

## Science 9: Electricity Intro Assignment

Total: /24

1. a) Why is the term “static” electricity used? (1)  
b) Describe a situation involving static electricity to explain your answer. (1)
2. State the law of electric charges. (1)
3. Draw a labeled diagram showing the structure of the atom. Indicate the kind of charge on each of the particles that make up the atom. (2)
4. What two factors affect the amount of static charge produced when you rub two objects together? Explain why. (2)
5. Using the electrostatics series predict what will happen when (2)
  - a) Acetate is rubbed with fur
  - b) Rubber is rubbed with cotton
6. A silk blouse and a pair of wool socks are put into a clothes dryer. What charge will appear on the blouse when it rubs against the socks? Explain why. Would an antistatic product help? (3)
7. Which kinds of combs are best to use in winter, plastic combs or combs made of aluminum? Explain why (in terms of the electrostatic series). (2)
8. When an object is charge by contact, what kind of charge does the object have compared with that on the object giving the charge? Explain. (1)
9. Why does a spark occur when a person who is charged touches an uncharged object? Would moving the hand to the doorknob very fast prevent the spark form occurring? (2)
10. If a cat was combed with an ebonite comb, and someone else touched the cat, what charge would that person receive from the cat’s fur? (refer to the electrostatics series). Explain your answer. (2)
11. Explain why a neutral dust particle is attracted to a charged object like a TV? (1)
12. Explain the difference between induced charge separation and charging by induction. (2)
13. When an object is charged by induction, what kind of charge does the object have compared with that on the object inducing the charge? Explain. (2)