**Designing Floats**

**Student Instructions**

Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Instructions:

Imagine you are funded to design two autonomous floats that will carry sensors (yours will carry washers) to measure various water properties such as sea surface temperature and salinity or biochemical properties such as dissolved oxygen.

One float should be able to drift at the surface. It should float such that the sensor is just above the water surface. The other should float at the pycnocline (line in the water column where density changes the most) without touching the bottom of the tank.

Your goal is to design a prototype of the floats. You have at your disposal a variety of building materials, a bucket with fresh surface water and one with deep salt water. In your notebooks describe the design of your float by drawing a picture and labeling the parts. Talk about why you chose this design and your approach for determining the sinking and floating behaviors.

At the end, you will demonstrate that indeed one of your prototypes remains at the surface and one sits at the pycnocline.

Building Materials:

Film canisters or small vials; balloons; rubber bands; tape; drinking straws; pipe cleaners; paperclips; bubble wrap; glue gun; scale; ruler; graduated cylinder