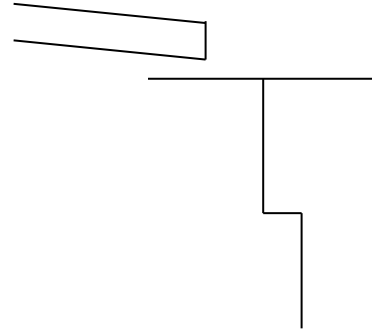


Electroscopes in Action

(Answer in your notebook)

- The green (or blue) plastic strip develops a negative charge when rubbed with the cloth provided.
- The clear acetate strip (or rod) develops a positive charge when rubbed with the cloth provided.
- THE PLASTIC AND ACETATE STRIPS BREAK EASILY. WHEN RUBBING THESE STRIPS, ONLY PULL AWAY FROM YOU. DO NOT PULL TOWARDS YOURSELF.

1. Discharge the electroscope by touching either the top platform or the base of the electroscope bracket (inside the electroscope). Bring a negative charge NEAR the top plate of the electroscope.
 - a. Diagram the charge distribution using a sketch similar to the one provided at the right. Indicate the approximate location of the needle (not shown in the provided diagram). Place "+" or "-" signs along your diagram AND needle to illustrate how you believe charge is distributed on your electroscope. Do this whenever you are asked to diagram the charge distribution.
 - b. What happens when the charged strip is removed?
 - c. Touch the strip to the electroscope and wipe the negative charges onto it. What happens?



2. Discharge the electroscope by touching either the top platform or the base of the electroscope bracket (inside the electroscope). Bring a positive charge NEAR the top plate of the electroscope.
 - a. Diagram the charge distribution. Indicate the approximate location of the needle.
 - b. What happens when the charged strip is removed?
 - c. Touch the strip to the electroscope and "wipe" some positive charges from the electroscope onto the strip (positive charges do not move -- only electrons do!). What happens?
3. Discharge the electroscope. Charge the electroscope negatively. Bring a negatively charged strip NEAR the electroscope.
 - a. Diagram the charge distribution. Indicate the approximate location of the needle.
 - b. Now bring a positively charged strip NEAR the electroscope. Diagram the charge distribution. Indicate the approximate location of the needle.
4. Discharge the electroscope. Bring the negatively charged strip NEAR it. Have someone touch the bottom part of the electroscope bracket (inside the electroscope) to discharge the electroscope so the needle returns to its uncharged position, and then remove their hand.
 - a. What happens to the electroscope when it is touched?
 - b. Remove your hand from the electroscope bracket while the strip is still near the electroscope. Now take the strip away from the electroscope. What happens?
 - c. What sign of charge is now on the electroscope?
 - d. Would this lab be possible if the electroscope were constructed from a material that was an electrical insulator? Explain.