Name:_____ Date_____ Per___

Come Fly With Me Lab

Objective:
Scientific inquiry refers to the many different ways in which scientists investigate the world. Scientific investigations are done to answer questions and solve problems. In class, you have learned that the scientific method allows you to solve problems through focused trial and error. In this lab, you will be using the scientific method to figure out how to make a paper airplane that flies father than any of your other classmates.

Record the steps to the Scientific Method Below (Use your notes if you are unclear about the steps):

1.

2.

3.

4.

5.

Pre-Lab Questions:

6. Have you ever flown a paper airplane before?

7. Do you always use the same type of paper?

8. Do you always use the same design?

Part 1:
You want to know which paper airplane design is best. This means you have to decide what "best" means. Best would mean in this case what flies the farthest. With you lab partner, you need to decide what you would like to test: the length, the weight, or the style.

Write a question that states what your group would like to test:

Part 2:
Record your hypothesis below (If then statement, If I do this then this will happen):

Example: If I use construction paper then the paper airplane will fly a smaller distance because the construction paper is heavier.

_____

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Procedure:

1. Select three different types of paper airplanes (type of plane, its design, or changes made to the plane).
   a.

   b.

   c.

2. Make a paper airplane (one you are familiar with or you can follow the steps below). Adapted from the following website: http://www.10paperairplanes.com/how-to-make-paper-airplanes/03-the-arrow.html
   a. Fold a sheet of paper exactly in half long-ways, and re-open it so you have a crease separating the two halves.
   b. On one end of the paper, fold each corner in towards the center to the point where the inside edges are even with the centerline crease.
   c. Starting at the very tip of the point, fold the paper down on each side so the inside edges line up with the center crease.
   d. Turn the paper airplane over and fold it in half along the centerline.
   e. Fold the first wing with the line of the fold running nearly parallel to the centerline of the plane. Make this fold from 1/2 to 1 inch from the center. Step 6 shows this fold more clearly.
   f. Fold the second wing exactly as you did the first.
3. Pick a spot to launch your airplane. We will need to go outside to do this lab.
4. Throw the first airplane.
5. Measure the distance and record your data.
6. Repeat four more times.
7. Throw the second airplane.
8. Measure the distance and record the data.
9. Repeat four more times.
10. Throw the third airplane.
11. Measure the distance and record your data.
12. Repeat four more times.

Part 3: Data Collection

Distance in Meters of Airplane Flight (Dependent Variable)

Type of Airplane	Trial 1	Trial 2	Trial 3	Trial 4	Trial 5	Average Distance
1						
2						
3						

Type of Airplane - Independent Variable, Manipulated)

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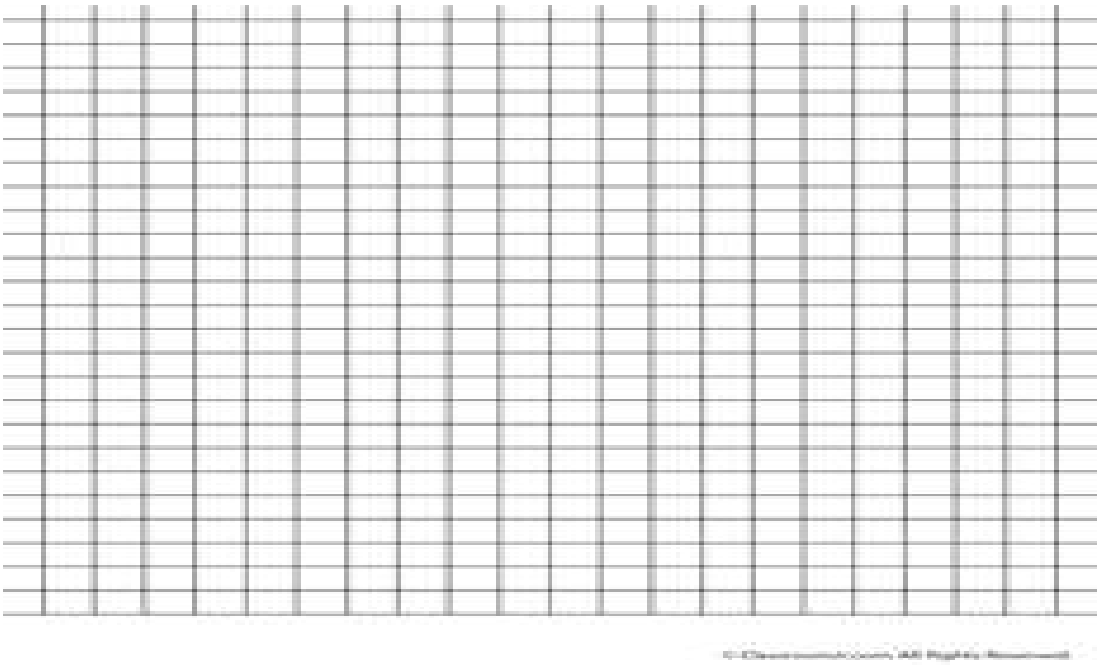
Part 4:

Analyze your data. What does the data mean? Graph your data below using a bar graph.

- Label the x-axis should be the type of airplane: Airplane 1, Airplane 2, and Airplane 3
- Label the y-axis should be the distance in meters
- Label the graph with a title



Part 5: Post-Analysis Questions:

1. Was your hypothesis correct or incorrect? Explain using the information you obtained from the lab.

2. Do you think this is how scientists conduct their own research? Explain why or why not.

3. Do you think the scientific method is a good way to make scientific discoveries? Explain either way.