Name: _____ **Date:** _____

Answer Key: Zoinks! Can You Track the Zippy Zoo Animals? 2nd Grade Physics Quiz

Students predict animal races and design obstacle courses to calculate how speed and direction changes help a cheetah catch its lunch.

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1. A hungry penguin slides 10 feet toward a bucket of fish, but then slides 10 feet back to the water because it forgot its hat. Where is the penguin now compared to where it started?

Answer: C) Right back at the starting spot

Even though the penguin moved a lot, its final position hasn't changed from the start. This is a look at total displacement!

2. An ostrich is running at a 'steady speed' across the grass. If it does not speed up or slow down, we say its _____ is staying the same.

Answer: B) Velocity

Velocity describes how fast something is moving in a specific direction. If nothing changes, the velocity is constant.

3. If a kangaroo is jumping in a straight line and suddenly turns left to hop toward a tree, its velocity has changed.

Answer: A) True

Velocity includes direction. Even if the kangaroo stays at the same speed, changing direction means the velocity changed!

4. A turtle and a snail are having a race. The turtle moves 2 inches every second. The snail moves 2 inches every minute. Who has the higher velocity?

Answer: B) The turtle

The turtle covers the same distance in a much shorter time (seconds vs minutes), so it is moving faster.

5. When a cheetah is snoozing in the shade and then suddenly starts sprinting to catch a gazelle, it is using _____.

Answer: B) Acceleration

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Acceleration happens when an object speeds up, slows down, or changes direction. Starting a sprint is speeding up!

6. A toy car rolling down a steep ramp will usually show acceleration by going faster and faster.

Answer: A) True

Gravity pulls the car down, causing its velocity to increase as it travels down the ramp.

7. You throw a ball straight up into the air. At the very tippy-top of its flight, just before it falls back down, what is its velocity for a tiny split second?

Answer: C) Zero

To change from going up to going down, the ball must stop for a tiny moment at the peak.

8. Imagine a blue bird flies 5 miles North. Then, a red bird flies 5 miles South. They have the same speed, but they have different _____.

Answer: B) Velocities

Since they are flying in different directions (North vs South), their velocities are different even if their speed is the same.

9. If a squirrel is running and then tries to stop quickly to pick up an acorn, the squirrel is accelerating.

Answer: A) True

In science, even slowing down is a type of acceleration (sometimes called deceleration) because the velocity is changing.

10. If you walk 3 steps forward and 2 steps backward, what is your total 'displacement' from where you started?

Answer: B) 1 step forward

Displacement is the distance between the start and end point. 3 forward minus 2 back leaves you 1 step away from the start.