Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**\_6**

Date\_\_\_\_\_\_\_\_\_\_\_\_Period\_\_\_\_\_\_\_\_\_\_\_\_

**CCC #3 Scale, Proportion, and Quantity**

Sort the items on the card stock based on either SIZE (**large or small**) TIME (**slow or fast**) or ENERGY (**high or low**). Place the letter from the picture in the spot you believe they belong and **explain** **why** you believe it belongs there.

|  |  |  |
| --- | --- | --- |
| **Scale** | **Letter from Picture** | **Explanation** |
| **Fast** |  |  |
| **Slow** |  |  |
| **Large** |  |  |
| **Small** |  |  |
| **High Energy** |  |  |
| **Low Energy** |  |  |

**On the line below, indicate from the list the order in which each item in the table belongs on the Micro to Macro scale.**

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **1 Solar System** | **2 Human** | **3 Sun** | **4 Lung** | **5 Planet Earth** | **6 iPhone** |
| **7 Ocean** | **8 Cookie** | **9 City** | **10 Mosquito** | **11 Whale** | **12 Bacteria** |

**MACRO**

**MICRO**

**SCALE, PROPORTION & QUANTITY**

**1. How do objects change at different size, time & energy scales?**

**2. How much more energy does an EQ measuring a 6 compared to and EQ measuring a 5 on the Richter Scale have?**

**3. Cell Size & Scale** [**http://learn.genetics.utah.edu/content/cells/scale/**](http://learn.genetics.utah.edu/content/cells/scale/)

 **List an example at each unit of measurement**

1. **pm = (picometer) 1/1,000,000,000,000 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
2. **nm (nanometer) 1/1,000,000,000 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
3. **um (micrometer) 1/1,000,000 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**
4. **mm (millimeter) 1/1.000 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

**4. Proportion is an amount that is part of a whole. What is the proportion of each color of m&m’s in a mini packet? Fill in the data table and draw a pie chart to show your proportion of m&m colors.**

|  |  |  |
| --- | --- | --- |
| **Total M\*Ms** |  | **Proportions (%)** |
| **Green** |  |  |
| **Blue** |  |  |
| **Red** |  |  |
| **Orange** |  |  |
| **Yellow** |  |  |
| **Brown** |  |  |

**Total number of M&M’s = \_\_\_\_\_\_\_\_\_\_\_\_\_\_** **Proportion = #of color divided by total # of m&m’s**

