Chapter 17 Section 3 Guided Reading

1. Electric Motors convert _____ energy to _____ energy.

2. Define a rotor:

3. Draw Figure 17.17 showing how you use a magnet to spin a rotor.

4. The key to making the rotor spin smoothly is to:

    a) reverse the loose magnet early
    b) reverse the loose magnet when each magnet on the rotor passes
    c) don't reverse the loose magnet

5. Instead of holding a loose magnet close to the rotor, a motor uses an_____ to keep the rotor turning.

6. Define commutator:

7. All types of electric motors must have three parts. They are:

8. Inside a small electric motor (Figure 17.19), the _____ magnets surround the rotor and stay fixed ____ _____ on the inside surface of the metal housing. The _____ are in the rotor, and they _____. The rotating part of the _____ including the electromagnet coils is called the _____.

9. How do the *brushes* function inside the motor?

10. Motors that run on AC electricity are easier to make because the current switches direction all by itself. Why is this a true statement?

11. Electric generators convert _____ energy to _____ energy.

12. If you move a magnet near a coil of wire, an electric current is _____ in the coil. The process of using a moving magnet to create an electric current is called _____ _____.

13. Can a non-moving magnet in a coil of wire create current? Explain.

14. Draw a picture of a power plant generator and how it converts energy. *Figure 17.22*

15. The electricity in your home is produced by _____, or (_____ _____) generators. On the other hand, the current in a battery is always moving the same direction so we call that _____, or (_____ _____).