

Name: _____

Video: Conductors & Insulators

1. After you remove a wool sweater on a cold day, your hair might stand up on end.

This indicates that you are carrying an _____.

2. a) Metals are called _____ because they allow charge to flow through them easily.

b) Materials like carpet are called _____ because they do not permit charge to flow through them easily.

3. We believe that all substances consist of tiny particles called _____.

4. Our current model of the atom assumes that it is mostly _____.

5. 99% of an atom's mass is located in the _____ which is made up of particles called _____ which are positive in charge and _____ which are neutral in charge. _____ and _____ have equal mass.

6. In the space surrounding the nucleus are tiny negatively charged particles called _____.

7. The _____ between the _____ charged nucleus and the _____ charged electrons keeps the electrons in the vicinity of the nucleus as they circle around it.

8. Electrons are much, much, smaller than protons. It takes _____ electrons to equal the mass of a single proton. BUT, the negative charge on a single electron EXACTLY balances the positive charge on a single proton.

9. The outer _____ of an atom can be removed with relative ease, but the _____ and the _____ are not free to leave the nucleus.

10. Atoms become _____ when they become charged by _____ or _____ electrons.

11. An electron placed between 2 oppositely charged plates will be _____ by the positive plate and _____ by the negative plate, and as a result will drift towards the _____ plate.

12. A nucleus placed between 2 oppositely charged plates will be _____ by the positive plate and _____ by the negative plate, and will only _____ as they are joined together in a network and not free to move.

13. In solids, a transfer of charge can only be accomplished by _____ moving from one point to another.

14. The outer electrons of the atoms in an insulator are involved in _____ with other atoms and not free to move.

15. Make a hypothesis as to why a bird can sit on a power line and not be electrocuted.