Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

# The UP Project



**Step 1:** Research and describe five different styles of houses. Draw and label the various designs. Select a style of house. This house will be constructed using Popsicle Sticks and HOT GLUE!

**Step 2:** Find the Density of:

Air-

He-

**Step 3:** Which of the following is less dense and why is this important?

**Step 4:** Research Archimedes’ Principle. Explain how it relates to our project. How does the principle apply? (Hint: liquids and gases are both fluids)

**Step 5:** What is neutral buoyancy?

**Step 6:** What has to be true about the TOTAL density of your house and the balloons for the house to float in air?

**Step 7:** How does this project relate to a Hot Air Balloon?

**Step 8:** Find the mass of your constructed house and the additional mass that will be assigned to you by the teacher at random.

**Step 9:** A single large balloon filled with Helium will lift approx.\_\_\_ g. Based on this information calculate the approximate number of balloons need to lift your house. SHOW YOUR WORK.

**Goal of this Project:** Calculate the number of balloons needed to lift your house. Using the principles learned during your research and come as close as possible to the actual number required.