

Science

(Week 2; Days 6-10)

Please see lesson
plan on line.

Name _____

Electrical Circuits—Series and Parallel for Kids

1. What is a complete circuit?

2. What is a series circuit?

3. What is a parallel circuit?

4. What is an electric current?

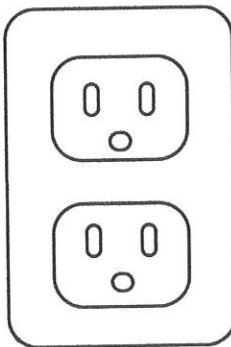
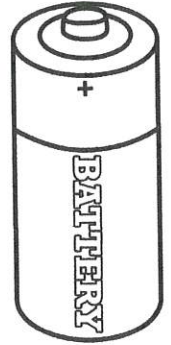
5. What is an incomplete circuit?

6. What do you need for an electric charge to flow?

Electric Currents

Even though electricity is all around us, we need to control it in order to make it do work. Electricity that we use moves inside wires and flows from place to place. The flowing movements of electricity from place to place is an electric current.

There are two types of current electricity. They are called direct currents, or DC for short, and alternating currents, or AC. A direct current is what you get from items like batteries and solar cells. In direct currents, the flow of electricity always goes in one direction.



The electricity we get through our walls is an alternating current. With alternating currents, the current flows in one direction and then switches and goes another way, going back and forth. The switching goes very quickly, about 60 times each second. Because it goes so fast, we don't even see the lights flicker. If we were able to see lights in slow motion, it would look like they are turning on and off.

1. How are direct and alternating currents different? _____

2. What is an electric current? _____

3. Name two items that you can power through a direct current. _____

Name _____

Bill Nye: Electricity

Video Notes

Video Summary

Name _____

"The Power of Magnets" Discussion Questions

1. What can cause the code on a credit card to be erased?

2. What is the difference between magnets in computers and those in generators?

3. Magnets are really useful. Is this statement a fact or opinion? How do you know?

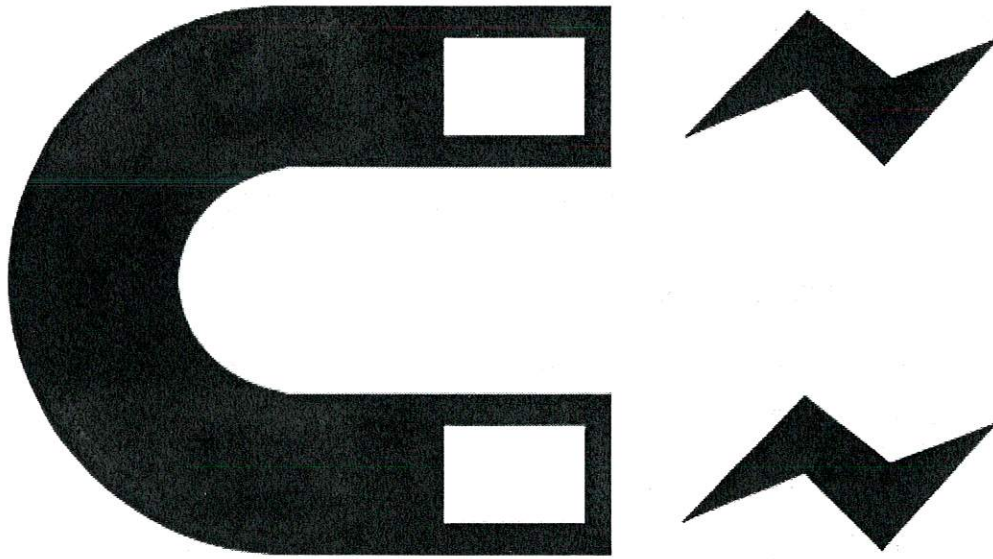
4. What is a fun way to use magnets?

5. What would the world be like without magnets?

6. How do the diagrams on page 7 help you understand the pulls of a magnet?

Magnetism - Magnets: Types and Uses

by ReadWorks



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. 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 pictures within the body. The pictures help doctors find and treat problems inside the body, without having to make an incision.

People's reliance 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 over the tracks. The magnetic force helps to provide a fast smooth ride. Hopefully, America will have a train like this very soon.

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?