## NSPIRING A SENSE OF WONDER IN THE WORLD AROUND US

## LAB: Exploring Ocean Chemistry

**Question**: How do physical and chemical properties of water affect ocean chemistry?

**Hypothesis**: (5 pts.)

**Materials:** (5 pts.) (Make a list of equipment and materials needed for this lab based on the procedures described below.)

## **Procedures:**

- **Step 1:** Add 45mL of salt pellets to beaker.
- **Step 2:** Add tap water to the beaker until the water level is even with the 200mL mark on your beaker.
- **Step 3:** Stir water in beaker until the salt pellets have dissolved; then wait a couple of minutes while the water clears.
- **Step 4: Prediction** Make a prediction based on the density of the golf ball and the water in the beaker. (See table below.)
- **Step 5:** Gently place the golf ball in the beaker of water.
- **Step 6: Illustration/Notes –** Illustrate and record your observations (See table below.)
- **Step 7: Prediction** Make a prediction based on the density of the water in the beaker, the golf ball, and adding 50mL of fresh tap water to the beaker. (See table below.)
- **Step 8:** Add 50mL of tap water on top of the golf ball inside the beaker **VERY SLOWLY**.
- **Step 9: Illustration/Notes –** Record your observations in the data table below.
- **Step 10:** Add 1 drop of food coloring and **GENTLY** stir the coloring into the top layer of water. Revise your Step 9 Illustration using a colored pencil to locate the food coloring.

**Data Collection:** (20 pts.) Illustrate and record your observations in the table below:

STEP 4: Prediction	Golf ball will float	Golf ball will float	Golf ball will float	Golf ball will sink to		
(Circle One)	on the surface	below the surface	near the bottom	the bottom		
STEP 6: Illustration (Illustrate your observation in the appropriate column)						
STEP 6: Notes						
STEP 7: Prediction	Golf ball will float	Golf ball will float	Golf ball will float	Golf ball will sink to		
(Circle One)	on the surface	below the surface	near the bottom	the bottom		
STEP 9: Illustration (Illustrate your observation in the appropriate column)						
STEP 9: Notes						



Electrical conductivity

Specific heat

Magnetism

State

Adhesion

Density

Polar molecule

Cohesion

Malleability

 Which 2 types of water were explored in this investigation?
 Identify the physical properties of matter and special properties of water observed in this investigation: (Circle all that apply)

Ductility

Solubility

			Thermal conductivity				Universal solvent								
3.	Describe how chemistry.	w eac	h of	these	physical	propertie	s of	matter	and	special	propert	ies (	of water	r affects	ocear
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