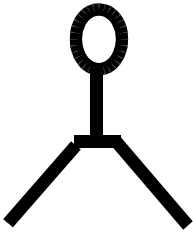


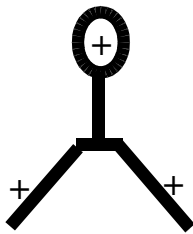
Electroscopes

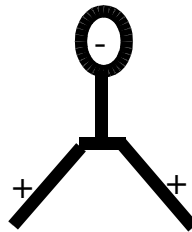
1. Label each electroscope as charged or uncharged.

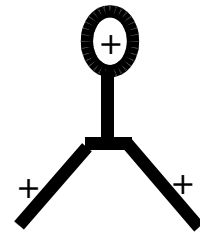


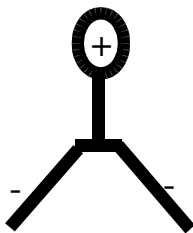


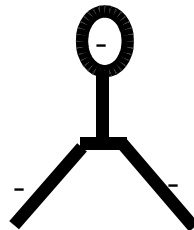
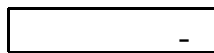
2. Label the charging method that would create each of the final situations shown below. The rectangle is the rod and the electroscope is drawn showing the final net charge on both the knob and leaves of the electroscope. (Conduction, Induction, Polarization)

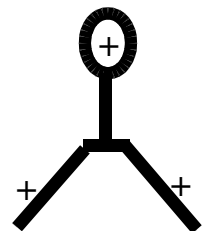












3. Identify whether conduction, induction, or polarization is being described in each of the following situations.

- a. A charged rod is brought near a neutral electroscope but never touches. _____
- b. A charged rod is brought near but never touches a neutral electroscope. The neutral electroscope is grounded while the charged rod is nearby. _____
- c. A charged rod touches the neutral electroscope. _____

4. A negatively charged rod is brought near a neutral electroscope. The (*protons / neutrons / electrons*) in the atoms of the electroscope begin to move. These charged particles have a (*positive / negative*) charge and are (*attracted / repelled*) by the negatively charged rod. So they begin to migrate (*toward / away from*) the negatively charged rod. This means that the (*knob / leaves*) end(s) up positively charged and the (*knob / leaves*) end up negatively charged.
5. A positively charged rod is brought near a neutral electroscope. The (*protons / neutrons / electrons*) in the atoms of the electroscope begin to move. These charged particles have a (*positive / negative*) charge and are (*attracted / repelled*) by the negatively charged rod. So they begin to migrate (*toward / away from*) the negatively charged rod. This means that the (*knob / leaves*) end(s) up positively charged and the (*knob / leaves*) end up negatively charged.
6. A negatively charged rod touches a neutral electroscope. The (*protons / neutrons / electrons*) from the charged rod move into the electroscope. This means that the knob and leaves of the electroscope both end up (*positively / negatively*) charged.
7. A positively charged rod touches a neutral electroscope. The (*protons / neutrons / electrons*) from the (*rod / electroscope*) move into the (*rod / electroscope*). This means that the entire electroscope, both the knob and leaves, end up (*positively / negatively*) charged.
8. Object 1 has a +6 charge touches neutral object 2, the two objects are then separated. Object 1 now has a charge of _____ and object 2 now has a charge of _____.
9. Neutral object 1 and neutral object 2 are rubbed together. The two objects exchange electrons. After rubbing the charge of object 1 is +5 so the charge of object 2 must be _____. The charges of these two objects will be _____ in sign and _____ in magnitude.

10. Which of the following will never occur?

