

Magnetism

Magnets: Types and Uses

Magnets come in a wide variety with an equally wide variety of uses. The most common are bars or disks. Because they stick to certain metals, these magnets are used to fasten and latch things, like a cabinet door. Huge horseshoe magnets have a U shape. They are used to move iron and steel scrap. Tiny magnets on audiotape and videotape store sound and images.

Magnets are everywhere. They help to make life more **convenient**.¹ They also help us to get around more quickly. For example, many electrical motors require electromagnets to run. The magnetic force that runs the motors is created when an electrical current flows through a coil of wire. Motors with electromagnets help run many household appliances. The same electromagnetic force is also used in the motors of cars, trains, and airplanes.

Magnets are so useful they're even being used to improve the health of some people. Huge magnets in a special machine can now give doctors **detailed**² pictures within the body. The pictures help doctors find and treat problems inside the body, without having to make an **incision**³.

People's **reliance**⁴ on magnets only continues to grow. In Japan, magnets are being used in some amazing new ways. For example, Japan now has a special train that runs on magnets. It literally **levitates**⁵ over the tracks. The magnetic force helps to provide a fast smooth ride. Hopefully, America will have a train like this very soon.

¹ **convenient** – useful or easy to use

² **detailed** – exact or minute

³ **incision** – a cut made in something

⁴ **reliance** – dependence, trust

⁵ **levitates** – rises or floats in the air

Name: _____

Date: _____

1. Which sentence best describes the main idea of this passage?
 - a. Magnets come in a wide variety with many uses.
 - b. Magnets are everywhere.
 - c. Motors with electromagnets help run many household appliances.
 - d. Tiny magnets on audiotape and videotape store sound and images.

2. Which of the following is an opinion?
 - a. Huge horseshoe magnets have a U shape.
 - b. Hopefully, America will have a train like this very soon.
 - c. Many electrical motors require electromagnets to run.
 - d. Tiny magnets on audiotape and videotape store sound and images.

3. People _____ use magnets in the home.
 - a. rarely
 - b. always
 - c. often
 - d. like to

4. According to the passage, you can tell that **convenient** means
 - a. easy.
 - b. uncomfortable.
 - c. difficult.
 - d. solemn.

5. The passage describes all of the following uses of magnets *except*
 - a. a latch for a cabinet door.
 - b. a motor for a household appliance.
 - c. a device to predict powerful storms.
 - d. a machine that shows pictures within the body.

6. How might you describe Japan's use of magnets?

7. According to the passage, how have magnets helped doctors?

8. The question below is an incomplete sentence. Choose the word that best completes the sentence.

Many electrical motors require electromagnets to run _____. The magnetic force that runs the motors is created when an electrical current flows through a coil of wire.

- a. despite
- b. against
- c. across
- d. since

9. Answer the following question based on the sentence below.

Magnets fasten and latch cabinet doors because they stick to certain metals.

In the sentence, the word magnets best answers which question?

- a. Who?
- b. What?
- c. Where?
- d. Why?

10. **Vocabulary Word:** reliance: dependence, trust.

Use the vocabulary word in a sentence: _____

Teacher Guide and Answers

Passage Reading Level: Lexile 820

Featured Text Structure: Descriptive – the writer explains, defines or illustrates a concept or topic

Passage Summary: The passage describes different magnets and the variety of uses they serve, which make our lives more convenient. Some examples of their uses are in electrical motors, to provide medical imaging, and public transportation in Japan.

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 - a. **Magnets come in a wide variety with many uses.**
 - b. Magnets are everywhere.
 - c. Motors with electromagnets help run many household appliances.
 - d. Tiny magnets on audiotape and videotape store sound and images.
2. Which of the following is an opinion?
 - a. Huge horseshoe magnets have a U shape.
 - b. **Hopefully, America will have a train like this very soon.**
 - c. Many electrical motors require electromagnets to run.
 - d. Tiny magnets on audiotape and videotape store sound and images.
3. People _____ use magnets in the home.
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 - a. a latch for a cabinet door.
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 - c. **a device to predict powerful storms.**
 - d. a machine that shows pictures within the body.

6. How might you describe Japan's use of magnets?

Suggested answer: Answers may vary but could include that Japan uses magnets in amazing new ways. For example, Japan now has a special train that runs on magnets.

7. According to the passage, how have magnets helped doctors?

Suggested answer: In paragraph 3, the author describes how huge magnets are used in a machine that gives detailed pictures within the body, so doctors do not need to cut open a person to investigate and treat a medical problem for a patient. This saves money and lowers risks for the patient.

8. The question below is an incomplete sentence. Choose the word that best completes the sentence.

Many electrical motors require electromagnets to run _____. The magnetic force that runs the motors is created when an electrical current flows through a coil of wire.

- a. despite
- b. against
- c. across
- d. **since**

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- c. Where?
- d. Why?

10. **Vocabulary Word:** reliance: dependence, trust.

Use the vocabulary word in a sentence: answers may vary.