SCIENCE

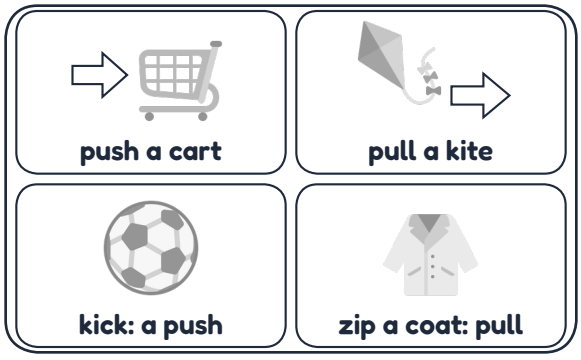
Pushes and pulls

Name _____ Date _____

I can tell if a force is a push or a pull.

1 How it works

A force is a push or a pull. A push moves something away from you, like kicking a ball or pushing a cart. A pull moves something toward you, like opening a drawer or pulling a wagon. Forces can make things start, stop, speed up, slow down or change direction. A bigger push or pull makes a bigger change.



2 Push or pull? Circle one.



kick a ball

push pull



shopping cart

push pull



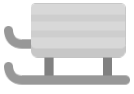
pedal a bike

push pull



sweep a broom

push pull



tow a sled

push pull



fly a kite

push pull



a yo-yo

push pull



zip a coat

push pull

How did I do? ☆ ☆ ☆

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Forces make things move

Name _____ Date _____

I can tell what a push or a pull will do.

1 What will the force do? Circle one.



Kick a ball that is sitting still. (start) (stop) (turn)



Catch a ball that is rolling to you. (start) (stop) (turn)



Steer a bike around a corner. (start) (stop) (turn)



Push a cart that is not moving. (start) (stop) (turn)

2 Big push or small push? Circle one.

1. To kick a ball across the whole field (big) (small)
2. To tap a ball to a friend close by (big) (small)
3. To slide a heavy box across the floor (big) (small)
4. To roll a marble a short way (big) (small)

How did I do? ☆ ☆ ☆

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Think like a scientist

Name _____ Date _____

I can explain how pushes and pulls change motion.

1 Think about it

1. How can you make a ball go farther? _____
2. Is opening a door a push or a pull? _____
3. How can you stop a rolling ball? _____
4. Name a pull you used today. _____

2 True or false? Circle it.

1. A force is a push or a pull.	true	false
2. A force can make something stop.	true	false
3. A small push sends a ball farther than a big push.	true	false
4. Kicking a ball is a pull.	true	false
5. Opening a drawer is a pull.	true	false

3 Draw yourself using a push and a pull. Label each one.

How did I do? ☆ ☆ ☆

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Try it: the ball push test

Name _____ Date _____

I can test how the size of a push changes motion.

1 You need

-  a ball
-  tape
-  a hallway or a yard
-  big steps to measure
-  a partner

2 What to do

1. Mark a start line with tape.
2. Roll the ball with a small push. Mark where it stops.
3. Roll it again with a medium push, then a big push. Mark each stop.
4. Count your steps from the start line to each mark.

3 I predict

Which push will send the ball the farthest?

_____

_____

4 What I see

Push	How far it went	Fast or slow?
small		
medium		
big		

How did I do? ☆ ☆ ☆

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FOR TEACHERS AND PARENTS

Answer key: pushes and pulls

1 Page 1

Answers: 1) kick a ball: push; 2) shopping cart: push; 3) pedal a bike: push; 4) sweep a broom: push; 5) tow a sled: pull; 6) fly a kite: pull; 7) a yo-yo: pull; 8) zip a coat: pull.

2 Page 2

Force: 1) start; 2) stop; 3) turn; 4) start.

Size: 1) big; 2) small; 3) big; 4) small.

3 Page 3

Think: 1) Push or kick it harder; 2) It can be either one; 3) Push against it; 4) Answers will vary.

True or false: 1) true; 2) true; 3) false; 4) false; 5) true.

Drawing: answers will vary, for example pushing a swing and pulling a wagon, each labeled.

4 Page 4: Try it!

The big push sends the ball the farthest and the fastest, and the small push sends it the shortest way. A bigger force makes a bigger change in motion. Children may also notice that the ball slows down and stops because the floor rubs against it.

5 Teaching tip

Hold up a toy car and ask children to make it start, stop, speed up and turn using only pushes and pulls. Name the force each time.

Safety: roll the ball where no one can trip, and away from windows.

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