



BUILDING BLOCKS OF PHYSICAL SCIENCE

Magnetism

What is magnetism, and how do magnets work? Follow the character "Magnetism" to discover the answers through compasses, electric motors, and even refrigerator magnets!

What did you learn?

QUESTIONS

- Which material is nonmagnetic?
 - Wood
 - Glass
 - Rubber
 - All of the above
- A magnet has what two opposing sides?
 - Hot pole and cold pole
 - North pole and south pole
 - East pole and west pole
 - Wet pole and dry pole
- The relationship between electricity and magnetism is called what?
 - Electromagnetism
 - Magnetic field
 - Metallic force
 - Electromagnet
- The area of force around a magnet is called what?
 - Repulsion
 - Electric current
 - Magnetic field
 - Pole
- Can you describe how sprinkling iron filings around a bar magnet illustrates the effect of a magnetic field?
- Explain how a compass uses magnetism.

TRUE OR FALSE?

- | | |
|--|---|
| _____ 1. Magnetism can either attract or repel. | _____ 4. Earth is a magnet. |
| _____ 2. Magnets only attract objects that are relatively close. | _____ 5. One pole of Earth's magnet is in Australia. |
| _____ 3. Poles that are alike are attracted to each other. | _____ 6. Electromagnets are useful because they form permanent magnets. |

ANSWERS

- 1. d. All of the above.** According to page 7, we know that, "... wood is not magnetic ... Glass, plastic, rubber, silver, titanium—they do nothing for me!" So, the correct answer is D.
- 2. b. North pole and south pole.** According to page 10, we know that, "A magnet has two opposing sides.... They are also called the north pole and south pole." So, the correct answer is B.
- 3. a. Electromagnetism.** According to page 21, we know that, "The relationship between electricity and magnetism is called electromagnetism." So, the correct answer is A.
- 4. c. Magnetic field.** According to page 30, we know that, "Magnetic field: an area of force around a magnet." So, the correct answer is C.
- 5.** According to page 13, we know that, "The filings line up along the lines of the magnetic field. The lines of the field stretch from one pole to the other. The lines are closer together near the poles. This shows that the magnetic field is strongest near the poles."
- 6.** According to pages 18 and 19, we know that, "The needle of the compass always points north. That's because the compass needle is a magnet. The pole of the compass needle is attracted to the opposite magnetic pole of Earth."

TRUE OR FALSE? ANSWERS

- 1. True.** According to page 4, we know that, "I'm magnetism! I can either attract or repel." So, the correct answer is True.
- 2. True.** According to page 9, we know that, "Magnets only attract objects that are relatively close." So, the correct answer is True.
- 3. False.** According to page 11, we know that, "Opposite poles are attracted to each other." So, the correct answer is False.
- 4. True.** According to page 16, we know that, "Earth itself is a giant magnet!" So, the correct answer is True.
- 5. False.** According to page 17, we know that, "One pole of the magnet is in the Arctic. The other pole is in Antarctica." So, the correct answer is False.
- 6. False.** According to page 22, we know that, "Electromagnets are useful because they form temporary magnets." So, the correct answer is False.