

Name: _____ Date: _____

A Dash, a Crash, and a Zooming Zoo: Kindergarten Kinematics

Young learners predict animal pathways and design speed scenarios to grasp how displacement and acceleration change an object's final destination.

1. A turtle moves 2 steps forward, but then turns around and moves 2 steps back to his starting rock. How far is he from where he started now?

- A. 4 steps away
- B. 2 steps away
- C. 0 steps away
- D. 10 steps away

2. If a red race car and a blue race car both go at the same speed, but the blue car turns left while the red car goes straight, they have different velocities.

- A. True
- B. False

3. Imagine you are riding a bike. To make your bike have 'acceleration' and go faster for a race, you must _____.

- A. Push the pedals harder
- B. Stop moving
- C. Close your eyes
- D. Squeeze the brakes

4. An astronaut floats 5 meters toward the Moon and then 3 more meters toward the Moon. What is the astronaut's total displacement?

- A. 2 meters toward the Moon
- B. 8 meters toward the Moon
- C. 5 meters toward the Moon
- D. 0 meters

5. A ball is rolling down a very tall, steep hill. As it rolls further and further down, the ball will usually _____.

- A. Stop immediately
- B. Get slower and slower
- C. Speed up (accelerate)
- D. Turn into a square

6. If a train is slowing down to stop at a station, it is experiencing acceleration.

- A. True
- B. False

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7. You want to describe a bird's velocity. Which of these descriptions tells us the full velocity?

- A. The bird is brown
- B. The bird is flying fast
- C. The bird flies 5 miles per hour North
- D. The bird is high in the sky

8. If a robot walks 3 steps East and then 3 steps West, the robot's _____ is zero.

- A. Battery life
- B. Displacement
- C. Color
- D. Weight

9. A car traveling at a steady speed of 50 miles per hour on a straight road has zero acceleration.

- A. True
- B. False

10. A honeybee flies in a perfect circle and lands back on the same flower it started on. Which statement is true?

- A. The bee traveled no distance
- B. The bee's displacement is zero
- C. The bee never moved
- D. The bee accelerated backwards