

Purpose

The purpose for laboratory one is to become familiar with physiological instrumentations and to orient ourselves with lab equipment. Laboratory one goes in depth in demonstrating how to use these different laboratory instruments and also demonstrates how to successfully record physiological measurements.

Procedure

The first step in the procedure part of the lab was to observe and get familiar with the operation of the instruments. After that was done the next step was to understand the application of the black box which is the instrumentation to experiments and measurements of human physiological events. The third step in the procedure is to become familiar with the basic metric units of measure, which we do by converting measurements using the metric system. To record linear measurements we recorded the length of our textbook using a ruler and converted the centimeters into millimeters using the metric system. To record volume measurements we poured water into a beaker and recorded the amount in milliliters and then converted it into liters, after we poured the same water from the beaker into a graduated cylinder and recorded the volume again in milliliters and then converted it into liters. To record mass measurements we recorded the weight of the beaker when it was empty, after we poured water into the beaker and recorded the weight in milligrams and after we converted it into grams. To record pH measurements we poured the liquid on to PH strips and compared the results. Lastly to record time measurements we recorded our pulse rate after 15 seconds and then used that amount to determine how many beats it would be in one minute and in milliseconds.

Results

Linear Measurements

1. State the length of your lecture text:	293mm	29.3cm
2. State the width of your lecture text:	266mm	26.6cm
3. State the depth of your lecture text:	40mm	4cm

Volume measurements

Beaker With Water	Graduated Cylinder with water
75ml	.075 liters
69ml	.069 liters

PH measurements

Liquid "A"	Liquid "B"	Liquid "C"
2	5	8
Acidic	Basic	Basic

Time measurements

Pulse Rate 15 second

1.3 beats/second

78 beats/minute

Pulse Rate 60 seconds

71 beats/minute

1.18 beats/second

0.071 beats/millisecond

Discussion

It was really interesting to see how quick and easy it is to do conversions using the metric system. In order to convert centimeters into milliliters I learned that $1\text{CM}=10\text{ML}$. To convert milliliters into liters I learned that 1 liter is equal to 1000 milliliters. To record PH measurements I was able to analyze the different PH levels and compare and contrast how they change colors with different chemical conditions. For time measurement I was able to calculate my pulse which was 71 beats per minute, to calculate this in milliseconds I learned that 1 second is equal to 1000 milliseconds, therefore I would have to move the decimal three times to the left to convert from second to milliseconds. An experiment error that may have existed during this lab is if you inaccurately record the PH levels of the liquid by pouring the solutions on the wrong strip.

Conclusion

Laboratory one Physiological Instrumentation demonstrates how to accurately measure different parameters using the proper use of instrumentation. We were able to test both chemical and physical determinations, and were introduced to different instruments to calculate measurements accurately such as PH strips, ruler and graduated cylinders. We were introduced to the black box which is the understanding of how electronic instrumentation works. Overall I enjoyed lab one and learning how to accurately calculate both chemical and physical determinations.