



Essential Question

How Can We Change the Way Objects Move?



Engage Your Brain

Find the answer to the question in the lesson.

How is pushing a swing like pulling a wagon?

A push and a pull are both _____.



Active Reading

Lesson Vocabulary

- 1 Preview the lesson.
- 2 Write the 3 vocabulary terms here.

In Full Force

What makes the wagon move? The girl gives it a push. A **push** moves an object away from you. The boy gives the wagon a pull. A **pull** moves an object closer to you.

Pushes and pulls are forces. A **force** makes an object move or stop moving. When the girl and boy push and pull the wagon, it starts to move.



▶ Draw yourself pushing something.

A young boy with short dark hair, wearing a bright yellow t-shirt and blue jeans, is walking on a paved path. He is holding a long, black, curved handle that extends into a large field of tall green grass. The background shows a clear blue sky with some light clouds and a line of trees in the distance. The boy has a slight smile and is looking towards the right.

▶ Draw yourself pulling something.

Active Reading

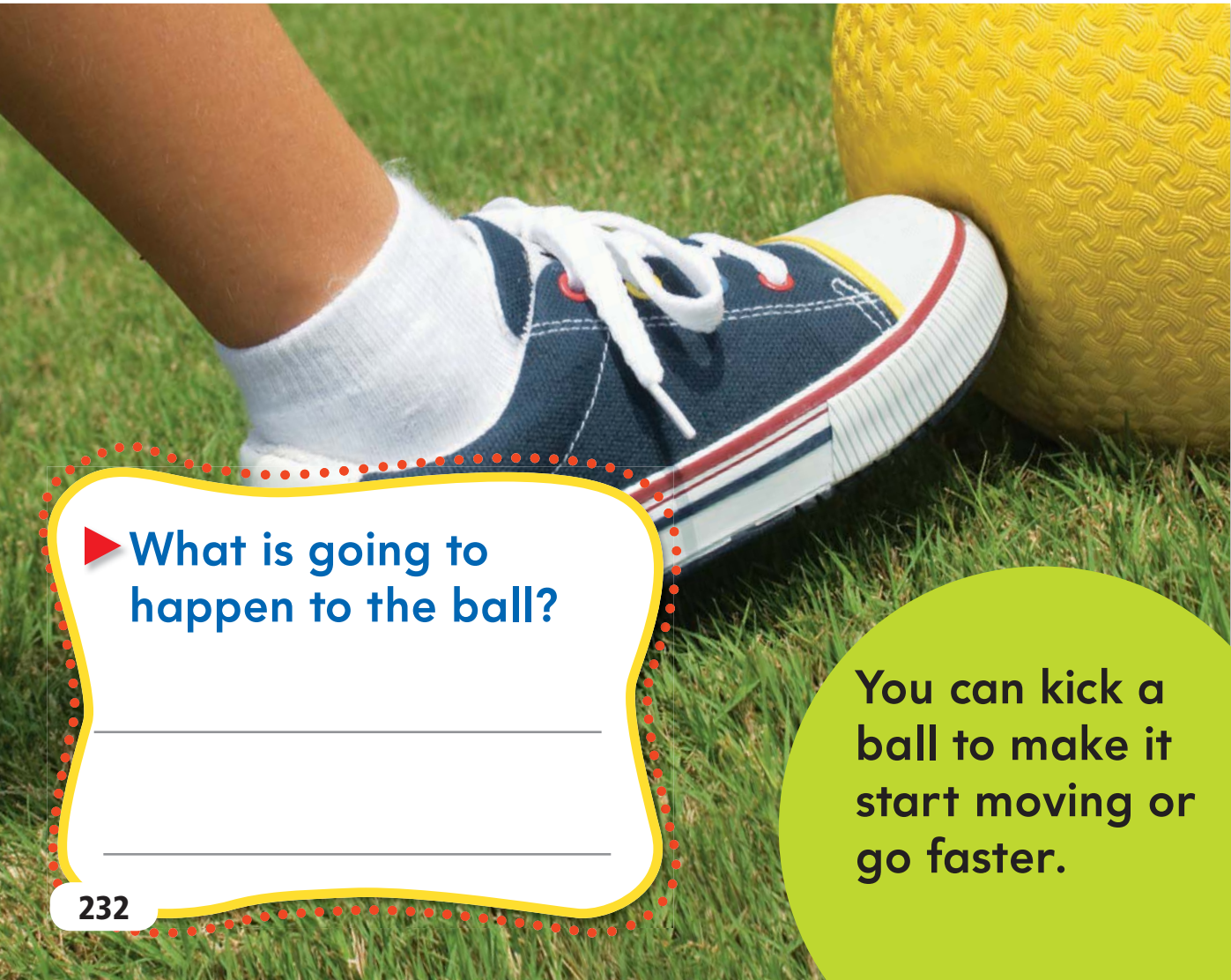
Find the sentence that tells the meaning of **force**. Draw a line under the sentence.

Using Force

Look at the pictures. How does a force move a ball? A force can change the way an object moves. It can change a ball's speed or direction.

Changing Speed

Force can change an object's speed. It can make something start moving or stop moving. It can make something go faster or more slowly.



► What is going to happen to the ball?

You can kick a ball to make it start moving or go faster.

You can catch a ball to stop it.

► Describe how the motion of the car changes.



1

2

3

What Is Your Position?

Look at the pictures. Things are moving up and down. They are moving in and out. Position words tell where something is. Some position words are **in**, **out**, **up**, **down**, **left**, and **right**.

A force can move something to a new position.

Active Reading

A detail is a fact about a main idea. Draw one line under a detail. Draw an arrow to the main idea it tells about.



up

down

in

out



A Step in the Right Direction

Think about pushing a friend on a swing. Your friend moves away from you and then comes back. Forces can move things toward you and away from you. A force can change the direction of an object.



► Tell how the direction of this swing changes.

What Makes That Coaster Move?

Roller coasters are fun! They go up and down, fast and slow, round and round. People on the ride might yell as they change speed and direction. What makes the coaster move?



A motor pulls a chain. The chain pulls the car up the first hill.

Gravity is the force that pulls the car down. Gravity pulls all things toward Earth.

► What pulls the car down the hill?

Sum It Up >>

1 Solve It!

Write the word that solves the riddle.

I move a box
when it is full.
I can be
a push or a pull.
What am I?

2 Circle It!

Forces can change objects. Circle the words that tell the kinds of changes.

speed color
size direction
shape

3 Label It!

Write push or pull to label each picture.





Name _____

Vocabulary Review

Complete the letter by using these words.

speed

push

force

pull

Dear Jen,

We moved into our new house. My dad drove the moving truck. He made sure the _____ of the truck was not too fast.

Moving is hard! I had to _____ boxes all day. It took a huge _____ to move my box of toys. My dad had to _____ it while my brother pushed.

Your friend,

Amy



Apply Concepts

Complete the chart. Write a word on each blank line.

Cause

Effect

Force

moves a

_____.

Force

makes a wagon go

_____.

Force

pushes a swing

from you.

Force

moves a book to a

new _____

on a shelf.

Take It Home!

Family Members: Ask your child to tell you about forces and motion. Have your child point out examples of pushes and pulls and explain how those forces change motion.