

Acceleration Quiz PDF

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Which of the following best describes uniform acceleration?

- Acceleration that increases over time
- Acceleration that decreases over time
- Constant acceleration over time
- Zero acceleration

Which kinematic equation is used to calculate final velocity?

- $v = u + at$
- $s = ut + \frac{1}{2}at^2$
- $v^2 = u^2 + 2as$
- $F = ma$

What is the SI unit of acceleration?

- m/s
- m/s^2
- km/h
- N/kg

If an object is moving with constant velocity, what is its acceleration?

- Positive
- Negative
- Zero
- Infinite

How can you determine the acceleration of an object using a velocity-time graph?

Describe a real-world scenario where non-uniform acceleration occurs and explain why.

What is the significance of centripetal acceleration in circular motion? Provide an example.

Which of the following is an example of centripetal acceleration?

- A car speeding up on a straight road
- A ball thrown upwards
- A satellite orbitin Earth
- A falling leaf

What is the acceleration due to gravity on Earth approximately equal to?

- 9.81 m/s²
- 8.91 m/s²
- 10.81 m/s²
- 7.81 m/s²

Which of the following are kinematic equations? (Select all that apply)

- $v = u + at$
- $s = ut + \frac{1}{2}at^2$
- $F = ma$
- $v^2 = u^2 + 2as$

Which of the following scenarios involve acceleration? (Select all that apply)

- A car coming to a stop
- A cyclist maintaining a constant speed
- A ball being thrown upwards
- A book resting on a table

Which of the following factors affect acceleration? (Select all that apply)

- Mass
- Force
- Velocity
- Time

Discuss the importance of understanding acceleration in vehicle safety design.

What are the characteristics of non-uniform acceleration? (Select all that apply)

- Constant speed
- Changing acceleration
- Varyin velocity
- Constant direction

What can be determined from a position-time graph? (Select all that apply)

- Speed
- Displacement
- Acceleration
- Force

Explain how acceleration is related to Newton's Second Law of Motion.

In the equation $F = ma$, what does m represent?

- Momentum
- Mass
- Force
- Acceleration

In which situations is understanding acceleration crucial? (Select all that apply)

- Designing roller coasters
- Developing sports strategies
- Baking a cake
- Planning car safety features

What does the slope of a velocity-time graph represent?

- Displacement
- Speed
- Acceleration
- Time

How do kinematic equations help in solving problems involving motion? Provide an example of their application.

