Use your ‘Working with Variables’ handout (pg. 13) to help you answer the questions for each experiment.

Experiment #1

A food chemist wanted to know if the two new sweeteners (like Splenda, Equal, etc) he is working on will change the taste of cookies that can be purchased at the grocery store. He organizes a blind taste test with 50 volunteers. Each volunteer will have a cookie made with regular sugar and then cookies made with the two formulas of sweetener. He will then survey the volunteers to see if they could tell a difference between the cookies.

* What is the INDEPENDENT variable?
* What is the DEPENDENT variable?
* What are **three** CONSTANT variables for this experiment?

Experiment #2

For science class, students had to design a container for a raw egg to keep it safe when dropped from the roof. Each student had to use a shoe box but could then pick whatever they wanted to pack in the box with the egg.

* What is the INDEPENDENT variable?
* What is the DEPENDENT variable?
* What are **three** CONSTANT variables for this experiment?

Experiment #3

A new coffee shop is testing different colors of coffee cups to see if the color of the cup affects the customers’ reviews of the coffee. They plan to serve their coffee in mugs that are blue, orange, white, black, and yellow. They will then ask customers to take a quick survey after they have finished their cup of coffee.

* What is the INDEPENDENT variable?
* What is the DEPENDENT variable?
* What are **three** CONSTANT variables for this experiment?

Experiment #4

A leading shoe manufacturer is testing different patterns of the soles of their shoes to see which patterns increase traction on cross-trainers. They have four designs to test with their volunteer athletes. Each athlete has to complete an obstacle course. The manufacturer has planted sensors around the course to measure how much the athletes’ feet slip on different surfaces. The sole design with the least amount of slippage will be used on future shoe designs.

* What is the INDEPENDENT variable?
* What is the DEPENDENT variable?
* What are **three** CONSTANT variables for this experiment?