Volume Lab

Name _____

Part A: Count your drops!

HYPOTHESIZE- How many drops of water will it take to equal 1 milliliter? _____ _drops_

Follow the directions to find the number of drops in 1 milliliter of water, then answer the questions. You will need a small graduated cylinder (10 ml), a beaker of water, and an eyedropper for this section.
(1) Fill a small graduated cylinder with 3 ml of water.
(2) Count the number of drops it takes to raise the water to 4 ml. Record the number in the chart.
(3) Leave the water in the graduated cylinder and count the number of drops it takes to raise the water to 5 ml. Record the number in the chart.
(4) Leave the water in the graduated cylinder and count the number of drops it takes to raise the water to 6 ml. Record the number in the chart.
(5) Calculate your average and round to the nearest tenth.

# of drops to 4 ml	# of drops to 5 ml	# of drops to 6 ml	Average

Based on your ~~average~~, how close were you to your guess? _____

Based on your ~~average~~, how many drops would it take to make 1 liter? _____

Why did we do three trials? _____

Part B: Water Displacement

Follow the directions to find the volume of three marbles using water displacement.
(1) Add 20 ml of water to a 100 ml graduated cylinder. Record this amount in the chart.
(2) Add three marbles to the cylinder and measure the volume. Record this amount in the chart.
(3) Find the difference between the two measurements and record in the chart. The difference between the two measurements will be the volume of the three marbles.

Volume of water before adding marbles	Volume of water after adding marbles	Difference in volume	Volume of 3 marbles

Part C: Volume by Formula

Use the formula to find the volume of the box. Measure to the nearest centimeter (no decimals) before calculating your answer.

Volume = length x width x height

_____ x _____ x _____ = _____
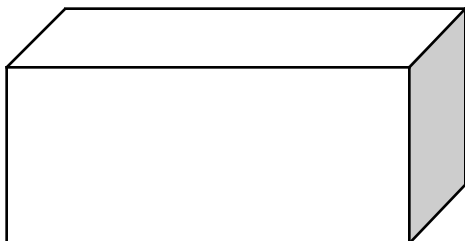
Part D: Color Challenge

1. Obtain the following items from your teacher:

        3 beakers with colored water- 25 ml of each color (red, blue, and yellow)
        1 graduated cylinder (25 ml - 50 ml)
        1 eyedropper
        6 test tubes labeled A, B, C, D, E, and F

2. Perform each step outlined below using <u>accurate</u> measurements.

    (1) Measure 18 ml of RED water from the beaker and pour into test tube A.

    (2) Measure 21 ml of YELLOW water from the beaker and pour into test tube C.

    (3) Measure 21 ml of BLUE water from the beaker and pour into test tube E.

    (4) Measure 5 ml of water from test tube A and pour it into test tube B.

    (5) Measure 6 ml of water from test tube C and pour it into test tube D.

    (6) Measure 7 ml of water from test tube E and pour it into test tube F.

    (7) Measure 5 ml of water from test tube C and pour it into test tube B.

    (8) Measure 3 ml of water from test tube A and pour it into test tube F.

    (9) Measure 4 ml of water from test tube E and pour it into test tube D.

3. Complete the chart.

Test Tube	Color	Final Amount (ml)
A		
B		
C		
D		
E		
F		