Scientists at Work

Lab (To the Students)

OBJECTIVE:

The purpose of the investigation is to practice using laboratory equipment and to use the metric system to measure length, area, volume, and mass.

MATERIALS:

The laboratory equipment

PROCEDURES:

1. Each team will perform the task given for each of the 10 stations listed below.
2. Record the data at each station in the space provided.
3. The stations may be done in any order. Always move to the station that is open so time will not be wasted waiting.

Station 1

Determine the volume of liquid in milliliters in each of the graduated cylinders.

No.1 _____

No.2 _____

No.3 _____

Station 2

a) Transfer 35 mL of the green liquid from the beaker to the Erlenmeyer flask.
b) Transfer 185 mL of the red liquid from the beaker to the Florence flask.
c) Find the volume in mL of the green liquid remaining in the beaker.

_____

d) Find the volume in mL of the red liquid remaining in the beaker.

_____

e) Return all materials to their original containers. Leave station clean and exactly as you found it.

Station 3

Each member of your team, in turn, must fill one test tube about half full of the red liquid and transfer the liquid from one tube to the other and back to the beaker without touching the test tubes with his or her hands. When you have done the task, write "Station 3 completed in the space below.

_____

Station 4

Use one of the balances and determine the mass in grams of each of the three rubber stoppers. Each team member should practice weighing the stopper.

#1 _____ #2 _____ #3 _____

Station 5

Measure the length of each of the tape strips and record his length in centimeters, meters, and millimeters.

1) _____ _____ _____

2) _____ _____ _____

3) _____ _____ _____

4) _____ _____ _____

Station 6

Measure each of the designated objects and determinthe surface area of each in square centimeters. To do the calculations, ıe the formula:

Area = Length x Width

Object 1 _____

Object 2 _____

Object 3 _____

Station 7

Determine the volume of each of the objects in cc centimeters using the formula:

Volume = Length x Width x Heigl

Box 1 _____

Box 2 _____

Box 3 _____

Station 8

a) Transfer 25.5 grams of the salt from the beaker to the Erlenmeyer flask.
b) Transfer 5.3 grams of the salt from the beaker to the Florence flask.
c) Determine the mass in grams of the salt remaining in the beaker.

_____

Station 9

a) Determine the temperature of the water in the beaker in °C.

_____

b) Determine the temperature of the air in the room in °C.

_____

Station 10

Use whatever equipment necessary and determine the mass of 100 mL of water.

_____