

***BEFORE*** viewing the tape, read through the questions below.

- \_\_\_\_\_ 1. Electricity is the flow of tiny particles called \_\_\_\_\_.
- \_\_\_\_\_ 2. The flow of \_\_\_\_\_ is like the flow of \_\_\_\_\_
- \_\_\_\_\_ 3.
- \_\_\_\_\_ 4. A closed electrical path is called a \_\_\_\_\_.
- \_\_\_\_\_ 5. With electrons we can do \_\_\_\_\_.
6. Make a sketch of an electric bumper car. On your sketch show where the electrical contacts are and how electricity makes the car work.
  
7. In order to get a shock on a bumper car, what would you have to be able to do?
  
8. Why do you suppose batteries last longer if they are kept in the refrigerator?
  
9. Why do you suppose cold metals conduct electricity better than hot metals?
  
- \_\_\_\_\_ 10. There is enough electricity in a wall socket to stop your \_\_\_\_\_.
- \_\_\_\_\_ 11. A toy train has \_\_\_\_\_ (number) rails to complete its electrical circuit.
- \_\_\_\_\_ 12. Michael Faraday and Joseph Henry made electricity with a \_\_\_\_\_ of wire and a \_\_\_\_\_.
- \_\_\_\_\_ 13.
14. The Viking 21 electric car is considered a "hybrid" electric car. It gets its power from three different sources. What are they?
  
- \_\_\_\_\_ 15. \_\_\_\_\_ control the flow of electricity and isolate it from the ground.
- \_\_\_\_\_ 16. The conductor used by the electricians is made of \_\_\_\_\_.
- \_\_\_\_\_ 17. Electricity is the flow of \_\_\_\_\_.

- \_\_\_\_\_ 18. Electrons are located on the \_\_\_\_\_ of atoms.
- \_\_\_\_\_ 19. Electrons jump easily in \_\_\_\_\_.
- \_\_\_\_\_ 20. Materials that carry electricity well are called \_\_\_\_\_.
- \_\_\_\_\_ 21. \_\_\_\_\_ don't conduct electricity.
- \_\_\_\_\_ 22. An example of a resistor is a \_\_\_\_\_ which conducts electricity less well than metals.
- \_\_\_\_\_ 23. Electricity can be compared to \_\_\_\_\_.
- \_\_\_\_\_ 24. Both have \_\_\_\_\_ and \_\_\_\_\_.
- \_\_\_\_\_ 25.
- \_\_\_\_\_ 26. Electrical pressure is called \_\_\_\_\_.
- \_\_\_\_\_ 27. The number of electrons flowing is called \_\_\_\_\_.
- \_\_\_\_\_ 28. The combination of volts and amps is called \_\_\_\_\_, the unit of electrical power.
- \_\_\_\_\_ 29. Electrons are pushed by \_\_\_\_\_ reactions in batteries or by a \_\_\_\_\_.
- \_\_\_\_\_ 30.

31. Make a sketch of a battery. Make sure to show where the electrodes and electrolyte paste are located.

- \_\_\_\_\_ 31. The electric eel can produce \_\_\_\_\_ volts and \_\_\_\_\_ amps.
- \_\_\_\_\_ 32.
- \_\_\_\_\_ 33. The falling water of the Grand Cooley Dam can generate \_\_\_\_\_ watts of electrical power.
- \_\_\_\_\_ 34. Electricity made by either moving a magnet or a coil is called \_\_\_\_\_ current, abbreviated "AC".
- \_\_\_\_\_ 35. Batteries produce \_\_\_\_\_ current abbreviated "DC", because it travels in only one direction.
- \_\_\_\_\_ 36. "PC" stands for \_\_\_\_\_ according to Bill Nye.
- \_\_\_\_\_ 37. A photovoltaic cell converts \_\_\_\_\_ directly into electrical power.

38. Birds commonly sit on electrical wires. Why don't they get shocked?

- \_\_\_\_\_ 39. A simple device used to complete an electrical circuit is a \_\_\_\_\_.

40. Electrical plugs from around the world look different. One feature of all plugs is the same however. What is that feature and why do they all have it?