

**Chapter Test 13**

Name \_\_\_\_\_

**Part 1 Multiple Choice**

Write the letter of the best response on the space provided.

1. \_\_\_ If you flew from Earth to the moon, which would occur?
  - a. Your weight would increase, but your mass would decrease.
  - b. Your weight would decrease, but your mass would increase.
  - c. Both your weight and your mass would decrease.
  - d. Your weight would decrease, and your mass would remain the same.
2. \_\_\_ The force of attraction between two objects is called
 

a. mass	c. weight
b. motion	d. gravity
3. \_\_\_ What is the best definition of *force*?
 

a. kilogram	c. any push or pull against an object
b. mass and weight	d. anything that slows motion
4. \_\_\_ Which are types of forces in the universe?
  - a. electricity, muscle power, elastic action
  - b. gravity, mass, newtons
  - c. weight, mass, atomic power
  - d. machine power, friction, weight
5. \_\_\_ What must be known to predict how much gravitational pull two objects have on each other?
  - a. weight and distance from each other
  - b. electrical charge and mass
  - c. mass and distance from each other
  - d. age, weight, and mass
6. \_\_\_ Why are people on Earth not pulled into the sun?
  - a. The sun's gravity is weaker than Earth's gravity
  - b. Earth's gravity is weaker than the sun's gravity, but people are much closer to Earth
  - c. The gravity of Earth and sun cancel out each other.
  - d. People are too small to be attracted by the sun's gravity.
7. \_\_\_ What must be true for an object to balance?
  - a. The balance point must be exactly in the center of the object.
  - b. The mass must be distributed equally on both sides of the balance point.
  - c. The object must be located some distance from the center of gravity.
  - d. The balance point must be located some distance from the center of gravity.
8. \_\_\_ Why would a heavy chair on wheels be easier to push across the floor than a lighter chair without wheels?
  - a. The wheels help gravity pull the heavier chair along.
  - b. The wheels eliminate the friction acting on the heavier chair.
  - c. The wheels increase the static force of the heavier chair.
  - d. The wheels decrease the friction normally present between the heavier chair and the floor.
9. \_\_\_ Which would best exert an elastic force?
 

a. kite string	c. sprinkler
b. rope	d. chewing gum
10. \_\_\_ Where is the word *newtons* used in a discussion of force?
  - a. In defining gravity
  - b. In measuring force
  - c. In discussing balancing
  - d. In explaining the difference between atomic and nuclear force

**Chapter Test 13 (Cont.)**

Name \_\_\_\_\_

11. \_\_\_\_\_ What type of friction is involved in earthquakes?

- a. rolling friction
- b. nuclear
- c. static friction
- d. sliding friction

12. \_\_\_\_\_ Why can a large rock balance on a very small surface?

- a. attraction between electrons and protons
- b. the weight is evenly distributed over the balance point
- c. the mass of the rock is greater than the mass of the surface
- d. none of these

13. \_\_\_\_\_ Compare the gravitational pull of Earth with that of the moon.

- a. Earth's pull is less than that of the moon.
- b. Earth's gravitation is six times that of the moon.
- c. the moon's pull is greater than the mass of Earth.
- d. Earth gravitation is one-sixth that of the moon.

14. \_\_\_\_\_ Which force can easily be reduced by putting oil between the two surfaces?

- a. elastic
- b. electrical
- c. atomic
- d. friction

## Part 2 Matching

**Part I: Matching** Match the word with its definition or description. Write the number of the best response on the blank provided.

15. _____	force of attraction between electrons and protons	a. elastic force
16. _____	created when objects are compressed	b. electrical force
17. _____	force that resists momentum of an object	c. friction
18. _____	holds together protons in the nucleus	d. gravity
19. _____	sweeping a floor is an example of this force	e. magnetic force
20. _____	is the attraction between two objects	f. mechanical force
21. _____	occurs only between two magnetic objects	g. nuclear force of an atom

### Part 3 Short Answer and Essay

**Part 3 Short Answer and Essay**  
Answer each question using complete sentences.

22. Give three examples of times you may want to increase friction.
23. Compare electrical force with magnetic force.
24. What is the difference between mass and weight?