Lab #1

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BIO 125

Physiology

“Tools of Trade”

In today's lab we are taking a look at physiological instrumentation. My partner and I will be taking a closer look with using the metric unit of measurement. We will be measuring in volume, mass, time, pH, linear and we will be converting the results from mm to cm, mL to liters and mg to g. After we are done with our first lab experiment, we should be able to be familiar with our measurements and conversions.

The first experiment that we measured was our own lab book. Using a linear we measured the length, width and depth in mm to convert then in cm. The second experiment we used was a beaker. Here we poured some water to measure the volume from mL to liters. Repeated the same method but into a graduated cylinder. Our third experiment we measured mass in a graduated cylinder and in a beaker to measure in milligrams to grams. We poured some water again into a graduated cylinder to weigh and poured the same amount into the beaker and weighed. We measured the pH of liquid in three containers labelled A, B, C. Here we seen if any of the containers were basic or acidic. Our final experiment we measured was our pulse in 15 seconds to beats per minute. We converted our beats to milliseconds.

After the end of each experiment, we contained our results and converted them too their proper measurements. By measuring our lab book with a linear our length was 273.1 mm converted to 27.305 cm, the width is 215.9 mm to 21.59 cm, depth is 6.35 mm to 0.635 cm. The volume measurement in the beaker was 50 mL to 0.05 liters, we poured same amount into a graduated cylinder

a got 44 mL to 0.044 liters. The mass of the weight was 153280 mg to 153.28 g, we poured the water into the beaker and weighed 151460 mg to 151.46 g. We also measured pH in three different containers labeled A, B, C. In container A the pH was 4, in B pH was 7 and in C pH was 9. Final measurement was in time. We measured our pulse rate in 15 seconds, which was 17 beats/second converted to 68 beats/minute. Measured in 60 seconds, which was 68 beats/minute converted to 17 beats/second to 882 beats/milliseconds.

The results indicated with each experimentation varied depending on the way we measured. We noted that when we measured with the beaker to the graduated cylinder there was a difference in results, why? Because of the height and width of the instrument being used. A beaker is tall and a skinner version of a graduated cylinder which is short and wider. Another experiment we noticed a change was the pH level in containers A, B, C. We looked at the pH scale and noticed that container A is acidic, B is neutral, and C is basic (alkaline). When we got to measure our pulse, we discussed measuring our pulse rate four times. So, whatever we get in 15 seconds we multiply by four to get our results in 60 seconds/minute. There were some errors at first with our pulse measurements before we came to an agreement of multiplying by four.

In conclusion, this was a fun learning experiment to refresh our brain by using a linear, weighing scale and even using the pH level table. My partner and I were very hands on with each measurement, we discussed the major differences between the graduated cylinder and the beaker. The purpose of this exercise was to get familiarized with physiological experimentation.