

INVESTIGATING ELECTRIC CHARGESQuestion

How are uncharged and charged substances affected when they are near one another?

Laws of Electrostatics:

1. Like charges repel
2. Unlike charges attract
3. Neutral objects attract charged objects

Materials and Procedure:

PROCEDURE	OBSERVATION	LAW OF ELECTROSTATICS
Procedure 1: Rub balloon on head at spot A. Stick to wall. Turn balloon to B and C. Which letters on balloon stick to wall?		
Procedure 2: Rub ebonite rod with fur and bring near paper.		
Procedure 3: Rub an acetate ruler with paper towels and bring near paper		
Procedure 4: Rub ebonite rod with fur and bring near a fine stream of water.		
Procedure 5: Rub an acetate ruler with paper towels and bring near a fine stream of water		
Procedure 6: Rub ebonite rod with fur and place in stirrup. Rub another ebonite rod with fur and bring the charged end near the charged end in the stirrup.		
Procedure 7: Touch both ebonite rods to discharge them. Place an uncharged ebonite rod in the stirrup. Charge the 2 nd ebonite rod with fur and bring it near the uncharged rod.		
Procedure 8: Rub an acetate ruler with paper towels and place it in the stirrup. Rub an ebonite rod with fur and bring it near the charged acetate ruler.		
Procedure 9: Rub 2 acetate rulers with paper towels and place it in the stirrup. Bring the other charged acetate ruler near the charged acetate ruler in the stirrup.		

Analyze and Communicate

1. Why did the balloon only stick at point A?
2. What happens when an uncharged object (like paper and water) are brought near charged objects?
3. Does the attraction become lesser or greater when an uncharged object and charged object are closer together?
4. What are the two types of charges that an object can have?
5. If two objects have the same charge, what will happen when they are brought near one another?
6. If two objects have opposite charges, what will happen when they are brought near one another?
7. What charge does the ebonite rod get when you rub it with fur?
8. What charge does the acetate ruler get when you rub it with paper towels?
9. What happens to the charged object if you accidentally touch it or water touches the charged area?