

**DENSITY CHALLENGE: Floating Crayons**

**Purpose:** Your job is to compare how different colors of crayons float in tap water and in increasing concentrations of salt water. You will then rank them from least amount of salt need to most needed.

**Procedure:**

1. Fill a beaker with 250 mL of tap water. Add several different colors of crayons to the water.
2. Record which crayons float in tap water with "0" scoops of salt.
3. Now add one small scoop of salt to the beaker and stir it with the wooden stick. Be sure to dissolve ALL of the salt. If any crayons now float, record "1" scoop in the data table.
4. Continue to add scoops of salt and stir. BE SURE TO ADD ONE SCOOP AT A TIME AND BE SURE IT IS ALL DISSOLVED BEFORE YOU GO ON. After each added scoop record any crayon color that begins to float with the number of scoops you have added up to that point.

**FLOATING CRAYONS**

Color of Crayon	Number of Scoops of Salt	Ranking	2 <sup>nd</sup> Team's Ranking	3 <sup>rd</sup> Team's Ranking
Red				
Orange				
Yellow				
Green				
Blue				
Purple				
Brown				

5. Now rank all your crayons in order.
6. Compare your results with two other teams.

**QUESTIONS:**

7. As you add the scoops of salt, does the salt water become more or less dense?  
\_\_\_\_\_
8. How did your rankings compare to the rankings of the other teams? \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

9. Does the size of the piece of red crayon you used affect your results matter? \_\_\_\_\_

Explain your answer. \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Make a Graph**

Using the information in the data table to make a bar graph of the color crayons vs. the number of scoops of salt it took for the crayon to float. Put the color of crayons in order from least dense to most dense based on YOUR TEAM'S data.

