How Far, Which Way?

Use measurements to compare pushes.

P.2.6.1 "Conduct a structured investigation to collect, represent, and analyze data from observations and measurements to demonstrate the effects of pushes and pulls with different strengths and directions. Communicate findings (e.g...."

NAME _____ DATE _____

1 READ AND MARK

Read it twice

YOUR JOB Underline each direction and circle each distance in the table, then write 1 by both right-push rows and 2 by both left-push rows to help you compare the pushes.

Mina's Toy Car Test

1. Mina wanted to learn how pushes change a toy car's motion. She put the car on a smooth floor with its front at a tape mark. She pushed it once for each test. Before every push, she placed the car back at the same mark.

2. Mina tried gentle and strong pushes. She pushed the car to the right and to the left. Her partner watched where it stopped. They used a ruler to measure how far it went from the tape mark. Mina wrote each result in the table after each test.

MINA'S CAR MEASUREMENTS

Push	Direction	Distance (cm)
Gentle	Right	12
Strong	Right	30
Gentle	Left	11
Strong	Left	28

3. Mina noticed the car did not stop at the tape mark after a push. She kept the floor and the car the same for all four tests. Next, she looked at the distances and directions in her table. She planned to tell her class what the data showed.

2 ANSWER WITH EVIDENCE

Use the passage

1. For pushes to the right, how many more centimeters did the car move with a strong push than with a gentle push?

2. Compare the two strong pushes. How did changing the push direction change the way the car moved?

3. Did a strong push move the car farther than a gentle push in both directions? Use numbers from the table.

3 YOUR TURN

Your own words

Use a toy car and a ruler. Start at the same mark each time, give the car one gentle push and one strong push in the same direction, then measure how far it travels, fill the table, and write one sentence comparing your results.

PUSH	DIRECTION	DISTANCE (CM)

ANSWER KEY

How Far, Which Way?

GRADE 2 · P.2.6.1

PART 1 · READ AND MARK

Underline each direction and circle each distance in the table, then write 1 by both right-push rows and 2 by both left-push rows to help you compare the pushes. Accept any marking that follows this job and points at the right text.

PART 2 · ANSWERS

#	QUESTION	ANSWER
1	For pushes to the right, how many more centimeters did the car move with a strong push than with a gentle push?	**The strong push moved the car 18 cm farther.**
2	Compare the two strong pushes. How did changing the push direction change the way the car moved?	**The car moved right when pushed right and left when pushed left.**
3	Did a strong push move the car farther than a gentle push in both directions? Use numbers from the table.	**Yes. To the right, it moved 30 cm instead of 12 cm. To the left, it moved 28 cm instead of 11 cm.**

PART 3 · YOUR TURN (SAMPLE ANSWER)

Gentle | Left | 9 cm
Strong | Left | 24 cm
The strong push moved the car 15 cm farther than the gentle push.

Accept different measured distances. Check that both trials use the same direction and that the student's comparison matches their recorded data.