

Which Way Moves?

Read how the net force changes an object's motion.

3.2.b "the net force on an object determines how an object moves;"

NAME _____

DATE _____

1 READ AND MARK _____ Read it twice

YOUR JOB Underline each sentence that tells the net force, and circle the words that tell how the object's motion changes.

A Wagon and Its Forces

- ① Many forces can act on one object at the same time. The net force is the overall push or pull after the forces are combined. When forces push or pull equally in opposite directions, the net force is zero. An object at rest stays at rest, and a moving object keeps moving straight at the same speed unless another unbalanced force acts.
- ② Jada and Lee push a wagon to the right with the same strength. Their pushes combine, so the net force is to the right. The wagon starts moving right. If Jada stops and Lee still pushes right, the net force is smaller but still right. The wagon speeds up to the right while Lee pushes.
- ③ Later, the wagon rolls to the right. Jada pulls left harder than Lee pushes right. The pulls and pushes do not balance. The net force is to the left. Because the wagon was moving right, a left net force makes it slow down. If the left net force continues, the wagon can stop and then begin moving left.

2 ANSWER WITH EVIDENCE _____ Use the passage

1 What does a zero net force mean for an object that is already moving?

2 When Jada and Lee both push right with the same strength, which direction is the net force?

3 After Jada stops pushing, what happens to the wagon while Lee still pushes right?

4 Later, why does the wagon slow down while it rolls right?

3 YOUR TURN _____ Your own words

Use the two panels to show a skateboard rolling right. In Panel 1, show balanced forces. In Panel 2, show a stronger force to the left and how the skateboard's motion changes. Write one sentence under each panel.



PART 1 • READ AND MARK

Underline each sentence that tells the net force, and circle the words that tell how the object's motion changes. Accept any marking that follows this job and points at the right text.

PART 2 • ANSWERS

#	QUESTION	ANSWER
1	What does a zero net force mean for an object that is already moving?	It keeps moving straight at the same speed.
2	When Jada and Lee both push right with the same strength, which direction is the net force?	To the right.
3	After Jada stops pushing, what happens to the wagon while Lee still pushes right?	The net force is smaller but still to the right, so the wagon speeds up to the right.
4	Later, why does the wagon slow down while it rolls right?	Jada pulls left harder than Lee pushes right. The net force is to the left, opposite the wagon's motion, so it slows down.

PART 3 • YOUR TURN (SAMPLE ANSWER)

Panel 1: A skateboard rolls right with equal force arrows pointing left and right. The forces balance, so the skateboard keeps rolling right at the same speed. Panel 2: A larger force arrow points left, and the skateboard is still rolling right. The net force is left, so the skateboard slows down.

Accept drawings that show equal opposite forces in Panel 1 and a larger leftward force in Panel 2. The written sentences should connect zero net force to unchanged motion and a leftward net force to slowing a right-moving skateboard.