Name: **Date:**

I. Title:

Projectile Motion at Different Angles

II. Purpose:

You can launch projectiles at different angles. The purpose of this lab is to figure out which angle will allow the projectile to go the furthest, by comparing the launch of projectiles shot at 15, 30, 45, 60, 75, and 90 degree angles. You must design a launcher that can shoot projectiles at different angles and record the distances and travel times for each launch.

II. Background:

A projectile is:
-A moving object
-With only the force of gravity exerted on it
-Set in motion and released

III. Hypothesis:

(For your hypothesis, keep in mind that you are going to shoot projectiles at 15, 30, 45, 60, 75, and 90 degrees.)

Which angle projectile will go the highest? Why? Draw the path of the projectile.

Which angle launch will go the furthest? Why? Draw its path.

Which angle launch will be in the air the longest? Why? Draw its path.

IV. Procedure: Describe the materials you used and the steps you took for your lab below.

A. Materials:

B. **Steps:**

V. Results

Angle	Time (seconds)	Distance
15 degrees		
30 degrees		
45 degrees		
60 degrees		
75 degrees		
90 degrees		

VI. Questions

1. Which projectile went the farthest? Was this different from your hypothesis? Why?

2. Which projectile was in the air the longest? Was this different from what you expected? Why / Why not?

3. Is a paper airplane a projectile? Why or why not?

4. What improvements and changes did you make in your setup as you did this experiment?

5. If you did the lab again, is there any part of the experiment design that you would improve to be more accurate? Are there any places where your results might have errors?