**Background**

**Activity: Sinking of the SS Penny**

Density can be defined as the mass of per unit volume. It is a measurement of how much stuff is inside each unit of matter. We can apply it practically when it comes to water to see how objects will behave.

The density of water determines if an object can float or not. Objects that are more dense than water sink when placed in water. Objects that are less dense than water will float when placed in water.

Today you are going to put that knowledge to the test by building a boat. This boat should be able to float and carry weights in a small pool.

**Materials**

* A small container of water
* Pennies or small weights
* Tin Foil

**Planning Space**

You only get one shot at building your boat. So you may want to use the space below to draw out a design on how to build the most successful boat. Remember the density of water is 1g/cm3.

**Data**

1. Your Ship
   1. The mass of your ship –
   2. The volume of your ship –
   3. The density of your ship –
2. Water Mass
   1. The density of water –
   2. The mass of water that would fit in your ship –
3. How many pennies/weights did your ship hold?
   1. What is their mass?
   2. What was the density of your ship as it sunk?

**Post Lab Questions**

1. Did your ship float? Why?
2. Is there any reason your ship failed? Was it structural or density related?
3. What could you have done to make your ship carry more weights?