Purpose

The accurate measurement of physiological parameters requires the proper use of instrumentation. Even as simple a task as measuring a pulse rate requires the use of a timing device. It is important and necessary to spend the first laboratory of this course becoming familiar with the physiologist's tools of the trade.

Procedures

1. Observe the operation of these instruments.
2. Make a concerted effort to recognize and identify each on sight.
3. Understand the application of the black box instrumentation to experiments and measurements of human physiological events.

1. Become familiar with the basic metric units of measure.
2. Learn the basic unit of each measurement.
3. Understand the significance of the prefixes of each unit.
4. Complete the worksheet on page 6 using the following information.

Results

Linear measurements

1. State the length of your lecture text: 278 mm , 27.8 cm
2. State the width of your lecture text: 216 mm , 21.6 cm
3. State the depth of your lecture text: 40 mm , 4 cm

Volume measurements

1. Pour some water in the beaker and state the volume: 50 ml , .05 liters
2. Pour the water from the beaker into a graduated cylinder and state the volume: 37 ml , .37 liters

Mass measurements

1. State the mass of the weight: 20390 mg , 20.39 g
2. Pour some water into the beaker and state the mass of the liquid in the beaker: 34910 mg , 34.91 g

pH Measurements

1. State the pH of the liquid in container “A”: 5
2. State the pH of the liquid in container “B”: 7
3. State the PH of the liquid in container “C”: 9

Time Measurements

1. Determine your pulse rate after 15 seconds: 1.2 beats/second , 72 beats/minute
2. Determine your pulse rate after 60 seconds: 68 beats/minute , 1.13 beats/second , 1130 beats/millisecond

Discussion

I learned how to use various measuring tools used in physiology, and learned conversions. I wrote down and recorded the results of my measurements.

Conclusion

I learned how to use various measuring tools used in physiology, and learned conversions.