Name: _____ **Date:** _____

Answer Key: Bluey's Backyard Race: Pre-K Motion Challenge

Preschoolers apply analysis skills to predict how toys roll and animals scurry during active play scenarios.

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1. If we push a toy car very hard across the floor, what will happen to its movement?

Answer: B) It will move very fast

Applying more force or a 'hard push' results in higher velocity (speed) for the object.

2. A round ball will roll further on a smooth floor than on a bumpy rug.

Answer: A) True

Smooth surfaces offer less resistance, allowing the ball to maintain its motion over a longer distance.

3. Imagine a turtle and a rabbit are racing. The rabbit moves much _____ than the turtle.

Answer: C) Faster

Pre-K students analyze relative speed (velocity) by comparing a slow-moving animal to a fast-moving one.

4. When you are swinging on the playground, what happens when you 'pump' your legs?

Answer: A) You go higher and faster

Pumping legs adds energy to the motion, increasing the acceleration and the height of the displacement.

5. To make a wagon stop moving, you need to pull back on the handle.

Answer: A) True

Stopping a moving object requires a change in velocity, which is achieved by applying an opposing force.

6. A slide is a ramp. If you put a toy at the top, it will move _____.

Answer: B) Down

Gravity causes objects to accelerate downward on an inclined plane like a slide.

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7. Look at a spinning top. What kind of motion is it doing?

Answer: C) Spinning round and round

Rotational motion is a specific type of kinematics where an object changes orientation around a center point.

8. If you are walking and then start running, your body is _____.

Answer: C) Speeding up

The change from walking to running is a clear real-world application of acceleration.

9. A heavy rock is harder to start moving than a light feather.

Answer: A) True

This introduces students to the concept that mass affects how easily an object accelerates.

10. Which of these shows an object changing its 'position'?

Answer: B) A bird flying from a tree to the grass

Displacement occurs when an object moves from one starting point to a different ending point.