ST 4 Name:

ELECTROSTATICS

1. How can an object be charged electrically? friction

2. What is the Law of Charges? opposite charges attract
like charges repel

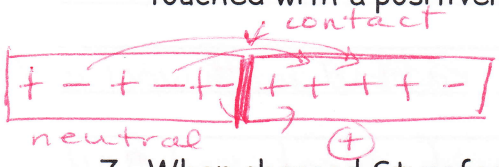
3. What are positive charges called? Can positive charges move?
protons → no

4. What are negative charges called? Can negative charges move?
electrons → yes

5. What observations would be made if a vinyl strip that was rubbed with a piece of wool is brought close to an acetate strip that was rubbed with a piece of cotton? Explain.

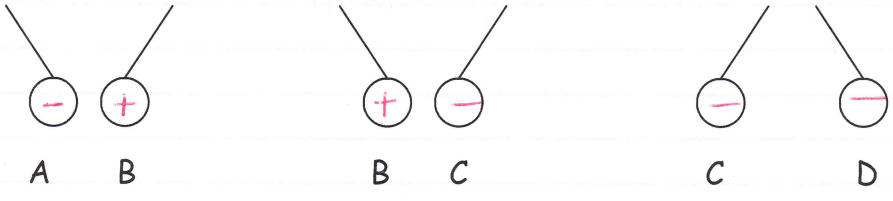
⊖ (vinyl rubbed with wool)
⊕ (acetate rubbed with cotton)
} will attract * opposite charges

6. Use words and/or diagrams to explain why a neutral object that is touched with a positively charged object becomes positively charged.



neutral object has a higher conc. of electrons ∴ they move to the ⊕ charged object + neutral obj becomes ⊕ charged

7. When charged Styrofoam balls are brought next to each other they react in the following manner.
If Ball "A" has a negative charge, what is the charge on Ball "D"?



8. You are given the following materials:

Acetate strip	Wool
Vinyl strip	Pith ball
Cotton	Black rod

You are told that when the black rod is rubbed with wool it takes on a positive charge. List the steps you would follow to prove or disprove this statement.

* compare charge with objects you know
  → like charges repel, opp. charges attract.

1. Neutralize all objects
2. Suspend vinyl strip.
3. Rub vinyl strip with wool.
4. Rub black rod with wool.
5. Bring black rod close to vinyl strip.
6. Observe reaction*

→ vinyl rubbed with wool is (−)

∴ if black rod and vinyl repel, it is also (−)

∴ if black rod and vinyl attract, it is (+)