

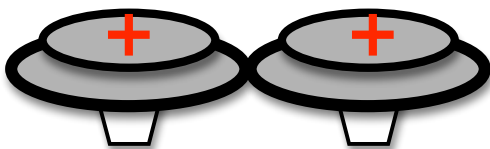
Answer Key:

Part 1 Closure:

1. Did you feel any forces between the electrophorus and the foam plate?
The plate wants to stick to the pie tin, so yes.
2. Was the electrophorus charged? How did this happen? Discuss electron transfer in your explanation.
Yes, the electrons were ripped away from the Electrophorus (pie tin) by the Styrofoam plate.
3. The Styrofoam plate is an electron taker, which means it strips electrons from the electrophorus when they are rubbed together. After charging the electrophorus, what are the net charges on each?
The plate is negatively charge, while the Electrophorus is positively charged.

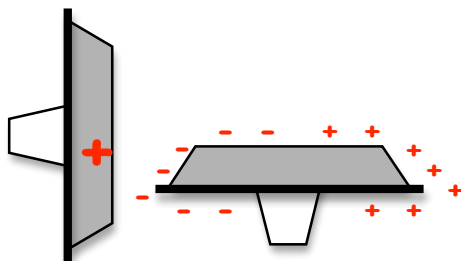
Part 2 Closure:

1. Why is conduction called charging by contact?
Objects actually come in physical contact with each other and electrons are transferred from the charged object to the uncharged object, giving them the same overall charge.
2. Assuming that a charged electrophorus has a net positive charge, sketch the charge pattern that was produced when the two were in contact.



Part 3 Closure:

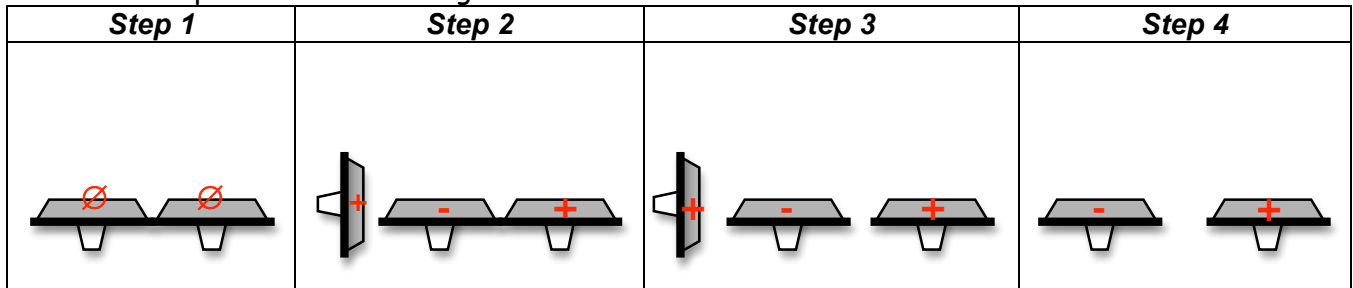
1. Was the electrophorus polarized? How did this happen?
Yes, when the positively charged Electrophorus is brought near but not in contact with the uncharged Electrophorus its charge is split. The negative charges are attracted to and the positive charges are repelled from the positively charge Electrophorus. Even though the charge is split, the overall net charge is neutral.
2. Assuming that a charged electrophorus has a net positive charge, sketch the charge pattern that was produced in the diagram above.



Part 4 Closure:

1. Did the neon bulb light up for either of the uncharged electrophorus?
Should light up for both.

2. Assuming that a charged electrophorus has a net positive charge, sketch the charge pattern that was produced in the diagram above.



3. What types of charge did you produce in each electrophorus? How do they relate to each other?

You should produce unlike charge (negative) in the near uncharged Electrophorus and like charge (positive) in the far uncharged Electrophorus. They are opposites of each other.

4. Which charge (positive or negative) seems to produce more light from the neon bulbs?

Positive seems to light up better, but it is not always the case.

Part 5 Closure:

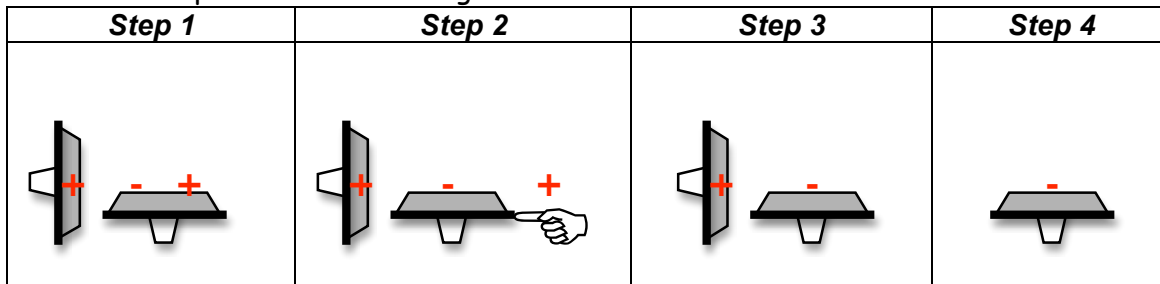
1. What was the purpose of touching the uncharged electrophorus on the far side? *Hint: Think polarization of charge and what type of charge will to get away from the positively charged electrophorus.*

Touching the Electrophorus allows the like charge (positive) to be repelled from the positively charged Electrophorus to the ground.

2. Why would the finger touching the electrophorus be considered "grounding"?

Your finger is connected to you, which is connected to your feet, which are connected to the ground. The charge will flow through the body to get to the source of infinite charge, the ground.

3. Assuming that a charged electrophorus has a net positive charge, sketch the charge pattern that was produced in the diagram above.



4. What are the main differences between the two types of induction?

The first type of induction will produce unlike and like charges to the charged Electrophorus, while the second type of induction only produces the unlike charge.

Individual Closure:

1. b. Friction
2. b. the same.
3. d. Answers (a) and (c)
4. c. neutral.
5. c. Induction
6. b. Negative
7. Charge flows due to a difference in charge. *True*
8. b. the ground.
9. a. The two objects can be separated and one will be positive and other negative.
10. b. Negative