

Name: _____

Date: _____

Multiple Choice

Fill in the circle next to the correct answer.

1. Which metal does not have magnetic properties?
☐ A aluminum ☐ C iron
☐ B cobalt ☐ D nickel
2. How does Earth's magnetosphere protect the planet?
☐ A directs particles toward the equator ☐ C deflects high-speed particles
☐ B emits colored light ☐ D extends light speeds from the planet
3. How can you increase the strength of an electromagnet?
☐ A decrease coil wire turns ☐ C increase circuit resistance
☐ B increase coil wire turns ☐ D decrease circuit current
4. Which device converts electrical energy into mechanical energy?
☐ A generator ☐ C battery
☐ B commutator ☐ 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 ☐ C electric generator
☐ B electromagnet ☐ D electric crane
7. What is the primary source of electricity in the United States?
☐ A wind power ☐ C solar power
☐ B geothermal energy ☐ D fossil fuels
8. How does geothermal energy generate electricity?
☐ A solar cells trap the energy ☐ C steam turns turbines
☐ B tidal kinetic energy is harnessed ☐ D wind power turns the blades and rotor
9. Which of these energy sources is not renewable?
☐ A biomass fuel ☐ C hydroelectric energy
☐ B solar energy ☐ D petroleum

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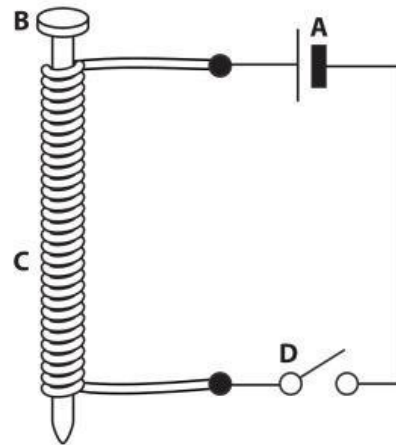
10. What happens when the north poles of two magnets come in contact?

- ☐ A attract each other ☐ C repel each other
☐ B reverse polarity ☐ 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?
