

## Angular Momentum Quiz Answer Key PDF

Angular Momentum Quiz Answer Key PDF

*Disclaimer: The angular momentum quiz answer key pdf was generated with the help of StudyBlaze AI. Please be aware that AI can make mistakes. Please consult your teacher if you're unsure about your solution or think there might have been a mistake. Or reach out directly to the StudyBlaze team at [max@studyblaze.io](mailto:max@studyblaze.io).*

**What is the effect called when a spinning object changes its rotational axis due to an external force?**

- a. Precession ✓**
- b. Translation
- c. Oscillation
- d. Vibration

**What is the term for the resistance of an object to changes in its rotational motion?**

- a. Inertia
- b. Mass
- c. Velocity
- d. Moment of Inertia ✓**

**What is the SI unit of angular momentum?**

- a. Newton
- b. Joule
- c. Kilogram meter squared per second ✓**
- d. Meter per second

**What are the consequences of angular momentum conservation in space? (Select all that apply)**

- a. Satellites maintain their orientation ✓**
- b. Planets maintain stable orbits ✓**
- c. Space spacecraft can change direction without engines
- d. Stars can form stable systems

**What happens to a figure skater's angular velocity when they pull their arms in while spinning?**

- a. It decreases
- b. It increases ✓**
- c. It remains the same
- d. It stops

**Which of the following are examples of gyroscopic effects? (Select all that apply)**

- a. A spinning bicycle wheel maintaining balance ✓**
- b. A planet orbiting a star
- c. A drone stabilizing in the air ✓**
- d. A pendulum swinging back and forth

**Which of the following affects the moment of inertia of an object?**

- a. The object's color
- b. The object's mass distribution ✓**
- c. The object's temperature
- d. The object's volume

**Which of the following best describes angular momentum?**

- a. A measure of linear motion
- b. A measure of rotational motion ✓**
- c. A measure of potential energy
- d. A measure of kinetic energy

**What is the formula for angular momentum (L)?**

- a.  $L = m \cdot v$
- b.  $L = F \cdot d$
- c.  $L = I \cdot \omega$  ✓**
- d.  $L = m \cdot g \cdot h$

**Which factors determine the moment of inertia of an object? (Select all that apply)**

- a. Shape of the object ✓**
- b. Mass of the object ✓**

**c. Distribution of mass relative to the axis ✓**

d. Color of the object

**Which of the following are components of angular momentum? (Select all that apply)**

a. Mass

**b. Angular velocity ✓**

**c. Moment of inertia ✓**

d. Linear velocity

**Which principle states that angular momentum remains constant if no external torque acts on a system?**

a. Conservation of Energy

b. Conservation of Mass

**c. Conservation of Angular Momentum ✓**

d. Conservation of Charge

**Which of the following are true about torque? (Select all that apply)**

**a. It is the rotational equivalent of force ✓**

**b. It can change the angular momentum of a system ✓**

c. It is measured in newtons

**d. It is calculated as force times distance from the pivot ✓**

**In which scenarios is angular momentum conserved? (Select all that apply)**

**a. A planet orbiting the sun ✓**

b. A car accelerating on a straight road

**c. A spinning top in the absence of external forces ✓**

d. A pendulum swinging in a vacuum