Group Members

Write to the right of each role the first and last name of the group member filling that role (if there are groups of 4, two can serve as facilitators).

- *Taster/Subject*: Undergoes the experiment, tastes soda water, provides data._____
- *Materials*: Handles the materials (water et. al) for the experiment._____
- *Facilitator(s)*: Carries out the experiment, keeps track of time, records data._____

Causal Question

In one sentence, write the causal question you intend to test. It should be composed of a *response* variable having to do with perception of bubble water and whether it is affected by a given intervention / *explanatory* variable.

Null Hypothesis

Write down the corresponding *null hypothesis* that you will gather evidence against, the *alternative hypothesis*, and the *significance level*, α, that you intend to use. Also identify your *test statistic*.

Protocol

Record below the step-by-step protocol that you will use to collect data to bear on the claim above. Be precise. You should be able to hand this off to another group and have them conduct your experiment.

Data

In the space below, sketch out an empty data frame that identifies the important characteristics of your data. Create the data frame such that the number of rows reflect your sample size, n, and the number of columns represent the variables that you intend to collect. Label the columns with the names of those variables and note how you are defining your unit of observation.

Exploratory Data Analysis

Sketch a plot that you will use to use to determine how consistent your data are with your original claim. Please label the axes. Since you do not yet have data, create two sketches of what the plot *might* look like in two scenarios. Below each plot, write the ggplot2 code that will create that graphic. Note: these are plots of data, not null distributions of statistics.