

Key Concept Builder 

LESSON 3

Making Electric Current with Magnets

Key Concept How do electric generators create an electric current?

Directions: Answer each question or respond to each statement on the lines provided.

1. **Explain** how a simple electric generator works.

A wire loop inside the generator is connected in a closed circuit. The loop is between the poles of the magnet, As a crank is turned, the loop rotates through the magnet's magnetic field producing an electric current through the circuit. The current continues as long as the loops of wire are moving inside the magnetic field.

2. What happens if the wire loop in a generator does not rotate within a magnetic field?

Current does not flow

3. What role does mechanical energy play in the function of a simple generator?

Mechanical energy spins the coil of wire and produces electrical energy.

4. **Describe** the relationship between the direction of the current and the revolution of the coil in a simple generator.

**Current alternates directions twice during 1 complete revolution.
60 Hz or 60 cycles per second**

5. How does the current produced by a generator differ from the current produced by a battery?

**Batteries force electrons to flow in only one direction.
Negative to Postive.....Direct Current.**