

STUDYJAMS – Gravity & Inertia

1. **Which of these can cause a moving object to change direction?**
 - a. Inertia
 - b. Velocity
 - c. Force
 - d. Mass

2. **What is gravitational force?**
 - a. The force that keeps people from meeting.
 - b. The force of attraction between any two people.
 - c. The force that makes inert objects start moving.
 - d. The only force that changes and objects velocity.

3. **Where is an objects center of gravity?**
 - a. The exact center of its mass.
 - b. The part that is closest to the Earth.
 - c. Any part of an object, as long as it has mass.
 - d. All of the above.

4. **A paperclip and a computer are sitting at your desk. What is true about the gravitational force of these two objects?**
 - a. The paperclip attracts the computer with less gravitational force than the computer attracts the paperclip.
 - b. The computer and the paperclip attract each other with equal gravitational force.
 - c. The computer attracts the paperclip with less gravitational force than the paperclip attracts the computer.
 - d. There is no gravitational force between the paperclip and the computer

5. **Why don't we see the ground coming toward us?**
 - a. We have less gravitational force than the Earth.
 - b. We have more inertia than the Earth.
 - c. We have less mass than the Earth.
 - d. We are already standing on the Earth.

6. **Why doesn't the moon crash toward the Earth's surface?**
 - a. It has very little inertia, so it stays in the sky and floats through space.
 - b. It has lots of mass, so it feels the Earth's gravitational force less than smaller objects do.
 - c. It has more mass than the Earth, so it stays in one place while the Earth orbits it.
 - d. It is too small to fall through the Earth's atmosphere and reach the Earth's surface.

7. **Why is it impossible to "defy gravity"?**
 - a. There is no gravity.
 - b. You can't defy gravity without going to another planet.
 - c. Gravitational force exists every place where there are two objects.
 - d. Nothing has enough force to resist gravity.

STUDYJAMS – Forces & Motion

1. What would you need to move a soccer ball?
 - a. Friction
 - b. Gravity
 - c. Force
 - d. Inertia
2. Which of these is an example of a force?
 - a. Watching a slice of bread in the toaster.
 - b. Pulling a casserole out of the oven.
 - c. Listening to your school chorus.
 - d. Taste testing soup cooking on the stovetop.
3. Which object would require the most amount of energy, or force to set it in to motion?
 - a. a school bus
 - b. a refrigerator
 - c. a microwave
 - d. a houseplant
4. Your older brother tells you his paper airplane has inertia. What does that mean?
 - a. It has too much resistance to fly more than a few feet from his hand.
 - b. It is too heavy to stay in the air for more than a few seconds.
 - c. It will require a lot of force to get it to fly.
 - d. It will stay in flight unless something stops it, or it will stay unless something moves it.
5. What is the name of the unit you use to measure force?
 - a. Neutron
 - b. Norton
 - c. Nucleus
 - d. Newton
6. Why don't skateboarders keep flying through the air when they launch off a ramp?
 - a. The force of gravity works against the skateboarders' inertia.
 - b. Skateboard wheels don't spin fast enough to keep them moving very far.
 - c. The skateboarders have no inertia when they launch off the ramp.
 - d. Skateboarders do not use Newtons to move around ramps.
7. What is an example of friction?
 - a. slipping on a patch of ice
 - b. dropping a book on the floor
 - c. diving into a swimming pool
 - d. wind blowing against you as you walk