Salinity / Density Lab.   Name_____

Purpose: To understand the relationship between salinity and density and devise a simple method of finding the salinity of a sample of saltwater.

1. On the board are the 8 investigative groups needed to complete this assignment (maximum of 4 people per group). What are the names of the other students in your group? (first name, initial of last name)

1._____
2._____
3._____

2. Obtain a scale (balance) from the back of the room and "center" or "zero" it using the counterweight under the pan. Obtain a "tare" (piece of blue paper about 10 cm x 10 cm) and weigh it using the scale. The "tare" weight is _____

3. Look at the data table on the board and determine what salinity of solution your group will make. Add the weight of the salt to your "tare" weight above and set the scale (riders) for this total weight, which is _____

4. Add salt to the "tare" until the scale is perfectly balanced.

5. Obtain a stopper and flask from the front desk. Place the weighed salt into the flask and add the amount of water as shown on the data table. Place the stopper in the flask and shake until all the salt has dissolved.

6. Pour your solution into a 100 ml. graduate cylinder. Obtain a hydrometer from the front desk and find the density of the solution. I suggest you determine how the scale works before you place the hydrometer in the solution. The density is found by reading the location where the solution surface touches the hydrometer scale. The density is _____

7. Place the density value in the data table on the board for the rest of the class to see.

8. Copy all other densities and values that have been placed in the data table on the front board.

9. On the graph at the bottom of this paper, graph "DENSITY" vs "SALINITY". Be sure to use at least one half of the graph paper.

10. There are 3 different colored solutions on the front desk. Find the density (hydrometer) and the salinity (graph) of each of them. Record your findings below.

group	salt g	H$_2$O g	salinity	D
	0 g	100 ml	0 ‰	1.000
1		99 ml	10 ‰	
2		98 ml	20 ‰	
3		97 ml	30 ‰	
4		96 ml	40 ‰	
5		95 ml	50 ‰	
6		94 ml	60 ‰	
7		93 ml	70 ‰	
8		92 ml	80 ‰	

                                                    density   salinity

YELLOW SOLUTION _____   _____

GREEN SOLUTION _____   _____

BLUE SOLUTION _____   _____

D
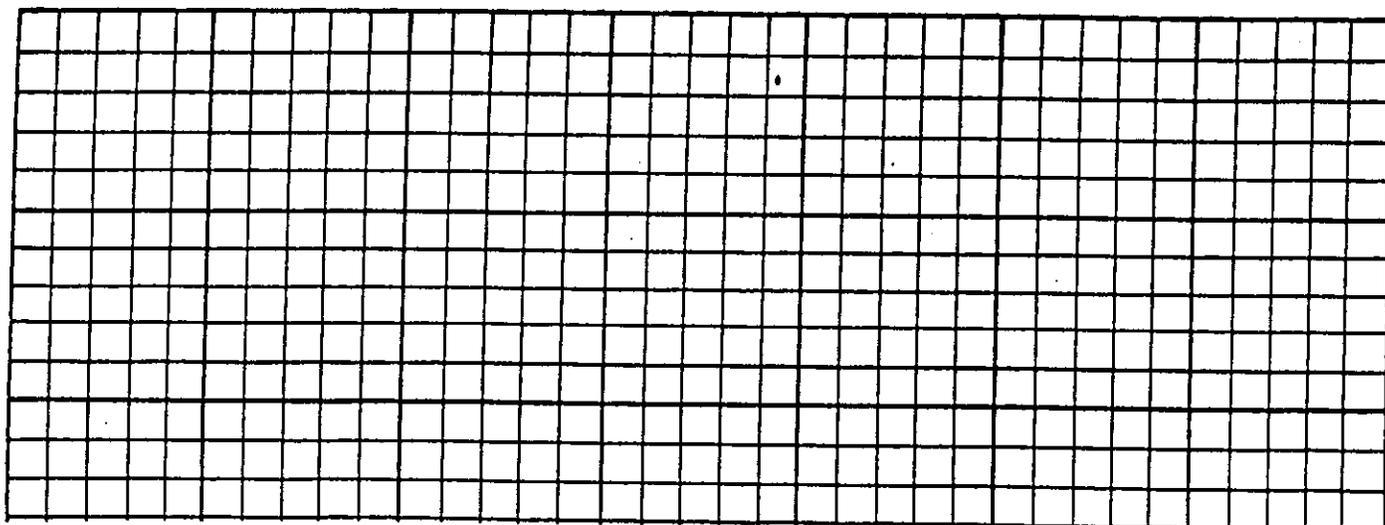
SALINITY (parts per thousand)