

Name \_\_\_\_\_

## **The Black Box Experiment**

Scientists often need to make indirect observations and inferences as they study many aspects of physics. Not everything can simply be observed. This experiment is similar to the way scientists figured out parts of the atom and other aspects of nuclear physics. They could not directly see the things involved, they could only make inferences and observations, and then draw conclusions based on them.

This lab is designed to illustrate how Physics students can do something similar. You will be using a “Black Box.” Your black box will be a film canister with some pennies. You will need to make a minimum of 5 observations and 3 inferences about the contents of the container. Your goal will be to draw a conclusion on the number of pennies in the container, based solely on your observations and inferences. You must support your conclusions with information you have gathered.

Reminder:

Observations: What you actually find using your senses... hearing, touch, smell, sight and taste (hopefully not in this experiment!)

Inferences: What you think based on your observations.

After the experiment is completed, you must write a formal write-up.