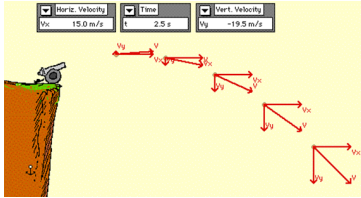


Horizontal Projectiles

Horizontal Projectiles

Objective:

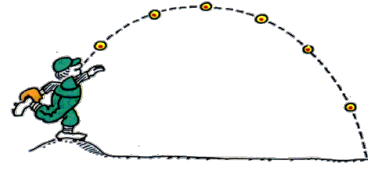
Understand relationships between horizontal and vertical motions in projectiles.



Projectile

Any object that moves through air/space acted upon only by gravity.

The path of a projectile is a parabola.



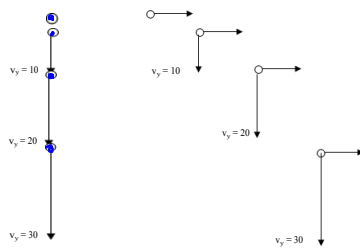
Horizontal Projectiles

- horizontal & vertical motion are independent.

Vertical Motion

$$V_y = a \cdot t$$

$$d_y = \frac{1}{2} a \cdot t^2$$



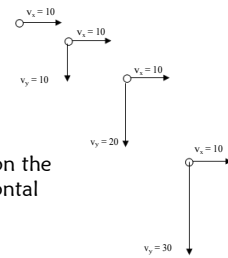
Horizontal Projectiles

Horizontal Motion

$$V_x \text{ is constant}$$

$$d_x = v_x \cdot t$$

No horizontal force is acting on the projectile so there is no horizontal acceleration.



Horizontal Projectile Equations

Vertical Motion

$$V_y = a \cdot t$$

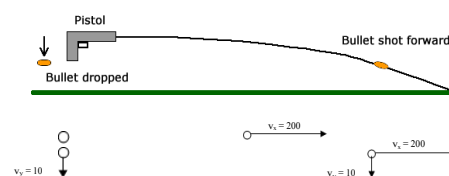
$$d_y = \frac{1}{2} a \cdot t^2$$

Horizontal Motion

$$V_x \text{ is constant}$$

$$d_x = v_x \cdot t$$

Fast-Moving Horizontal Projectiles



Horizontal Projectiles

Assignments . . .



- Chapter 2 HW # 9-22

