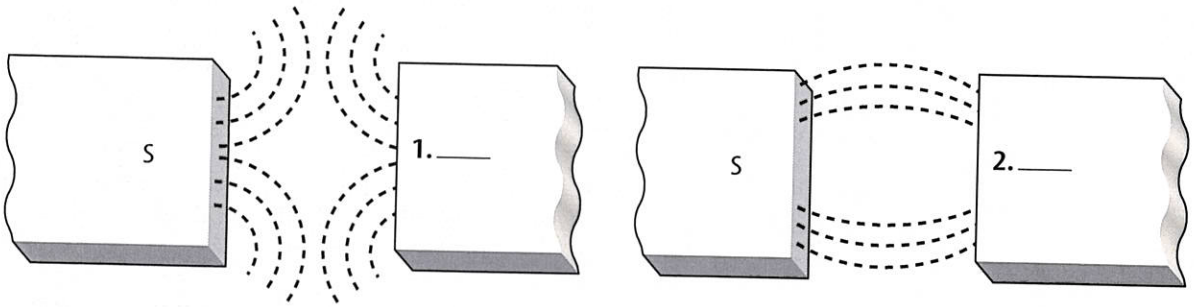
Name Date Class

Directed Reading for Content Mastery

Section 1 ▪ What is magnetism?

Directions: *The lines in the illustration show magnetic forces acting between two pairs of bar magnets. Correctly label the unlabeled poles of the magnets:* **N** *for north and* **S** *for south. Then answer the questions that follow.*



3. What generalization can you make about the reaction between like poles?

_____

4. What generalization can you make about the reaction between unlike poles?

_____

Directions: *Circle the term that correctly completes each sentence.*

5. The magnetic field is strongest near (the poles/the center) of a bar magnet.
6. Materials that can become magnetized include steel and (copper/iron).
7. The needle of a compass lines up with Earth's magnetic field and points to (Earth's poles/Earth's equator).
8. Magnetic field lines that curve toward each other show (repulsion/attraction).
9. Some animals have tiny pieces of (magnetite/magnetosphere) in their brains to help them find their way.
10. A magnet contains a large number of magnetic (domains/poles) that are lined up and pointing in the same direction.

Meeting Individual Needs

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Directed Reading for Content Mastery

Key Terms
Magnetism

Directions: *Match the following terms with the correct descriptions below.*

aurora **compass** **electric generator** **electric motor**
electromagnet **magnetosphere** **magnetic domain**
magnetic field **magnetism** **transformer** **alternating current**

Meeting Individual Needs

_____ **1.** a group of atoms with their magnetic poles pointed the same direction

_____ **2.** imaginary lines of force around a magnet

_____ **3.** a force created through a magnetic field

_____ **4.** a magnetic needle that is free to turn

_____ **5.** a current-carrying wire wrapped around an iron core

_____ **6.** a device that uses the interaction between electricity and magnetism to produce motion

_____ **7.** colored lights in the sky created by the interaction of Earth's magnetic field and charged particles in the solar wind

_____ **8.** the magnetic field around Earth that extends into space

_____ **9.** a device that uses induction to produce electric power

_____ **10.** an electrical device that changes the voltage of alternating current

_____ **11.** in the United States, it changes from positive to negative to positive 60 times each second

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SECTION 1 Reinforcement

What is magnetism?

Directions: *Match the terms in Column II with the descriptions in Column I by writing the letter of the correct term in the blank at the left.*

Column I

_____ 1. a stone that attracts iron

_____ 2. It affects only objects that have magnetic domains.

_____ 3. a group of atoms with aligned magnetic poles

_____ 4. Earth's magnetic field

_____ 5. It weakens as you get farther from the magnetic poles.

Column II

a. magnetic domain

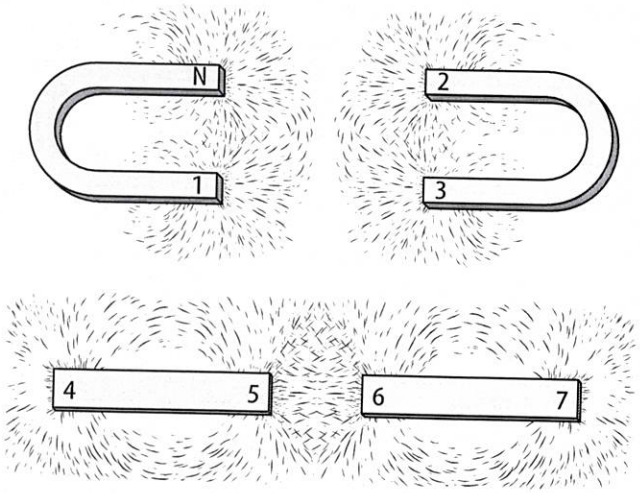
b. magnetic field

c. magnetic force

d. magnetite

e. magnetosphere

Directions: *Study the pattern of iron filings around each set of magnets below, then answer the questions.*



6. How would you label pole 1?

_____

7. How would you label pole 2? Why?

_____

_____

8. How would you label poles 5 and 6? Why?

_____

_____

9. How could you use iron filings to tell which of two bar magnets is stronger?

_____

_____

Meeting Individual Needs