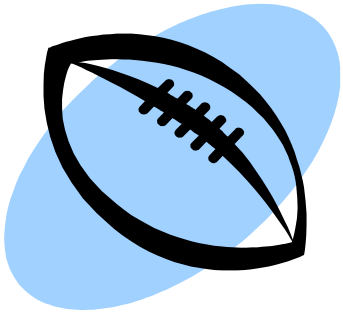
Name _____ Date _____ Period _____

Projectile Motion Webquest



Type in the following website and answer the questions below.
http://www.physicsclassroom.com/Class/vectors/u3l2a.cfm

1. What is a projectile?

2. Describe the 3 types of projectiles.
   a.

   b.

   c.

3. Draw the 3 examples of projectiles you see on the page.

4. What is the only force acting on a projectile?

5. Without gravity, describe the motion of an object in regards to its' speed and direction.

Click on "Animation" below the first picture of the cannon.

The questions deal with the dilemma of where to aim when trying to hit a monkey with a banana. You will need to click on the different situations that are listed below to answer all the questions.

6. In the absence of gravity, describe the path of the banana when shot at the monkey.

7. In the absence of gravity, where would you aim if you wanted to hit the monkey?

8. In the presence of gravity, describe the path of the banana if you aim above the monkey's head.

9. Does the banana hit the monkey?

10. Does the banana hit the monkey if you aim straight at it?

11. Can you hit the monkey at a fast speed with gravity on?

12. Can you hit the monkey at a slow speed with gravity on?

13. Do both the monkey and the banana experience the same acceleration?

14. Explain in a few sentences why you can hit the monkey with the banana for both a fast and slow speed when you aim directly at it?

Click on "Characteristics of Projectile's Trajectory" on the bottom of the page to go to "Lesson 2: Projectile Motion."

1. What are the two components of a projectiles motion?

2. Draw and label the diagram of the cannonball being fired that shows the gravity - free path, vertical path, and projectile motion path.

3. Fill in the following table below

	Horizontal motion	Vertical motion
Forces		
Acceleration		
Velocity		

Click on “Animation” underneath the table.

4. Does the cannonball experience a horizontal acceleration?

5. Does the cannonball experience a vertical acceleration?

6. How would you describe the shape of the trajectory of a projectile?

Click on the left side of the page to get to “The Plane and the Package.”

1. Once the package is dropped, what type of path does it take?

2. Where does the package remain in relation to the plane?

3. Does the package undergo a vertical acceleration, and if so what is it due to?

4. Assuming the absence of air resistance, does the package undergo a horizontal acceleration?

5. If the plane is trying to make a supply drop, when would it release its’ supplies to hit the target below:
    a. before the target
    b. directly above the target
    c. after the target

On the left side of the page, click on “The Truck and the Ball.”

1. Describe the path of the ball as it is shot from the truck.

2. Is there horizontal force acting on the ball?

3. Describe the velocity of the ball in the horizontal direction.

SUMMARIZE: Write down a few sentences that summarizes what you learned about projectile motion. You must include the following concepts:

- Path of a projectile

- Forces acting on a projectile

- Velocity of a projectile

- Acceleration of a projectile