

A Styrofoam cup is hanging by a thread. A person wants to know if the cup is charged. The person brings a charged object near the cup. The object attracts the cup. Is the cup necessarily charged?

**a) Yes.**

**b) No.**

**c) The cup would never be attracted.**

A Styrofoam cup is hanging by a thread. A person wants to know if the cup is charged. The person brings a charged object near the cup. The object repels the cup. Is the cup necessarily charged?

**a) Yes.**

**b) No.**

**c) The cup would never be repelled.**

A charged comb is brought near a neutral scrap of paper. Is the paper attracted to the comb? If so, why?

**a) No.**

**b) Yes. The paper becomes polarized, meaning it takes on the charge opposite that of the comb, and opposites attract.**

**c) None of the above.**

(Demo) I rub a rubber rod with animal fur, bring the rod near one side of a metal ball while the other side is in contact with an electrical outlet metal cover plate, and, keeping the rod close to the ball (but never touching) move both away from the plate. Then I move the ball away from the rod. What kind of charge does the ball have after all this?

- a) Positive.**
- b) Negative.**
- c) None of the above.**

(Demo) I touch a negatively-charged rubber rod to the ball of an electroscope. The leaves spread out and remain spread out. Now I bring a metal ball near the ball of the electroscope. The leaves become less spread out when the ball is near, and then resume their earlier spread-out position when the metal ball is retracted. Can one conclude that the metal ball has positive charge?

**a) Yes.**

**b) No.**

Is it possible to use a charged object to charge another object by induction such that the newly-charged object has the same kind of charge as the originally-charged object?

**a) Yes.**

**b) No.**