
TEKS K.6 Force, motion, and energy. The student knows that energy, force, and motion are related, and are a part of their everyday life. The student is expected to:
(B) explore interactions between magnets and various materials.

Background Knowledge

Magnets attract objects made of certain metals such as iron. Some materials are not attracted to magnets. Magnets come in different shapes and sizes, but they all have two ends or poles. Unlike poles of two magnets attract each other. Like poles of two magnets repel each other.

Essential Questions

What objects are attracted to magnets?
(Steel spoon, a nickel, paper clip, steel buttons)

What objects are not attracted to magnets?
(Plastic button, paper, cloth, a penny, wood)

What are the different kinds of magnets?
(Horseshoe or U-shaped, bar, button or disc)

How are magnets used in our everyday life?
(Refrigerator magnets, board games, purse latch, cabinet door clasp, can opener, screwdriver)

One Magnet, Different Objects

Objective:

Students explore and identify objects that are attracted to magnets.

Materials:

Nonmagnetic

Plastic button

Cloth bag

Papers

Book

Aluminum plate

Penny

Magnetic

Steel buttons

Metal clasp on same bag

Paper clip holding the papers

Metal bookmark in the book

Steel spoon

Nickel

Different types of magnets of varying strengths.

Sawdust/sand kept in a closed box.

Iron filings kept in a closed box.

A small tray to use with the above two.

A small plastic spoon.

How to Conduct:

Have students predict which items a magnet will attract, and which items a magnet will not attract. Sort their predictions by placing the “yes” items on a green construction paper, and the “no” items on a red construction paper.

Allow the children to take turns testing any one magnet on each of the objects and discover what happens. Aluminum is not magnetic even though it is a metal. When students wonder why aluminum does not stick, say, “This is made of a metal called aluminum, which is not attracted by magnets. That is why it does not stick to the magnet.”

Let children say for each of the objects:

“My magnet can attract a _____.”

“My magnet does not attract a _____.”

Name The Magnet

Objective:

Students name the various types of magnets.

Materials:

Bar Magnet, U-shaped Magnet, Button Magnet

How to Conduct:

Give the names of each of the type of magnet: bar magnet, U-shaped magnet, button magnet. Discuss the names and why they have those names. A bar magnet is long and narrow. A U-shaped magnet is shaped like the letter “U”. It is also called a horseshoe magnet because it is shaped like a horseshoe. Have a horseshoe or picture of a horseshoe. A button magnet is round and flat. It is sometimes called a disc magnet.

Students use motions to show the types of magnets. Have students draw in the air the shape of a long bar. The teacher then says, “That is how a bar magnet is shaped.” Then, draw in the air a letter “U”. The teacher says, “That is a how a U-shaped magnet is shaped.” Then draw in the air a circle. The teacher says, “That is the shape of a button magnet.”

Give different students turns to help review the names:

“Point to a BAR magnet.”

“Put a U-SHAPED magnet on the book.”

“Put another U-SHAPED magnet on the book.”

“Hold out a BUTTON magnet.”

“Name this magnet.” (point to any one)

“Put a BAR magnet next to the bag.”

Everyday Magnets

Objective:

Students identify ways magnets are used at school and around the house.

How to Conduct:

Discuss where magnets can be found/are used

- Fridge door decoration magnets
- Cabinet door closer/holder
- Medicine cabinet door in the bathroom
- Magnetic purse “clasps”
- Toys for fishing
- Magnetic board games while traveling, so counters do not fall off, etc.
- Magnetic letters in the classroom
- Can opener
- Magnetized screwdriver

Search the classroom for magnets and talk about how they are used. If time allows, search other parts of the school for magnets and discuss how they are used. Take a field trip to the school cafeteria to look at the can opener, cabinet doors, and refrigerator door to see if it has magnets.

Have students find ways magnets are used at home. Students report the next day 1 to 3 examples of how magnets are used at home.