

Projectile motion:

Objective: What affects projectile motion and how?

Go to the PHET website by using the link on my website or google Phet simulations. When you get to the Phet website type in projectile motion and run the simulation. You will know you are on the correct site and simulation because it will look the same as the one that the teacher demonstrated with at the beginning of class.

I. How does air resistance affect projectile motion?

1. For each angle below, write the range (determined as shown by the teacher) of the projectile motion
2. Be sure to set the simulation first to no air resistance and then again to air resistance and use the golf ball as your projectile.
3. Graph the results of range vs. angle (you will have 2 lines so be sure to make a key)
4. Below the graph, discuss what the data indicates for how air resistance affects projectile motion and any other trends you see. (should be at least 4 sentences)

II. How does the shape of the projectile affect the motion of that object?

1. Fill in the data table II in the same way you did above, but this time you will be using both the golf ball and the tank shell as projectiles.
2. Graph the results of range vs angle for both projectiles on the same graph. (you will have 4 lines so be sure to have a key)
3. Below the graph, discuss what the data indicates about the effect of shape on projectile motion and any other trends you see. (should be at least 4 sentences)

I. How does air resistance affect projectile motion?

Angle	range (with air)	range (without air)
80		
70		
60		
50		
40		
30		
20		
10		

II. How does shape of the projectile affect motion of the projectile?

Angle	Range (tank shell with air)	Range (tank shell without air)	Range (golf ball with air)	Range (golf ball without air)
80				
70				
60				
50				
40				
30				
20				
10				