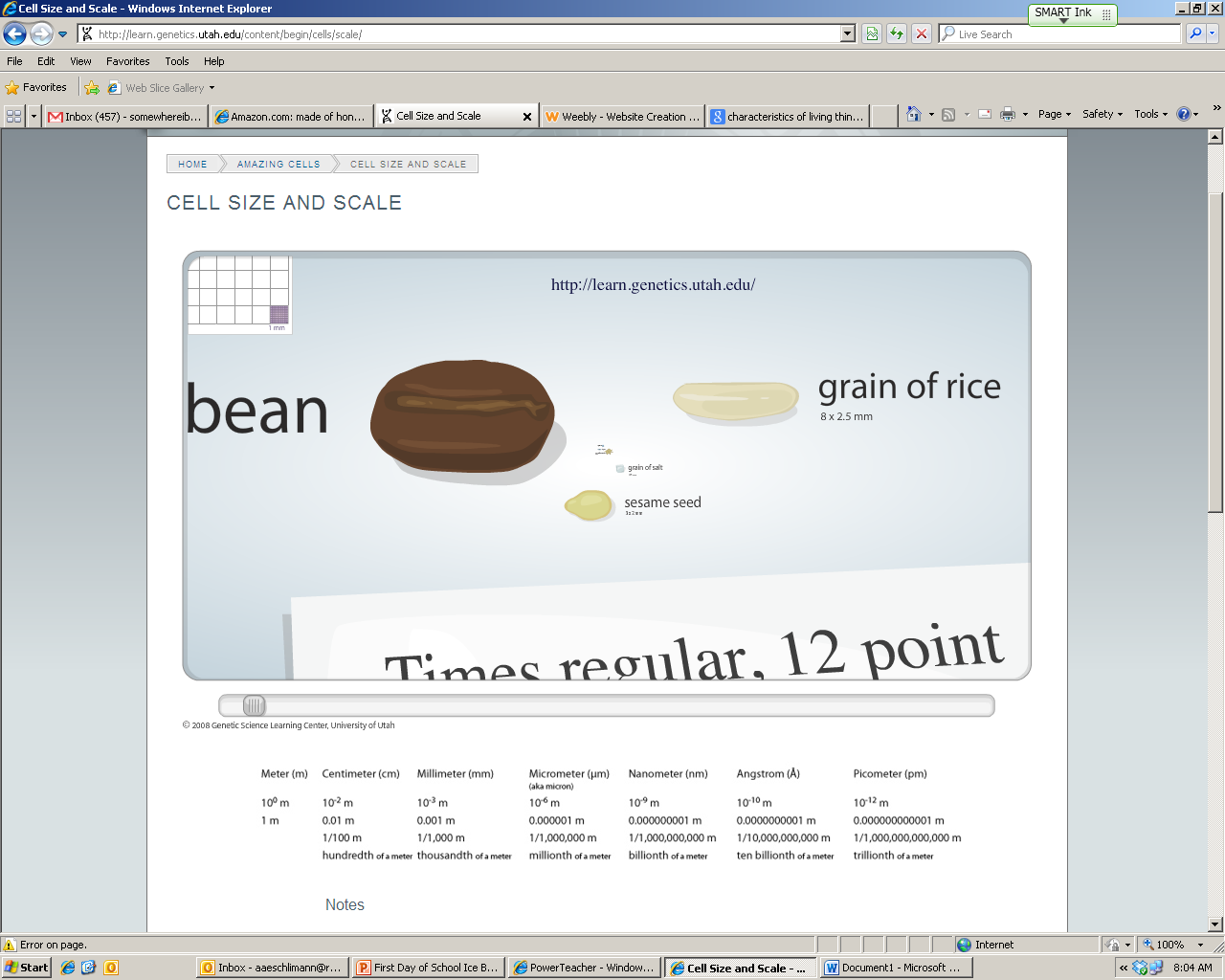
The “things” below are NOT in order of size. Today, you are going to use an interactive (called Cell Size and Scale) to figure out how big (or small) all of these things are compared to each other. *(http://learn.genetics.utah.edu/content/begin/cells/scale/)*

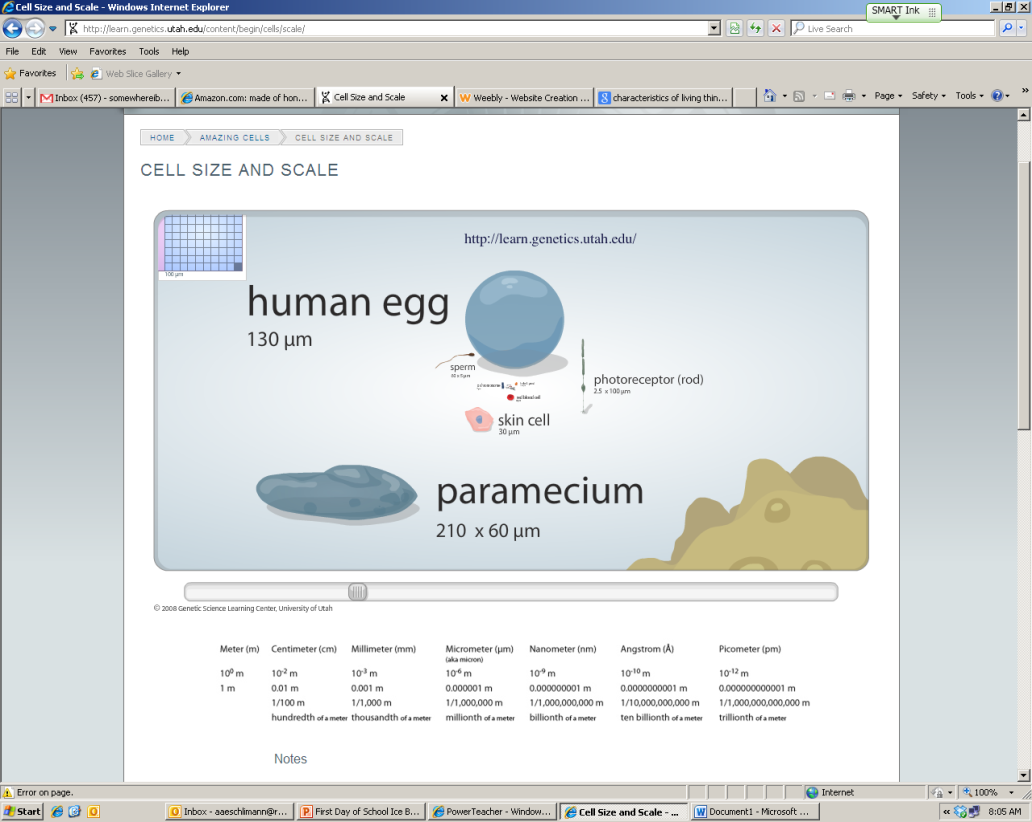
**Directions:**

1. As we go through the interactive, **write the name** of each thing

from Biggest to Smallest on the Scale below.

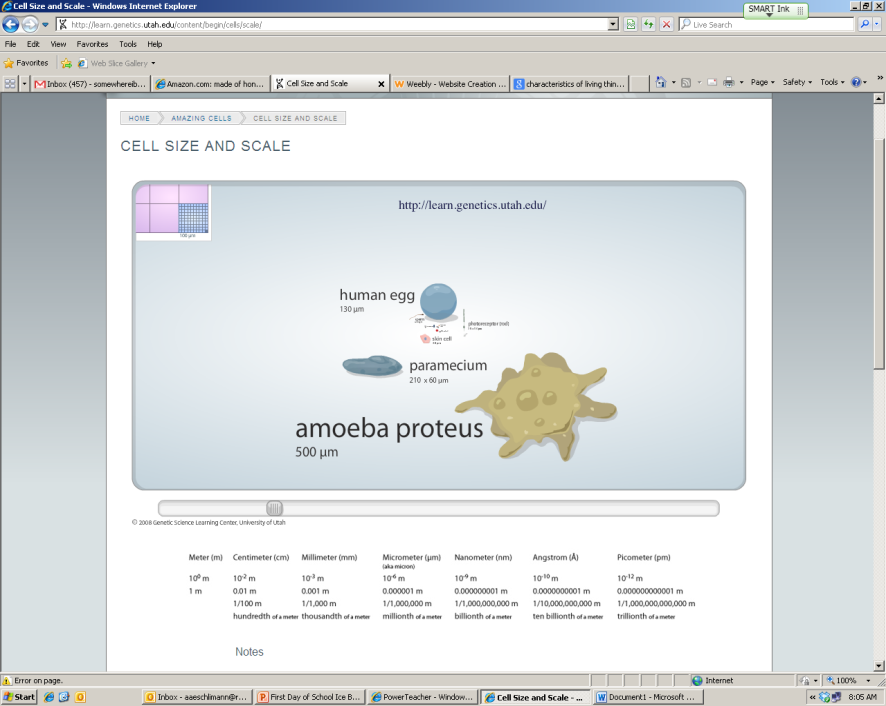
2. Then, **draw** each thing next to its name.

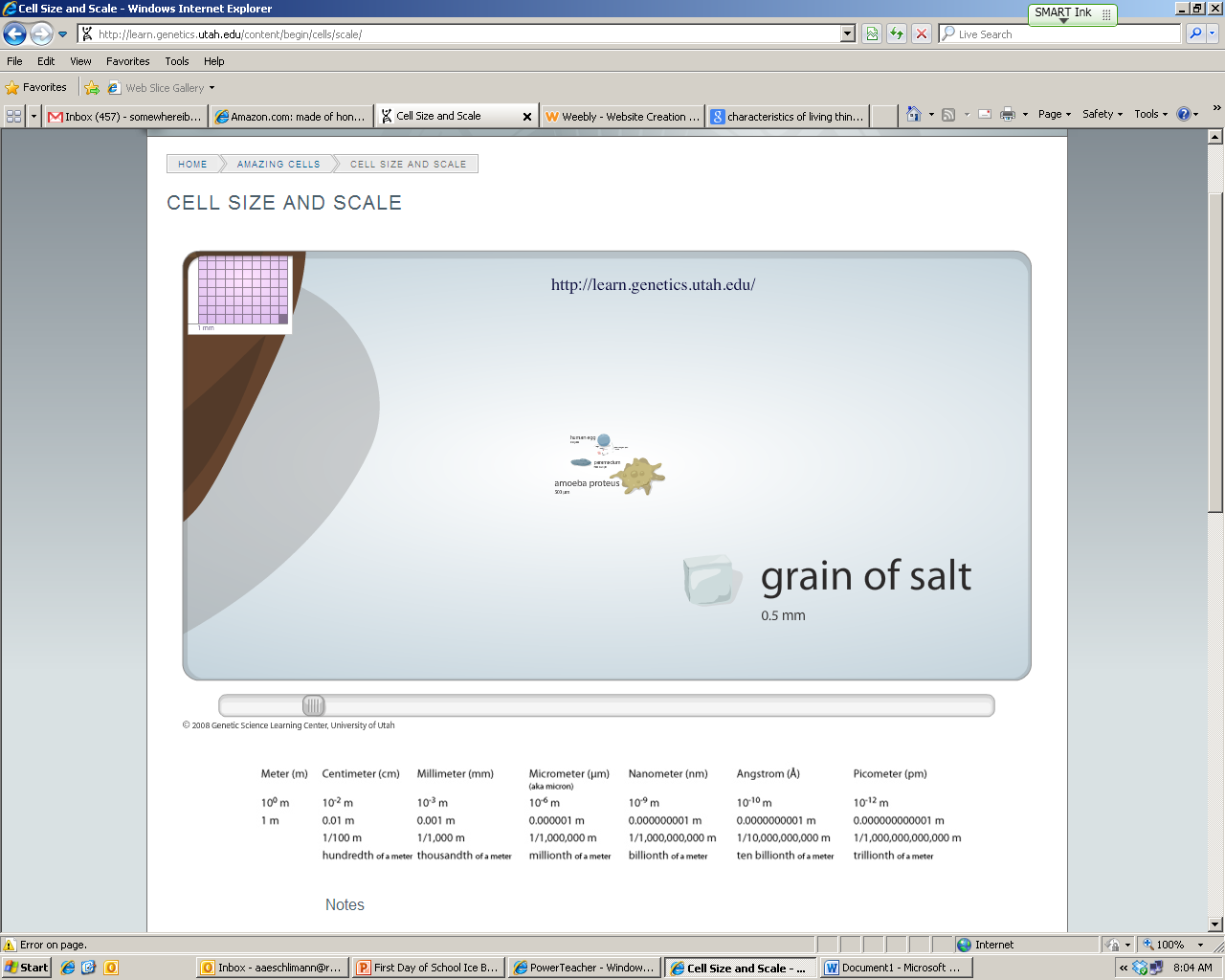
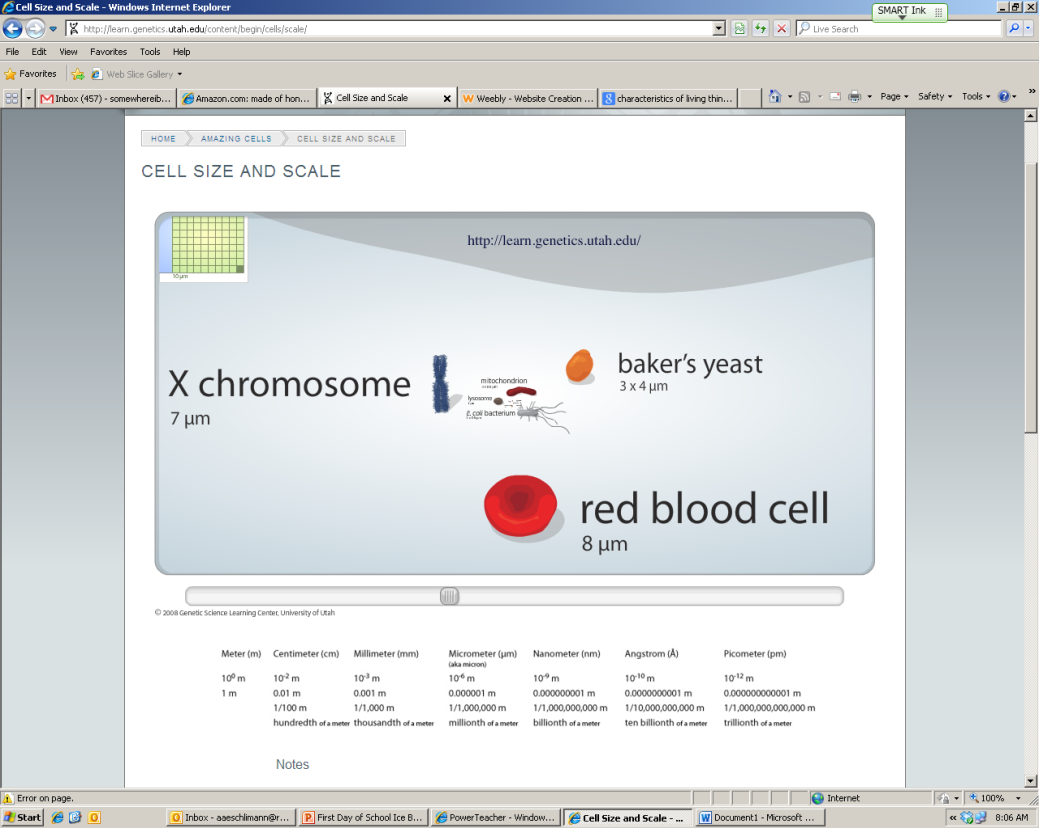


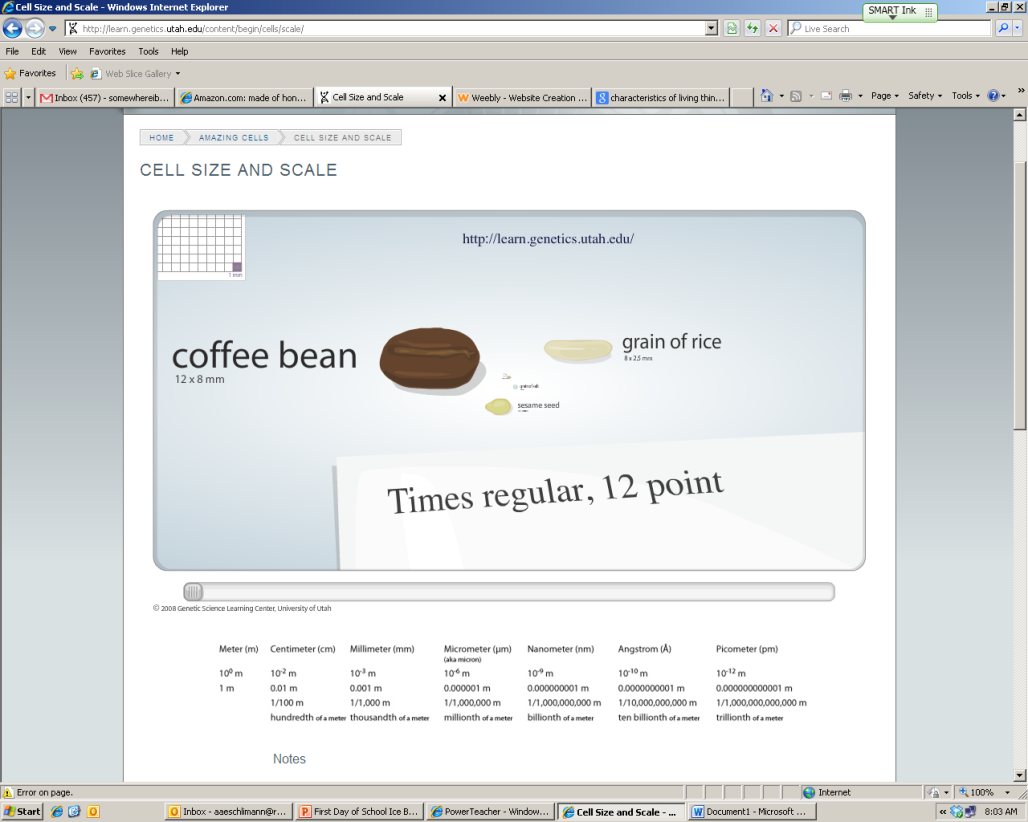
Biggest

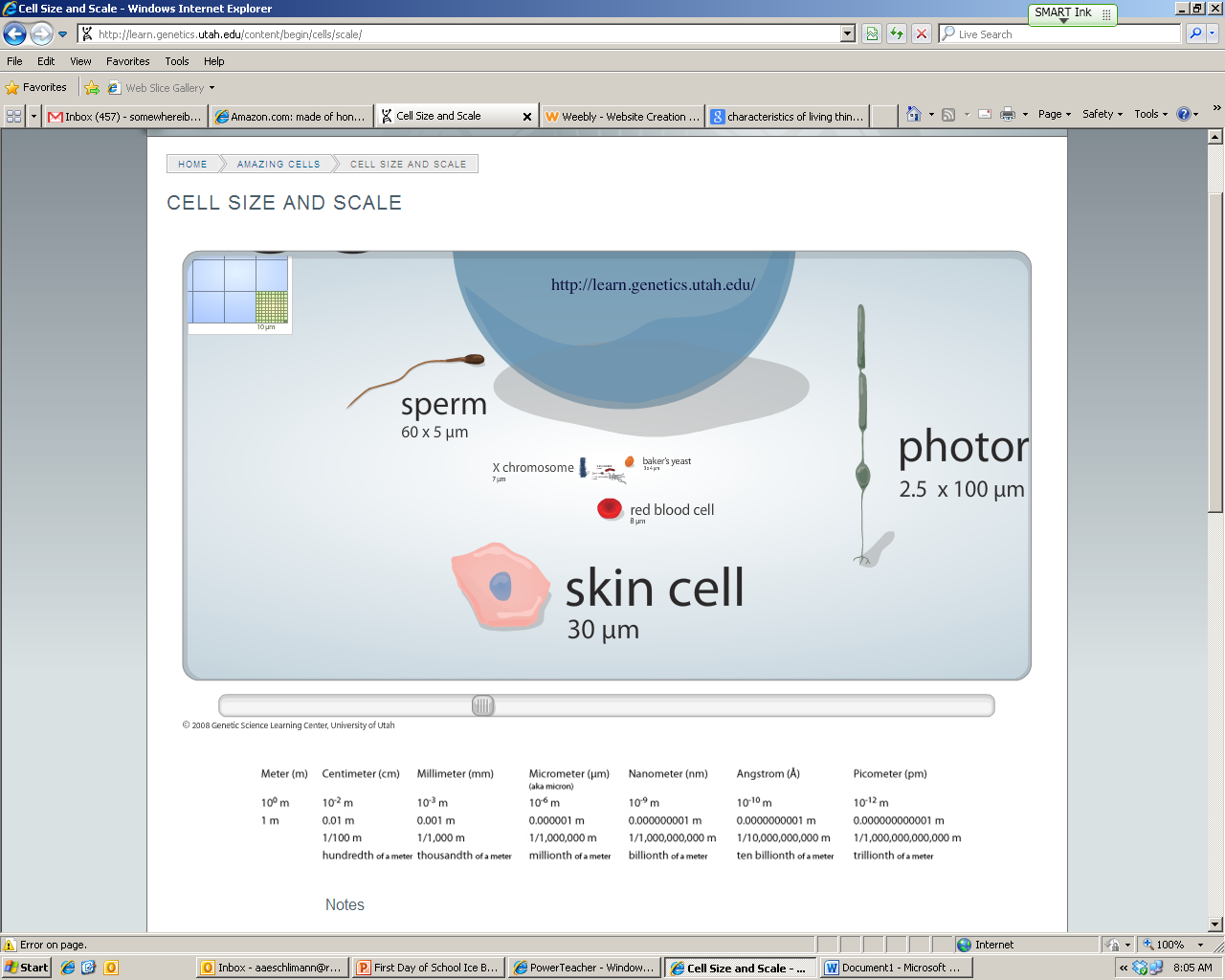


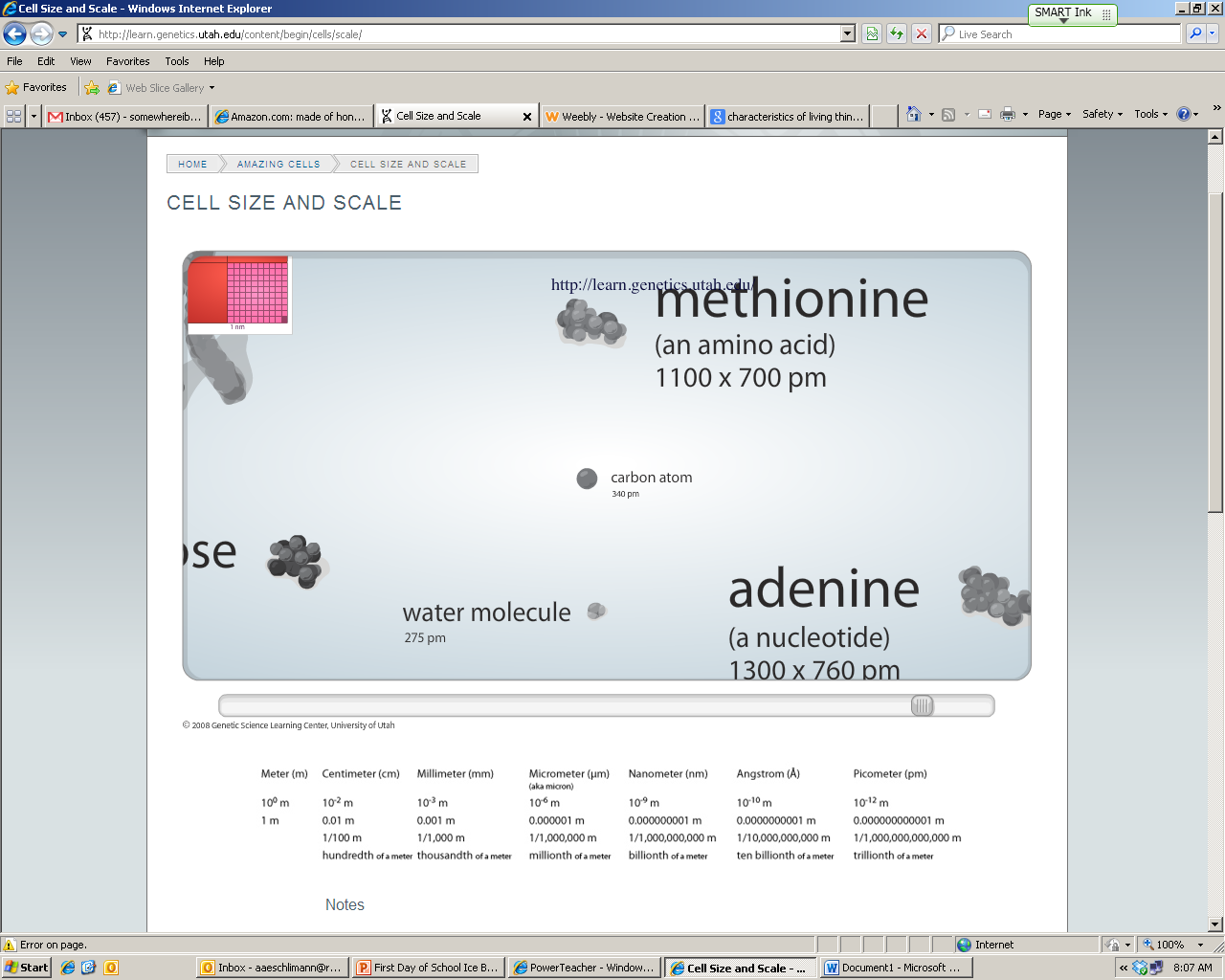
The Common Cold

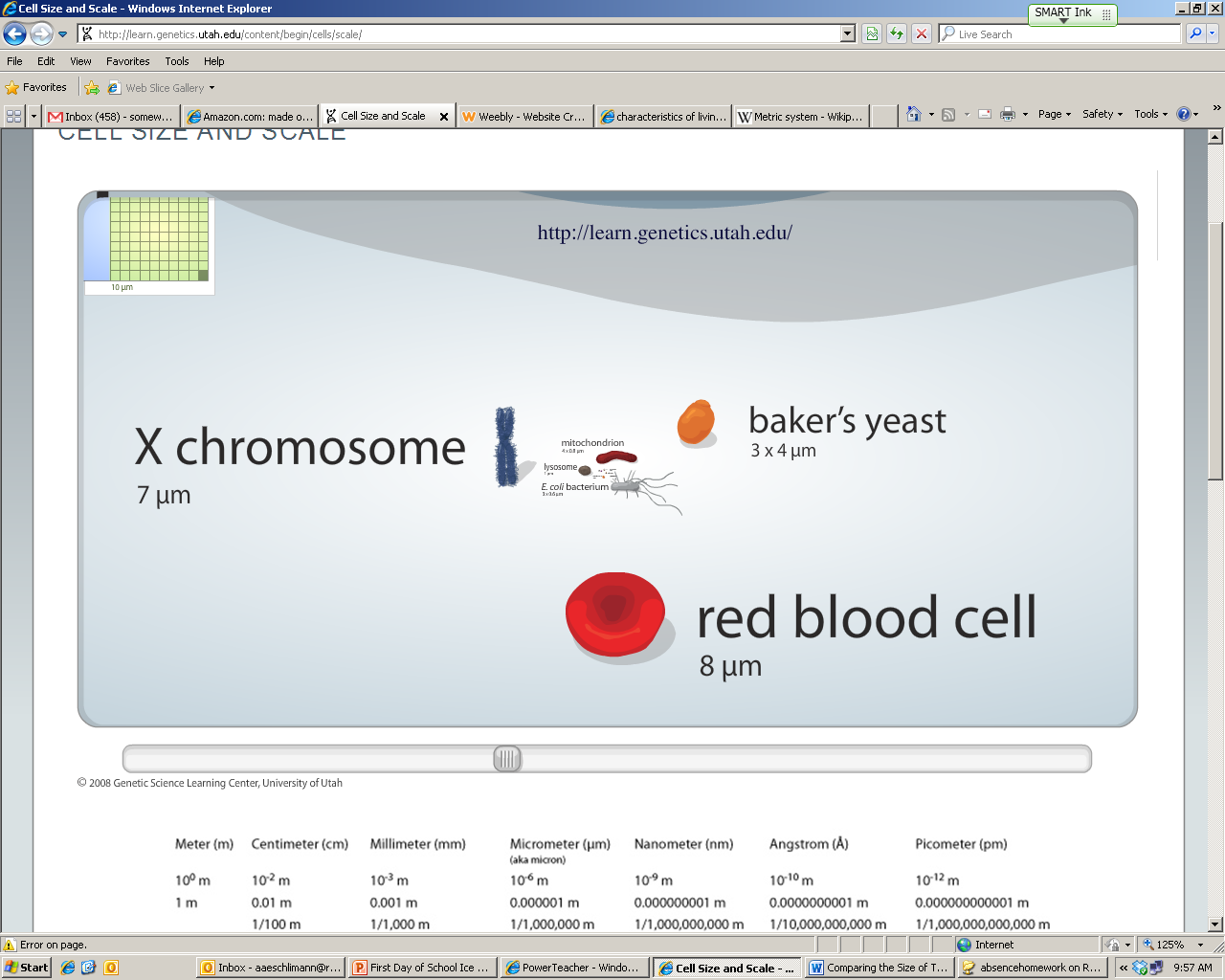




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Smallest

Analysis:

1. Where do you think a human hair would fit into this scale?

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2. Can a water molecule be made up of cells? Explain your answer, considering the size of blood cells, skin cells, amoebas, paramecium, and bacterium which are all single cells.

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3. Categorize these things into 2 groups Living and Non-Living.

|  |  |
| --- | --- |
| **Living** | **Non-Living** |
|  |  |

4. Write one thing you listed as Living. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

5. Support your decision. Why do you think this thing is living? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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6. Write one thing you listed as Non-Living. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

7. Support your decision. Why do you think this thing is Non-living? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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8. Does size determine life? Is there a size that life can no longer exist at?

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