Name: _______________ **Date:** _______________

Answer Key: Fast and Slow Motion Quiz for First Grade Stars

Path analysis, speed comparisons, and predictive movement. Watch young scientists evaluate how objects travel through different environments.

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1. A toy car and a real turtle start a race at the same time. The car crosses the finish line while the turtle is still at the start. What does this tell us?

Answer: B) The car has a higher speed than the turtle.

Because the car finished the distance in less time, it has a higher speed than the slow-moving turtle.

2. If a ladybug crawls 5 inches forward and then 5 inches backward, its final ________ is back at the start.

Answer: C) position

Position describes where an object is located. If it returns to the beginning, its position hasn't changed from the start.

3. An object can change its motion by speeding up, slowing down, or changing its direction.

Answer: A) True

Motion isn't just about speed; turning a corner or stopping are also ways an object changes how it moves.

4. You drop a feather and a heavy block at the same time. The block hits the ground first. Why did the feather take longer?

Answer: B) The feather had a slower downward speed.

Air pushes against the feather, slowing its motion and giving it a lower speed toward the ground than the block.

5. A hunter's arrow flying through the air moves in a ________ path compared to a fluttering butterfly.

Answer: C) straighter

Kinematics looks at the path of motion. Arrows travel in a very direct, straight path, while butterflies move in zigzags.

6. Imagine a swing moving back and forth. At which point is the swing's speed zero for just a tiny second?

Answer: B) When it is highest in the air

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To change direction and come back down, the swing must stop moving upward for a tiny moment at the very top.

7. If two bikes travel for one minute, the bike that goes the furthest distance is the slowest bike.

Answer: B) False

The bike that travels the most distance in the same amount of time is actually the fastest bike.

8. A marble rolls down a steep ramp and then along a flat floor. What happens to its motion on the flat floor?

Answer: C) It starts to slow down.

Once the marble is off the ramp, friction from the floor makes it slow down until it eventually stops.

9. When a train arrives at the station, it must ________ its speed to help people get off safely.

Answer: B) decrease

Decreasing speed means slowing down. The train must slow down to a stop at the station.

10. A spinning top is in motion even though it stays in the same spot on the floor.

Answer: A) True

Motion includes rotation (spinning). Even if its center point stays still, the parts of the top are moving in a circle.