Name: ____________________________

**Airplanes**

**Purpose**
To design an airplane that will fly further than any other in class.

**Procedure**
1. You and your partner should select the same type of paper. Take five sheets each.
2. Design and fold the paper into an airplane that you think will fly the furthest. Fold the same plane five times. Your partner should do the same, but do not collaborate on your plane design.
3. Number your planes, one to five, and put your name on them.
4. Place the planes in the bag provided.
5. Write a procedure that you will follow to fly your planes. You will have access to a runway in the hall with a starting line to stand on. Include a data table for your flight distances and leave room for any observations you might make. You will record both your and your partner's results (10 flights total).
6. After you fly both sets of planes, together, you will make one more design based on your results. This new design change will need to be described in detail (or drawn) to show what you changed from your first two designs.
7. Fold the new design five times. Number the five planes and put your combined names on them. Fly the planes and record your results and observations.

**Analysis**
1. In your opinion, how well did your plane fly? Why do you think that?
2. Why did you change your design the way you did? Did it work any better? Why or why not?
3. If you were to do this lab again, what would you change? Why?
4. Now, do some internet research. What is the longest flight of paper airplane? What kind of paper was it made of? Make sure to record your source and the date and place of flight.
5. Explain how a plane flies. What is it that allows the airplanes of our time to fly through the air? Would they fly through a vacuum? Why or why not?
6. What do you think would be necessary of a design to fly a craft in outer space? Describe it in detail or draw it. Why?

**Conclusion**