Name: _____ Date: _____

Multiple Choice

Fill in the circle next to the correct answer.

1. Which metal does not have magnetic properties?

- ○ **A** aluminum
- ○ **B** cobalt
- ○ **C** iron
- ○ **D** nickel

2. How does Earth's magnetosphere protect the planet?

- ○ **A** directs particles toward the equator
- ○ **B** emits colored light
- ○ **C** deflects high-speed particles
- ○ **D** extends light speeds from the planet

3. How can you increase the strength of an electromagnet?

- ○ **A** decrease coil wire turns
- ○ **B** increase coil wire turns
- ○ **C** increase circuit resistance
- ○ **D** decrease circuit current

4. Which device converts electrical energy into mechanical energy?

- ○ **A** generator
- ○ **B** commutator
- ○ **C** battery
- ○ **D** electric motor

5. How does the domain model explain why nonmagnetic materials are nonmagnetic?

- ○ **A** the domains point in the same direction
- ○ **B** the domains point in different directions
- ○ **C** stroking aligns the domains
- ○ **D** heating/pounding changes the direction of the domains

6. Which is an example of a device that uses mechanical energy to produce electricity?

- ○ **A** electric motor
- ○ **B** electromagnet
- ○ **C** electric generator
- ○ **D** electric crane

7. What is the primary source of electricity in the United States?

- ○ **A** wind power
- ○ **B** geothermal energy
- ○ **C** solar power
- ○ **D** fossil fuels

8. How does geothermal energy generate electricity?

- ○ **A** solar cells trap the energy
- ○ **B** tidal kinetic energy is harnessed
- ○ **C** steam turns turbines
- ○ **D** wind power turns the blades and rotor

9. Which of these energy sources is not renewable?

- ○ **A** biomass fuel
- ○ **B** solar energy
- ○ **C** hydroelectric energy
- ○ **D** petroleum

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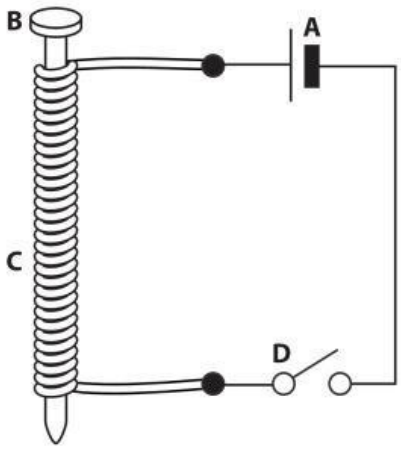
Name: _____ Date: _____

10. What happens when the north poles of two magnets come in contact?

- ○ **A** attract each other
- ○ **B** reverse polarity
- ○ **C** repel each other
- ○ **D** attract and then repel

Matching

Match each labeled part on the diagram of an electromagnet with the correct term. Write the letter of the part on the line provided.



11. _____ Coil of wire

12. _____ Iron core

13. _____ Switch

14. _____ Battery

Short Response

Read each item carefully. Write your answers in the space provided.

15. Explain how a cordless device runs on a direct current.

_____

_____

16. Name three ways to conserve electric energy.

_____

_____

17. Explain why auroras form displays of light that can be red, blue, green, or purple.

_____

_____

18. Describe the magnetic field surrounding the horseshoe magnet.

_____

_____

19. How is electricity generation similar at a hydroelectric dam and a wind farm?

_____

_____

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