# Do You Want to Be Shocked?
## Practice Worksheet

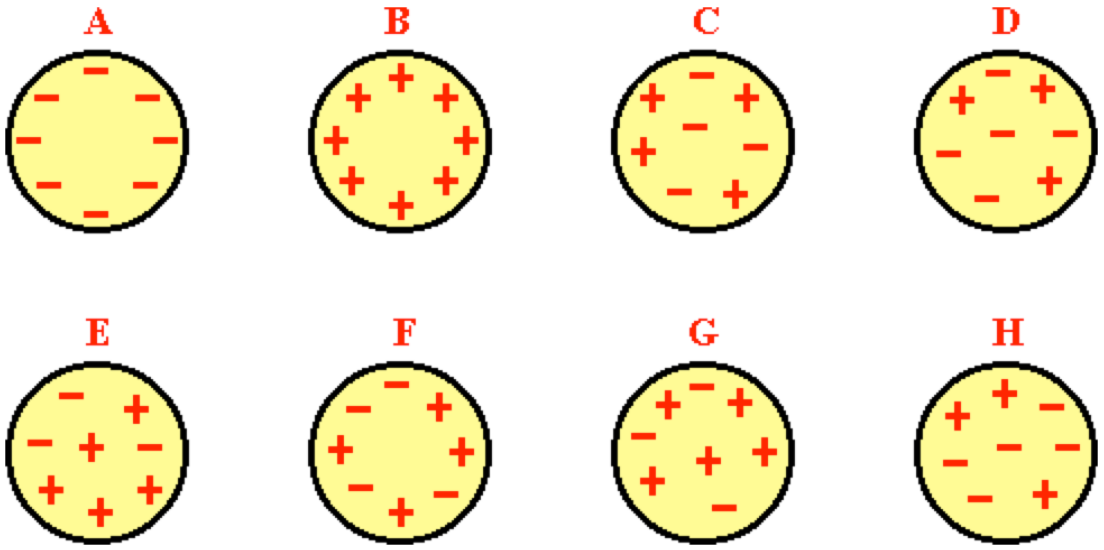
1. _____ are negatively charged.

   (A) Electrons
   (B) Protons
   (C) Neutrons

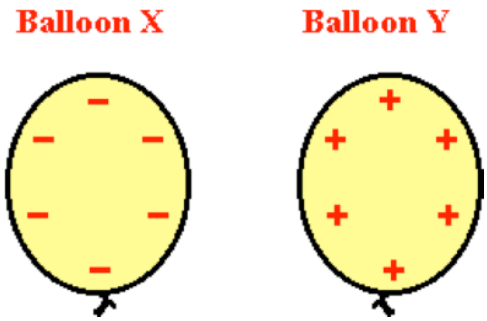
2. A neutral object can become negatively charged by _____.

   (A) gaining protons
   (B) losing protons
   (C) gaining electrons
   (D) losing electrons

3. The charges on several spheres are shown. Circle all the spheres that are positively charged.



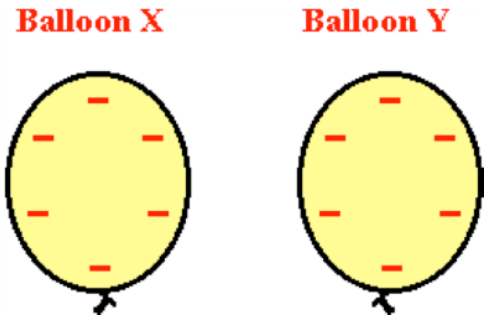
4. Two balloons are charged as shown below.




Balloon X will ____ balloon Y.

(A) attract
(B) repel
(C) not affect

5. Two balloons are charged as shown below.




Balloon X will ____ balloon Y.

(A) attract
(B) repel
(C) not affect

6. Two balloons, X and Y are placed near each other and subsequently repel each other. If balloon X is positively charged, then Y MUST be ___.

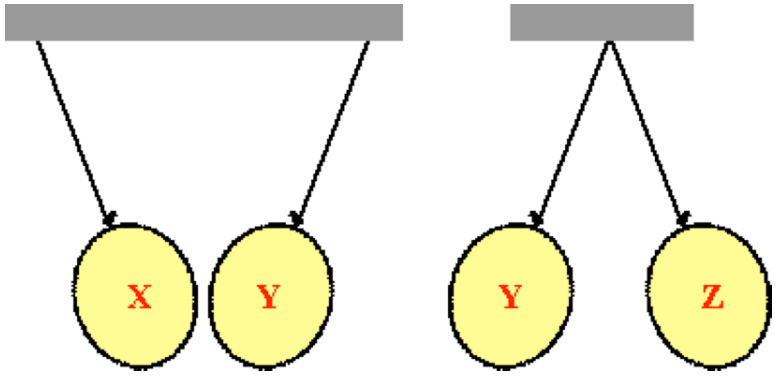
(A) positively charged

(B) negatively charged

(C) neutral

(D) either positively or negatively charged

7. Balloons X, Y and Z are suspended from strings as shown below.




Negatively charged balloon X attracts balloon Y, while balloon Y repels balloon Z. Balloon Z ____.

(A) may be positively charged, negatively charged, or neutral

(B) may be either positively charged or neutral

(C) may be either negatively charged or neutral

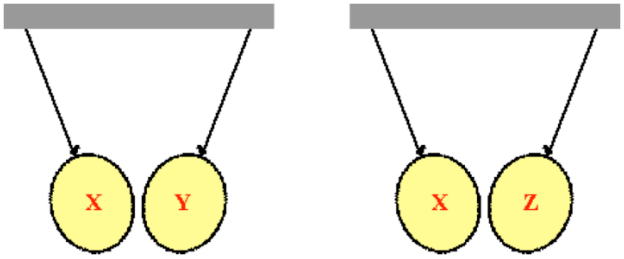
(D) may be either positively or negatively charged

(E) must be positively charged

(F) must be negatively charged

(G) must be neutral

8. Balloons X, Y and Z are suspended from strings as shown below.




Positively charged balloon X attracts balloon Y and attracts balloon Z. Balloon Z ____.

(A) may be positively charged, negatively charged, or neutral
(B) may be either positively charged or neutral
(C) may be either negatively charged or neutral
(D) may be either positively or negatively charged
(E) must be positively charged
(F) must be negatively charged
(G) must be neutral

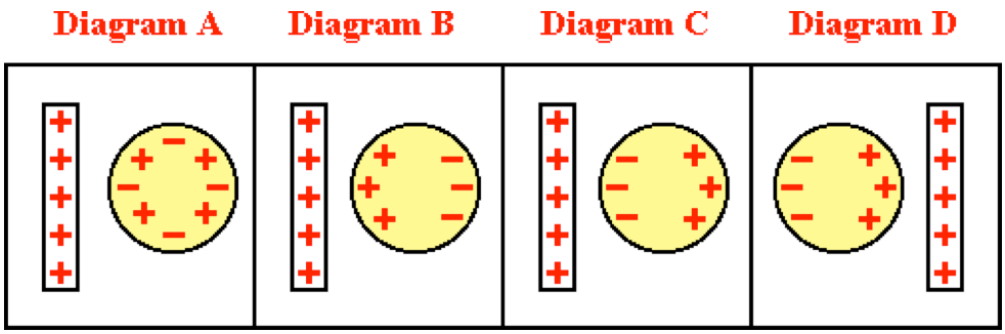
9. Substances through which charges have difficulty moving are called ____.

(A) insulators
(B) electators
(C) engineers
(D) conductors

10. Substances through which charges move easily are called ____.

(A) insulators
(B) conductors
(C) electators
(D) engineers

11. Which of the diagrams below best represents the charge distribution on a metal sphere when a positively charged plastic tube is placed nearby?




12. Two neutral objects - object A and object B - are rubbed together. During the process, electrons are transferred from object A to object B. This would cause object A to acquire a _____ charge and object B to acquire a _____ charge.

(A) positive, positive
(B) negative, negative
(C) positive, neutral
(D) negative, neutral
(E) positive, negative
(F) negative, positive

13. A rubber balloon is rubbed on a wool sweater. In the process, electrons are transferred from the wool sweater to the rubber balloon. As a result, the sweater acquires ____.

(A) a positive charge
(B) a negative charge
(C) no charge
(D) a lot of mass
(E) negative mass

14. A neutral metal sphere is touched by a negatively charged metal rod. As a result, the sphere will become charged by ____.

(A) friction

(B) conduction

(C) induction

(D) reduction

15. A positively charged metal sphere is touched by a person standing on the ground. The metal sphere subsequently becomes neutral. The metal sphere becomes neutral during this process because _____.

(A) positive electrons pass from the sphere to the person (ground)

(B) positive electrons pass from the person (ground) to the sphere

(C) electrons pass from the sphere to the person (ground)

(D) electrons pass from the person (ground) to the sphere

(E) protons pass from the sphere to the person (ground)

(F) protons pass from the person (ground) to the sphere

16. Two neutral conducting pop cans are touching each other. A negatively charged balloon is brought near one of the cans. The cans are separated while the balloon is nearby. After the balloon is removed the cans are charged.




The cans were charged by the method of ____.

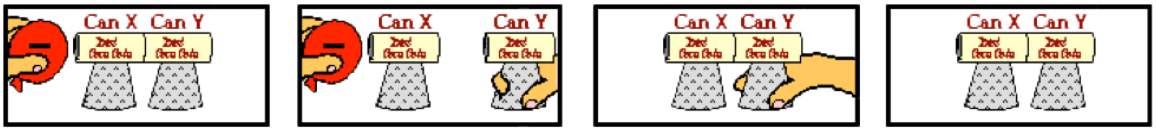
(A) friction

(B) conduction

(C) induction

(D) reduction

17. Two neutral conducting pop cans are touching each other. A negatively charged balloon is brought near one of the cans. The cans are separated while the balloon is nearby. After the balloon is removed the cans are brought back together. When touching again, can Y is ____.



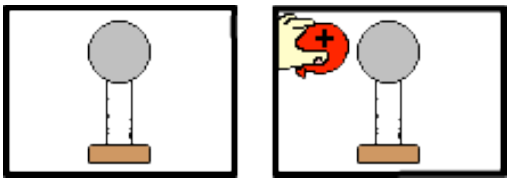

(A) impossible to tell

(B) neutral

(C) positively charged

(D) negatively charged

18. A positively charged balloon is brought near a neutral conducting sphere. As the balloon is brought near, there is a movement of electrons.



Electrons move ____.

(A) from the left side of the sphere to the right side

(B) from the right side of the sphere to the left side

(C) out of the sphere into the balloon

(D) into the sphere from the balloon

(E) out of the sphere into the surrounding air

(F) into the sphere from the surrounding air

19. A negatively charged balloon is brought near a neutral conducting sphere as shown below.

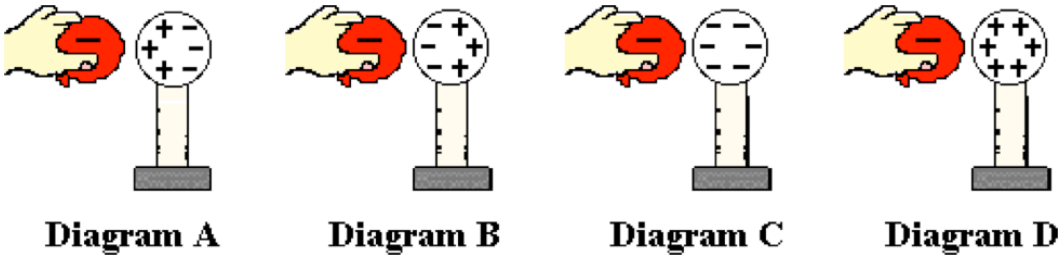


**Diagram A** **Diagram B** **Diagram C** **Diagram D**

As it approaches, charge within the sphere will distribute itself in a very specific manner. Circle the diagram above that properly depicts the distribution of charge in the sphere.

20. Why would you want to ground an electrical appliance?

(A) To prevent electric shock.

(B) To make sure it acquires a positive charge.

(C) To make sure it acquires a negative charge.

(D) To make sure it does not run away.