

Pg. 409 #1-5

1. An electroscope detects static charge.
2. When charged by contact, a neutral substance gains the same type of charge as the object that touches it.
3. When charged by induction, a neutral substance gains the opposite charge (locally) to that of the charging object. This is due to **charge separation**. The surface of the neutral object close to the charging object is either subject to excess electrons accumulating there (in the case of a positive charging object) or subject to electrons moving from the area (in the case of a negative charging object). This charge-separation effect gives the neutral object a locally negative or positive area.
4. Charging by contact requires the transfer of electrons from one object to another, whereas charging by induction does not.
5. Grounding means discharge to a neutral object, most often Earth's surface.