Bio-Worm Computation Lab; SCSh 2, 3, 4, 5

Today you will have your second encounter with a Bio-Worm. These are delicious treats that are given out to students as rewards and incentives for increased academic achievement in in my classroom. In reality Bio-Worms are gummy worms that consist of proteins made from amino acids and monosaccharides, which are simple sugars. The purpose of this lab is to use the scientific method to make qualitative and quantitative observations of bio-worms and to collect and analyze data.

Copy down the following template on a separate sheet of paper:

Length of Specimen:_____   Width of Specimen Pressed Flat:_____

Number of Colors:_____   Maximum Length it can Stretch:_____

Width of Specimen:_____   Number of Ridges per Color:_____

Height of Specimen:_____   Number of Total Ridges:_____

Length of Each Color:_____   Weight of Specimen:_____

1. All scientific measurements are taken in metric (SI). You should have used either centimeters (cm) or millimeters (mm) for all but one measurement. Convert five measurements of your choice (excluding weight) to a different power of ten. For example, if you took measurements in cm, you will convert five measurements of your choice to mm and visa versa.

2. Now convert your weight measurement from grams (g) to kilograms (kg).

3. Next convert you weight measurement from grams (g) to milligrams (mg) and write your answer in scientific notation. For example, 530 would be written as 5.3×10^2.

4. Calculate the percentage of each different color for your Bio-worm using the following equation: Different color length ÷ Total length x 100 = percentage of color.

5. Calculate the percentage of change in length when the Bio-worm was stretched using the following equation: (Stretched length – Original length) ÷ Original length x 100 = % change

6. A virus that measures 1.45 nanometers infects a host bacterial cell that is 0.5 micrometers in size. Express both of these measurements in **meters** using scientific notation. You will need to know that there are one million micrometers in a meter and one billion nanometers in a meter. Which is smaller, a virus or a bacterium?

King-Henry-Doesn't-[Usually]-Drink-Chocolate-Milk
Kilo-Hecto-Deka-[Unit]-Deci-Centi-Milli