

Projectile Motion Quiz PDF

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Explain why the horizontal component of a projectile's velocity remains constant if air resistance is ignored.

What is the significance of the maximum height in projectile motion, and how is it calculated?

Discuss the role of gravity in determining the path of a projectile.

How does the initial velocity of a projectile influence its trajectory?

Describe how the launch angle affects the range of a projectile.

Why is it important to separate the horizontal and vertical components when analyzing projectile motion?

At what point in its trajectory does a projectile have zero vertical velocity?

- At launch
- At the peak
- Just before landing
- Throughout the flight

Which angle of launch will give a projectile the maximum range?

- 30 degrees
- 45 degrees
- 60 degrees

- 90 degrees

What happens to the horizontal component of velocity as a projectile moves?

- It increases
 It decreases
 It remains constant
 It becomes zero

Which of the following are components of projectile motion? (Select all that apply)

- Horizontal motion
 Vertical motion
 Circular motion
 Linear motion

Which factor is typically ignored in basic projectile motion calculations?

- Gravity
 Air resistance
 Initial velocity
 Launch angle

Which component of projectile motion remains constant if air resistance is ignored?

- Vertical velocity
 Horizontal velocity
 Vertical acceleration
 Horizontal acceleration

In the absence of air resistance, which of the following statements are true about projectile motion? (Select all that apply)

- The horizontal velocity remains constant.
 The vertical velocity remains constant.
 The path is a parabola.
 The acceleration is zero.

What shape does the trajectory of a projectile typically follow?

- Circular

- Linear
- Parabolic
- Elliptical

What is the approximate value of acceleration due to gravity on Earth?

- 8.91 m/s²
- 9.81 m/s²
- 10.81 m/s²
- 11.81 m/s²

What is the primary force acting on a projectile in motion?

- Friction
- Gravity
- Air resistance
- Tension

Which factors affect the range of a projectile? (Select all that apply)

- Initial velocity
- Launch angle
- Mass of the projectile
- Acceleration due to gravity

What are the characteristics of vertical motion in projectile motion? (Select all that apply)

- Constant velocity
- Constant acceleration
- Affected by gravity
- Independent of horizontal motion

Which factors are considered when calculating the time of flight for a projectile? (Select all that apply)

- Initial vertical velocity
- Horizontal velocity
- Gravity
- Launch angle

**Which of the following equations are used to calculate vertical displacement in projectile motion?
(Select all that apply)**

- $y = v_{y0} \cdot t + \frac{1}{2}gt^2$
- $x = v_x \cdot t$
- $v_y = v_{y0} + gt$
- $R = \frac{v_0^2 \sin(2\theta)}{g}$