



## **Essential Question**

**How do the Earth's forces affect us?**



***Go Digital!***



# The Earth Affects Us

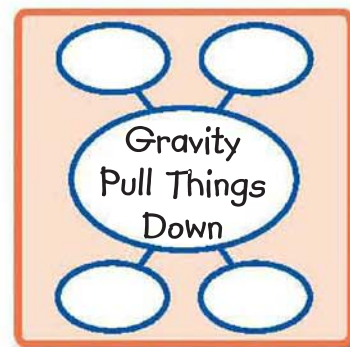
Down, down, down you go! Gravity is the force that pulls you down the slide. Here are some other ways you can see the force of gravity at work.

- ▶ A ball rolling and picking up speed.
- ▶ A child jumping.

## Talk About It



Talk with a partner about ways you can see gravity at work. Then write your ideas on the web.



# Vocabulary

Use the picture and sentence to learn each word.



**amazing**

Jason made an **amazing** flip into the pool.

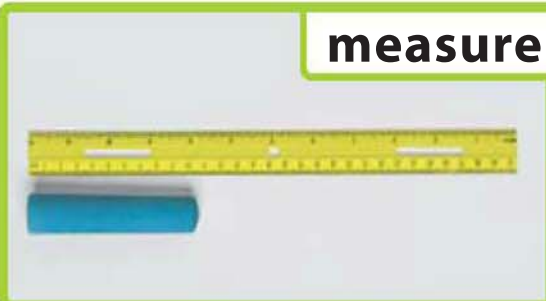
What have you seen that is amazing to you?



**force**

The **force** of my kick made the ball move far.

What things take a lot of force to move?



**measure**

I can **measure** the chalk with my ruler.

What other tool can you use to measure things?



**objects**

There were lots of **objects** in the toy chest.

Tell about the biggest object you have seen that is a toy.



**proved**

Wyatt's big hit **proved** he knew how to play baseball.

What is a way you have proved something?



**speed**

The car moved at a very fast **speed**.

What are some things that move at a slow speed?



**true**

It is **true** that an elephant is the largest land animal.

What is the opposite of true?



**weight**

The **weight** of the pumpkin made it heavy to carry.

What can you do to find the weight of something?

## Your Turn



Pick three words. Write three questions for your partner to answer.

**Go Digital!** Use the online visual glossary


# Magnets Work!



## Essential Question

**How do the earth's forces affect us?**

Read to learn about magnets and how they help us.



Did you know magnets are all around you? Magnets help you do **amazing** things! Keep reading! See if you think magnets have surprising uses.

## Magnets Pull

Look closely and you will see. Magnets can be found on a can opener. The magnet **attracts**, or pulls, the lid off of a soup can. A push or pull is called a **force**.

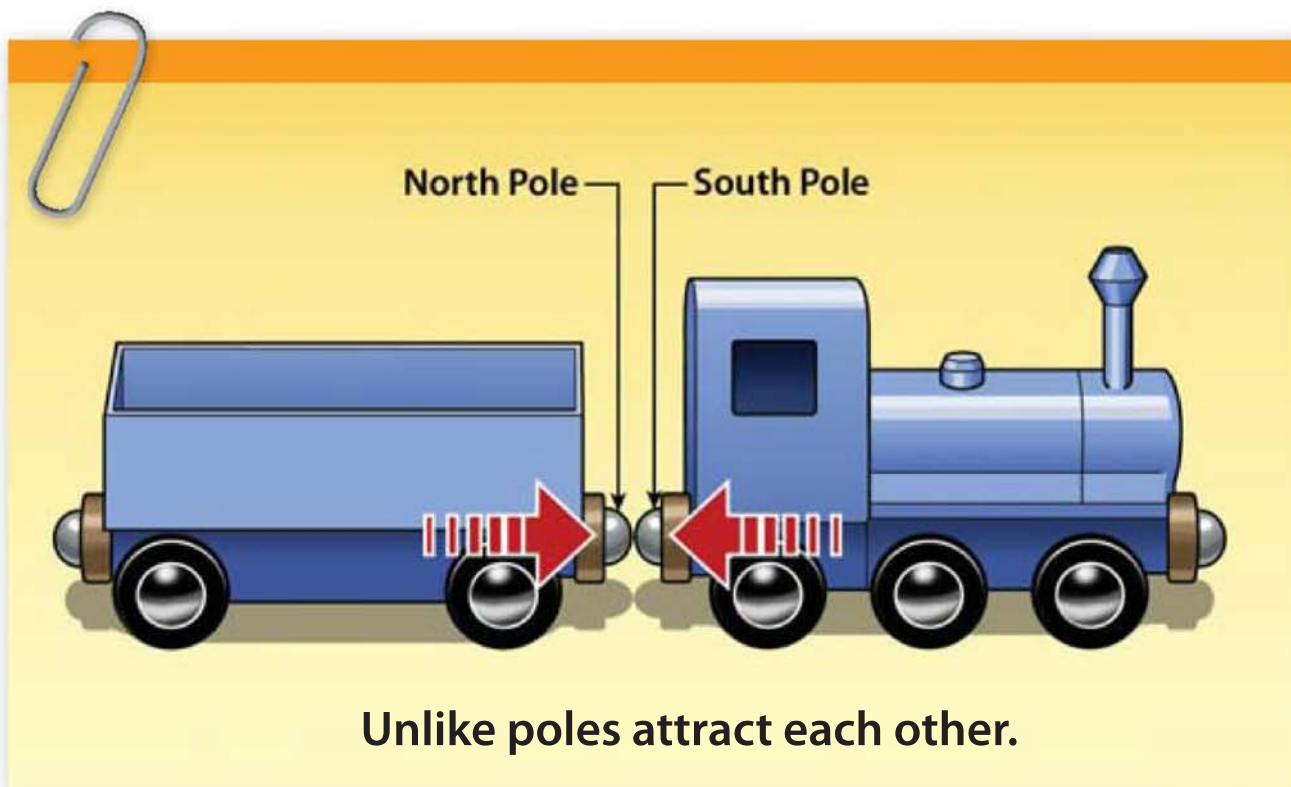
There is also a magnet in a refrigerator. It pulls the metal in the door to make a tight seal. Do you know how?

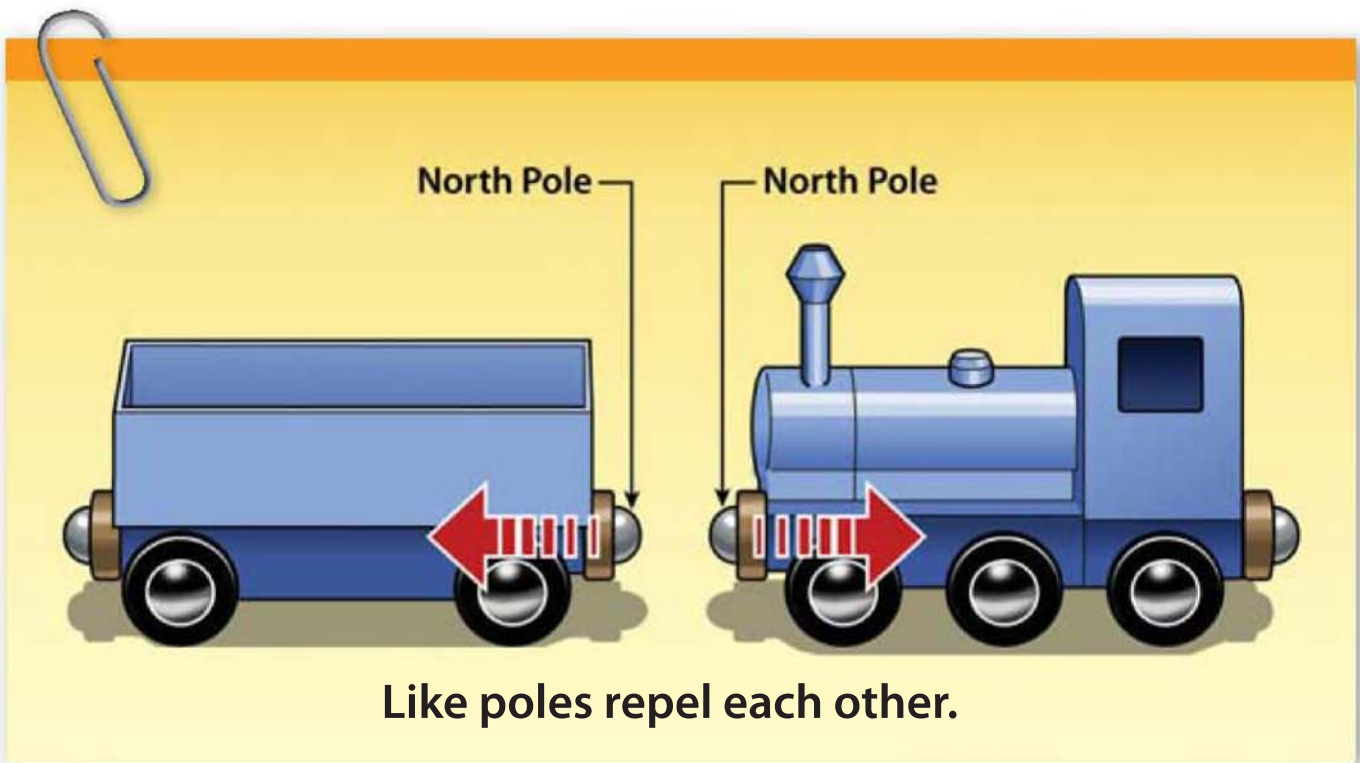


A magnet's force pulls **objects** made of metals called iron and steel. It will not pull other things. It will not pull a wooden pencil or a plastic toy. A magnet does not attract all items.

## Magnets Have Poles

You have **proved**, or shown, that magnets can pull some things to it. Why is this true? The two ends of a magnet are its **poles**. Every magnet has a north pole and a south pole.





Have you ever played with trains that have magnets? Sometimes, you try to put two train cars together, but they **repel**. This means they push away from each other.

Then you turn one of the cars around. The two cars snap together as quick as a wink. That's right! If you have played with these trains, you know it is **true**.

When the train cars push away, two of the same poles are facing each other. However, if you put the north and south poles together, they will snap together like the train.



## Magnets Can Be Powerful

We know that magnets can move objects. But does the heaviness of an object matter? Can magnets move objects that have different **weights**? Yes, they can.

Scientists are using magnets in new ways. People often wish they could travel at a faster **speed** than a train.



The magnets on this train make it float over the track.

There is a new train that uses powerful magnets to travel more quickly. Magnets lift the train above the track and push the train forward. The train appears to be moving as fast as lightning! Scientists have **measured** these train speeds. They are much faster than the trains we know.

Can you imagine what magnets will help us do in the future?

## Make Connections



What are two ways we use magnets? **ESSENTIAL QUESTION**

Tell about a time when you have used a magnet to push or pull something. **TEXT TO SELF**

