Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period \_\_\_\_\_\_\_\_\_\_ Score \_\_\_\_\_\_\_\_\_\_\_\_

**Metric System vs. American System**

Metric System Units America System Units

Weight : \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Weight: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Length: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Length: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Volume: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Volume: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Temperature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Temperature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Why do we use the metric system in Science? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The metric system is based on a \_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_ that corresponds to a certain type of measurement.

**Base Unit** **Abbreviation**

Length = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

Volume = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

Weight = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_

**Comparisons:**

Width of your finger nail = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Width of your finger = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Width of your hand = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Your arms outstretched = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Prefixes:**

k = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ = thousand d = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ = one tenth

H = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ = hundred c = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ = one hundredth

D = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ = ten m =\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ = one thousandth

**Metric Conversions**

**Practice:**

1. What is the length of the line in centimeters? \_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. What is the length of the line in decimeters? \_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. What is the length of the line in milimeters? \_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. What is the length of the line in meters? \_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Write the correct abbreviation for each metric unit.**

1. Kilogram \_\_\_\_\_\_\_\_\_\_ 4) Millimeter \_\_\_\_\_\_\_\_\_\_ 7) Kilometer\_\_\_\_\_\_\_\_\_\_
2. Meter \_\_\_\_\_\_\_\_\_\_ 5) Milliliter \_\_\_\_\_\_\_\_\_\_ 8) Centimeter \_\_\_\_\_\_\_\_\_\_
3. Gram ­\_\_\_\_\_\_\_\_\_\_ 6) Liter \_\_\_\_\_\_\_\_\_\_ 9) Milligram \_\_\_\_\_\_\_\_\_\_

**Convert using the ladder method or × and ÷ method.**

10) 2000 mg = \_\_\_\_\_\_\_\_\_\_ g 15) 5 L \_\_\_\_\_\_\_\_\_\_ mL 20) 16 cm = \_\_\_\_\_\_\_\_\_\_ mm

11) 104 km = \_\_\_\_\_\_\_\_\_\_ m 16) 198 g = \_\_\_\_\_\_\_\_\_\_ kg 21) 2500m = \_\_\_\_\_\_\_\_\_\_ km

12) 480 cm = \_\_\_\_\_\_\_\_\_\_m 17) 75 mL = \_\_\_\_\_\_\_\_\_\_ L 22) 65 g = \_\_\_\_\_\_\_\_\_\_ mg

13) 5.6 kg = \_\_\_\_\_\_\_\_\_\_ g 18) 50 cm = \_\_\_\_\_\_\_\_\_\_ m 23) 6.3 cm = \_\_\_\_\_\_\_\_\_ mm

14) 8mm = \_\_\_\_\_\_\_\_\_\_ cm 19) 5.6 m = \_\_\_\_\_\_\_\_\_\_ cm 24) 120 mg = \_\_\_\_\_\_\_\_\_\_ g

**Example Experiment:**

 Smithers thinks that a special juice will increase the productivity of workers. He creates two groups of 50 workers each and assigns each group the same task (in this case, they're supposed to staple a set of papers). Group A is given the special juice to drink while they work. Group B is not given the special juice. After an hour, Smithers counts how many stacks of papers each group has made. Group A made 1,587 stacks, Group B made 2,113 stacks.

Hypothesis: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Independent Variable: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Dependent Variable: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Control Group: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Constants: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Conclusion: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Improvements: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Observations vs. Inferences**

Observation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Examples: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Qualitative Data: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Examples: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Quantitative Data: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Examples: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Inference: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

 Examples: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Using the pictures shown in class, list as many observations and inferences you can about the pictures.**

Observations Inferences Observations Inferences

**Place an “O” next to all the statements that are observations and an “I” next to all the statements that are inferences**

1. \_\_\_\_\_\_\_\_\_\_There is a representation of a face on one side of the coin.
2. \_\_\_\_\_\_\_\_\_\_The coin comes from a society of deeply religious people.
3. \_\_\_\_\_\_\_\_\_\_The words “We Trust the Gods” are printed on the coin.
4. ****\_\_\_\_\_\_\_\_\_\_One side of the artifact is a drawing of leaves.
5. \_\_\_\_\_\_\_\_\_\_The artifact comes from peace loving people.
6. \_\_\_\_\_\_\_\_\_\_The face on the coin is a representation of the people’s king.

**Graphing Data**

Why do we use graphs? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Use the graph on the right to answer the questions.**

1. What is the title of the graph? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. What is the range of values on horizontal scale or x-axis (include units)? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. What is the range of values on the vertical scale or y-axis (include units)? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. How many data points are represented in the graph? \_\_\_\_\_\_
5. What year where the most dolphins seen in Santa Barbara? \_\_\_\_\_\_\_\_ how many were seen? \_\_\_\_\_\_\_\_
6. What year where the least dolphins seen in Santa Barbara? \_\_\_\_\_\_\_\_ how many were seen? \_\_\_\_\_\_\_\_
7. Has the number of dolphins increased or decreased over the 5 year span? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Use the data in the tables to make 3 different graphs. Be sure to name and label each graph.**

Line Graph: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Bar Graph: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |
| --- |
| **Student’s Favorite After School Activities** |
| **Activity** | **Number of Students** |
| Play Sports | 45 |
| Talk on the Phone | 53 |
| Visit with Friends | 99 |
| Earn Money | 44 |
| Chat Online | 66 |
| School Clubs | 22 |
| Watch TV | 37 |

|  |
| --- |
| **Adopt Student Uniforms Survey** |
| **Response** | **Number of Students** | **Percentage** |
| Yes | 30 | 10% |
| No | 180 | 60% |
| Maybe | 90 | 30% |

 Pie Chart: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

|  |
| --- |
| **Sam’s Weight** |
| **Month** | **Weight in kg** |
| January | 49 |
| February | 54 |
| March | 61 |
| April | 69 |
| May | 73 |