**Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Period\_\_\_\_\_Date\_\_\_\_\_\_\_**

**Physical Science Semester Review #1**

**Measurement, Metrics, Graphing**

1. Experiment: Kevin has a leak in the roof of his house every time it rains. He thinks that it is leaking where his chimney pipe comes up through the roof. On a dry day, he reseals the chimney by using a roofing sealant around the chimney. That night, it rained and Kevin could not find any more leaks in the house.

From this experiment, identify

* 1. Independent Variable \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	2. Dependent Variable\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	3. Hypothesis\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	4. Conclusion\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
1. Use the graph to the right to answer the questions below.
2. How many grams of sugar dissolve in water at 80°C? \_\_\_\_\_\_\_\_\_\_\_\_\_
3. At what temperature will 300 g of sugar dissolve? \_\_\_\_\_\_\_\_\_\_\_\_
4. How many KILOGRAMS of sugar can be dissolved in water at 100°C? \_\_\_\_\_\_\_\_\_
5. Name the dependent variable. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
6. Name the independent variable. \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
7. Explain the difference between accuracy and precision.
8. Explain the difference between a theory and a law.
9. Complete the metric chart below

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
|  |  |  | **100** |  |  |  |
|  |  |  | **Meter****Liter****Gram** |  |  |  |
|  |  |  | **Base** |  |  |  |

1. Perform the following conversions
	1. 2000 dm=\_\_\_\_\_\_\_\_cm
	2. 46 m=\_\_\_\_\_\_\_\_\_\_\_dm
	3. 12 kg=\_\_\_\_\_\_\_\_\_\_dag
	4. 102 cm=\_\_\_\_\_\_\_\_\_m
	5. 100 g=\_\_\_\_\_\_\_\_\_\_\_hg
	6. 0.5 cL=\_\_\_\_\_\_\_\_\_mL
	7. 864 m=\_\_\_\_\_\_\_\_\_\_mm
	8. 200 mg=\_\_\_\_\_\_\_\_\_\_kg
2. Write in Scientific Notation:
	1. 2500000\_\_\_\_\_\_\_\_\_\_\_\_\_
	2. 32000\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
	3. 0.0000029\_\_\_\_\_\_\_\_\_\_\_\_
	4. 0.0000034\_\_\_\_\_\_\_\_\_\_\_\_
3. Write in standard form:
	1. 5.61 x 10-2\_\_\_\_\_\_\_\_\_\_\_\_
	2. 2.4 x 105\_\_\_\_\_\_\_\_\_\_\_\_\_
	3. 6.21 x 10-3\_\_\_\_\_\_\_\_\_\_\_\_
	4. 7.14 x 101\_\_\_\_\_\_\_\_\_\_\_\_
4. Perform the following unit conversions using the train track method.
	1. 38.7 inches into centimeters (1 in=2.54 cm)
	2. 962 minutes into hours (60 minutes=1 hour)
	3. 0.25 days into seconds (1 day=24 hours, 1 hour=60 minutes, 1 minute=60 seconds)
	4. 24.9 inches into meters (1 in=2.54 cm)