

## Electrostatics Worksheet Questions

1. Explain how an object becomes electrically charged.
2. All objects have charges in them. Explain why not all objects have a net charge.
3. If you scuff electrons onto your feet as you walk across a rug, state whether you become positively or negatively charged.
4.
  - (a) If an electron at a certain distance from a charged particle is attracted with a certain force, compare this with the force it experiences at twice this distance.
  - (b) State whether the charged particle is positive or negative.
5. Calculate the electrical force between an electron and a proton (both  $1.6 \times 10^{-19}$  C) in a hydrogen atom, given that the distance between the charges' centres is  $5.3 \times 10^{-11}$  m.
6. Explain using diagrams the difference between charging by *contact* and charging by *induction*.
7. Draw a diagram showing how a negatively charged balloon can attract your hair which has no net charge.
8. State the meaning of "charge is conserved".
9. State the difference between a good conductor and a good insulator.
10. State the meaning of "electric dipole".