

Guided Reading Chapter 16 Section 1

1. Atoms that make up matter contain _____ and _____.
2. Charge, on matter, is hidden because ordinary matter is said to be _____.
3. The unit of charge is called the _____.
 - a) Joule
 - b) Newton
 - c) Coulomb
4. Atoms with the same number of protons and electrons are neutral, and their charges add up to
 - a) zero
 - b) one
 - c) ten
5. Draw an object that has an unequal number of protons and electrons, to show the object is not electrically neutral.
6. _____ electricity is caused by a tiny amount of imbalance of charge.
7. What is electricity?
8. An electric circuit is a complete path through which _____ travels.
9. "Water" is to "pipes" as "electrical current" is to " _____."
10. Describe several natural circuits, as found in the text.
11. Electrical drawings are called _____ diagrams.
 - a) flow
 - b) electric
 - c) circuit
12. Carefully draw the symbols used in circuit diagrams from figure 16.3. Make sure to label!
13. A _____ is any device that uses electricity in a circuit.
14. Name some resistors.
15. Where does all the energy that is used in your home come from, originally?

16. Using the symbols from the text, draw an opened and a closed circuit.

17. How does a switch work?

18. Sketch the picture in the “Science Fact” sidebar, to show the charges associated with a lightning strike.

19. How do storm clouds contribute to create a perfect situation for a lightning strike?

20. The air along a lightning strike can be as hot as

a) 10,000° F

b) 20,000° F

c) 20,000° C