

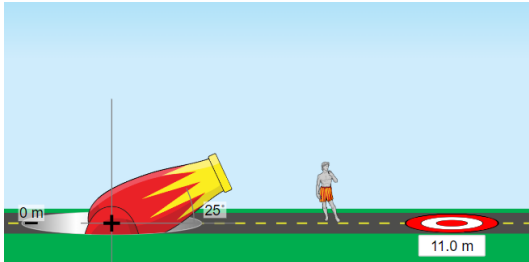
# Air Rocket Lab - MAKEUP IF ABSENT

Go to

[https://phet.colorado.edu/sims/html/projectile-motion/latest/projectile-motion\\_all.html](https://phet.colorado.edu/sims/html/projectile-motion/latest/projectile-motion_all.html)

Or go to Google and type in “projectile motion PhET”

- Go to the “Intro” tab.
- Drag the cannon to the ground (altitude of 0 m) and drag the target to 11.0 meters



## Purpose

Your goal is to hit the target at 11 meters in three shots of the cannon. You can only change the angle of each shot, you cannot change the initial speed (it should remain at 15 m/s).

## Pre-Lab

1. Think, if your first launch goes too far, what do you think you should do to the angle of your second shot? What about if your launch goes too short?

## Launches

### Trial 1 - the test shot:

What angle did you use?

Describe what happened. (Did it go too far, too short)

What angle will you use for your second shot? Why? (Make sure to think about what we've talked about in class in terms of how angles affect the range of a projectile.)

Name:

Number:

Date:

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### **Trial 2 - adjustments:**

What angle did you use?

Describe what happened. (Did it go too far, too short)

What angle will you use for your third shot? Why? (Make sure to think about what we've talked about in class in terms of how angles affect the range of a projectile.)

### **Trial 3 - make it happen:**

What angle did you use?

Describe what happened. (Did it go too far, too short)

## **Conclusions**

Write a few sentences to answer the following questions:

- a. What was the purpose of this lab?
- b. Were you successful? Why or why not?