SNC1D	**Rotocopter Lab**
Nature of Science	**Name:** **Date:**

Today we will be using the scientific method to determine factors that effect the amount of time it takes for a "rotocopter" to fall to the floor.

PART A – How long does it take for a rotocopter to fall to the floor?

Procedure:

1. Get into groups of 3. Decide in your group who will be the timer, the dropper, and the recorder. Write the names below.

TIMER: _____ DROPPER: _____ RECORDER: _____

2. Do not cut until instructed to do so. Cut the rotocopter on the solid lines ONLY.
3. Fold the rotocopter along the dotted lines. It should look like a "T".
4. Place a paperclip on the bottom of the rotocopter.
5. Release the rotocopter and record the time how long it takes to fall. Repeat for a total of 3 trials.
6. Determine the average time it takes for the rotocopter to fall.

PART B – Create a new Rotocopter

Procedure:

1. As a group decide on a variable to modify. Circle an example, or write your own:
   Blade length Number of paper clips Thickness of blades Size of copter

Hypothesis:

_____

_____

2. Decide in your group who will be the timer, the dropper, and the recorder. Write the names below.

TIMER: _____ DROPPER: _____ RECORDER: _____

3. Build your new rotocopter.
4. Release the new rotocopter and record the time how long it takes to fall. Repeat for a total of 3 trials.
5. Determine the average time it takes for the new rotocopter to fall.

Results:
Design a data table in the space below to record your data. Be sure to include columns for the original rotocopter and the new rotocopter, and space for averages. Show your teacher.

Analysis and Evaluation: Answer the following questions.

1- What was your dependent variable?

2- What was your independent variable?

3- What was the relationship between the dependent and the independent variable? (as the independent variable changed, what happened to the dependent variable?)

4- What were your controlled variables? List at least three.

5- Was your new rotocopter faster or slower? Did this surprise you? Explain.

6- List a few reasons that might have made errors in your experiments. (What were the experimental errors?)