Physical Science
Week 18: Text pp. 410-423

True (+) or False (0): Write all answers on the answer sheet.

1. A lightning bolt is a type of current electricity.
2. Static electricity is a stationary charge.
3. Current electricity is the flow of electrons from one place to another.
4. The letters **DC** stand for direct current.
5. Direct current means there is no short circuit.
6. Direct current is easier to send over long distances than alternating current **(AC).**
7. Alternating current in the U.S. is 60 cycles per minute.
8. Electrons have a negative charge.
9. Electrons move because of the law of electric charges.
10. There is a stronger flow of electrons when voltage is low.
11. Voltage represents the force or "push" which causes electric current to flow.
12. One ampere represents two coulombs per second of electron flow.
13. Amperage is a measure of the rate of electron flow.
14. A typical light bulb uses about 10 amps of electricity.
15. Watts = volts x amps.
16. Ohm's law says voltage equals current divided by resistance.
17. A resistor is a device that purposely adds resistance to an electrical circuit.
18. The 3 parts of a simple electric circuit are source, conductors, and load.
19. A short circuit is harmless.
20. A circuit breaker prevents too much current from flowing through a circuit.
21. An overloaded wire can get hot enough to start a fire.
22. In a parallel circuit, electricity must flow through each load sequentially.
23. In a parallel circuit of several light bulbs, if one bulb blows out, they all will go out.
24. In a series circuit of several light bulbs, if you add another bulb, all the bulbs will burn more dimly.
25. Homes today are wired with series circuits.

Fill in the answers on the answer sheet:

1. Electric current that continually reverses its flow is called _?_.
2. The type of current we have in our homes and buildings is _?_.
3. Alternating current in the U.S. has how many forward and back cycles per second?
4. Electrons are attracted to a _?_ charge.
5. The difference between the negative charge and the positive charge in a circuit determines the _?_.

6. Voltage can be likened to _?_ in a water pipe.

7. A flashlight battery (C or D cell) produces about _?_ volts.

8. The electricity in house wiring is about _?_ volts.

9. The volt is named after _?_.

10. _?_ refers to the number of electrons flowing past a given point in a certain amount of time.

11. Amperage (amps) is somewhat similar to _?_ in a water pipe.

12. The ampere is named after _?_.

13. One volt times one amp equals one _?_.

14. An appliance that requires 3 amps of house current (120V) uses _?_ watts of power.

15. A kilowatt is _?_ watts.

Do the Application problems, first column of p 414:

16._?_

17. _?_

18. _?_

19. Name a substance that is a better conductor than copper.

20. Name a substance that is a better insulator than rubber.

21. Electrical resistance is measured in units called _?_.

22. Name 4 factors that affect electrical resistance.

23. Write the formula for Ohm's law.

Do the Application on p 418.

24. _?_

25. _?_

Vocabulary - write the definitions for these terms on the answer sheet and be able to explain them next week *from memory in your own words*.

1. alternating current
2. direct current
3. voltage
4. amperage
5. ampere
6. watt
7. kilowatt hour
8. conductor
9. insulator
10. resistance
11. ohm
12. resistor
13. closed circuit
14. open circuit
15. circuit breaker
16. short circuit
17. series circuit
18. parallel circuit