

Newton's First Law Assessment

1. What is the main principle of Newton's First Law of Motion?

- A. Objects in motion speed up without external forces
- B. Objects at rest stay at rest and objects in motion stay in motion unless acted upon by an external force
- C. Objects always require a force to keep moving
- D. Objects naturally come to a stop over time

2. A book is sitting on a table. According to Newton's First Law, why doesn't it move?

- A. Because gravity is pulling it down
- B. Because it has no inertia
- C. Because no unbalanced force is acting on it horizontally
- D. Because it's too heavy to move

3. What is inertia?

- A. The speed of an object
- B. The force that stops objects
- C. The tendency of an object to resist changes in its state of motion
- D. The weight of an object

4. In space, why does a spacecraft continue moving after its engines are turned off?

- A. Because space has no gravity
- B. Because the engines are still providing some thrust
- C. Because of Newton's First Law and the absence of friction
- D. Because solar wind pushes it forward

5. What happens to passengers in a car when it suddenly stops?

- A. They stay perfectly still
- B. They move backward
- C. They move forward due to their inertia
- D. They move sideways

6. Which scenario best demonstrates Newton's First Law?

- A. A rolling ball speeding up down a hill
- B. A person pushing a shopping cart
- C. A coin sitting still on a table
- D. A rocket accelerating upward

7. What force commonly prevents objects from moving forever on Earth?

- A. Gravity
- B. Friction
- C. Air pressure
- D. Magnetic force

8. Why do we wear seatbelts in vehicles?

- A. To stay warm while driving
- B. To look fashionable
- C. To prevent injury due to inertia during sudden stops
- D. To keep the car balanced

9. A soccer ball rolling on grass eventually stops because:

- A. It runs out of inertia
- B. Friction acts as an external force
- C. Gravity pulls it down
- D. Air pushes it backward

10. In the absence of external forces, an object in motion will:

- A. Eventually stop moving
- B. Speed up gradually
- C. Change direction randomly
- D. Continue moving at constant velocity