

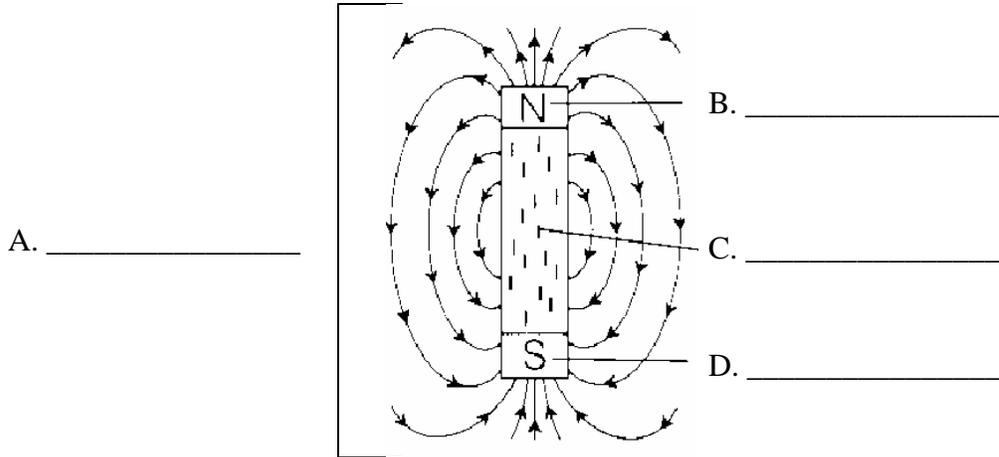
**Chapter 14 Review**

Name \_\_\_\_\_

Compare and contrast the three devices that use electromagnetic induction. Complete the table by placing check marks in the correct column(s).

	<b>Step Up Transformer</b>	<b>Step Down Transformer</b>	<b>Generator</b>
Uses permanent magnet			
Uses electromagnet			
Creates alternating current			
Uses alternating current			
Decreases current			
Increases voltage			

2. Label these parts of the bar magnet below: magnetic field, north magnetic pole, south magnetic pole, and magnetic domains.



3. How do magnetic field lines indicate the direction of magnetic force, and the location and strength of the field?

Figure 2 shows the earth and its magnetic field. Use the figure to answer these questions.

4. Where is the earth's magnetic field strongest?

5. Label the magnetic north pole in Figure 2.

6. Label the geographic north pole in Figure 2.

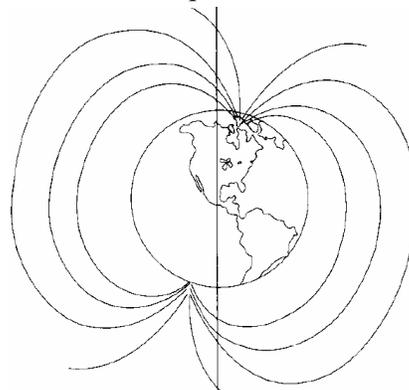
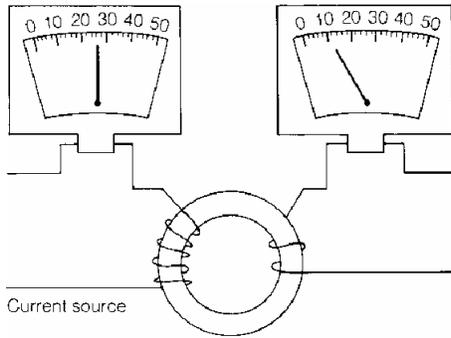


Figure 2 Earth's Magnetic Field

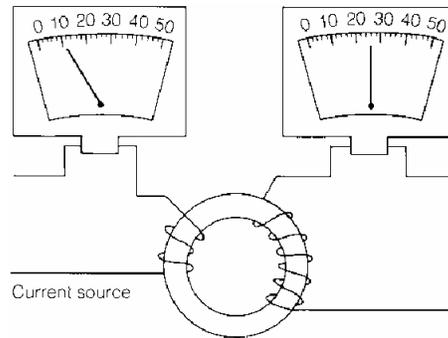
7. What causes the electromagnet in an electric motor to spin?

In the United States, transformers adjust the voltage for appliances that use voltages greater or smaller than 120 volts.

8. Study Figure 1. Label the step-up transformer and the step-down transformer.



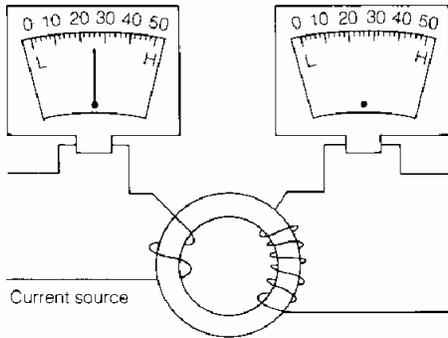
A \_\_\_\_\_



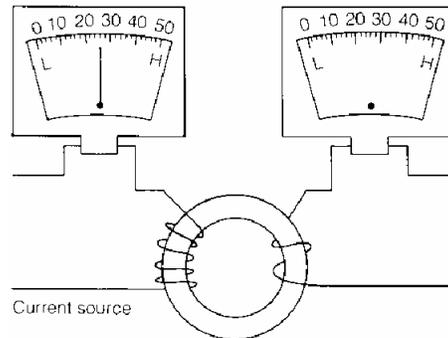
B \_\_\_\_\_

Figure 1 Transformers

9. For each transformer in Figure 2, draw the needle in the voltmeter to indicate the *relative* voltage. Label the step-up transformer and the step-down transformer.



A \_\_\_\_\_



B \_\_\_\_\_

Figure 2 Transformers

10. What is the function of the electromagnet in a galvanometer?

11. **Sequence** The following events that occur in an electric motor are in an incorrect sequence. Write the letters of the events in the correct sequence on the lines provided.

- A. Electromagnet's poles repel poles of permanent magnet.
- B. Electromagnet spins.
- C. Drive shaft does work.
- D. Poles on electromagnet reverse.
- E. Armature turns drive shaft.
- F. Current flows through electromagnet.
- G. Direction of current changes.

\_\_\_\_\_ 1    \_\_\_\_\_ 2    \_\_\_\_\_ 3    \_\_\_\_\_ 4    \_\_\_\_\_ 5    \_\_\_\_\_ 6    \_\_\_\_\_ 7

Answer questions 1-10 on page 481

1. \_\_\_\_\_

5. \_\_\_\_\_

9. \_\_\_\_\_

2. \_\_\_\_\_

6. \_\_\_\_\_

10. \_\_\_\_\_

3. \_\_\_\_\_

7. \_\_\_\_\_

4. \_\_\_\_\_

8. \_\_\_\_\_