

Name: \_\_\_\_\_ Date: \_\_\_\_\_

## Answer Key: Nail the Pace: 5th Grade Motion & Kinematics Quiz

Learners build foundational recall by identifying how objects change position, track speed, and observe acceleration in everyday playground scenarios.

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**1. Imagine a soccer ball rolls from the center of the field to the goal. What do scientists call the change in the ball's position?**

**Answer:** B) Displacement

Displacement is the scientific term used to describe the change in an object's position from its starting point to its ending point.

**2. True or False: If a skateboarder travels 5 meters every second in a straight line, they are moving at a constant velocity.**

**Answer:** A) True

Velocity describes both speed and direction. If the speed (5m/s) and the direction (straight line) stay the same, the velocity is constant.

**3. When a bicyclist starts to pedal harder to go faster, they are engaging in \_\_\_\_\_.**

**Answer:** C) Acceleration

Acceleration is the process of speeding up, slowing down, or changing direction.

**4. A toy car travels 20 centimeters in 2 seconds. Which of these tells us how fast the car is going?**

**Answer:** C) Speed

Speed is the measure of how much distance an object covers in a specific amount of time.

**5. True or False: Kinematics is the study of why objects move, including the forces like pushes and pulls.**

**Answer:** B) False

Kinematics focuses on describing motion (how things move); the study of forces (why things move) is called dynamics.

**6. If a bird flies 10 miles North, the 'North' part of this description tells us the bird's \_\_\_\_\_.**

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**Answer:** A) Direction

In kinematics, direction (like North, South, East, or West) is vital for determining displacement and velocity.

**7. Which of these is an example of acceleration?**

**Answer:** B) A car slowing down at a red light

Acceleration isn't just speeding up; it also includes slowing down (deceleration) or changing direction.

**8. To find out how far a ladybug traveled, you would measure the \_\_\_\_\_ between its start and end points.**

**Answer:** B) Distance

Distance is the total ground covered by an object during its motion.

**9. True or False: If a runner finishes a race exactly where they started, their total displacement is zero.**

**Answer:** A) True

Displacement is the difference between the starting and ending point. If you end where you start, there is no change in position.

**10. If we say a paper airplane is moving '3 meters per second West,' we are describing its:**

**Answer:** C) Velocity

Velocity is a combination of speed (3 m/s) and a specific direction (West).