

Vocabulary/Definitions

- Velocity and speed
- Average velocity
- Instantaneous velocity
- The slope of a curve at a point
- Instantaneous and average velocities as slopes of lines on the graph of distance vs. time

Understand

1. Explain the paradox of trying to find speed by looking at an instant in time. How do we get around this problem?

2. If the vertical position of a purple-headed black-winged fuzzy-chested African sparrow is given as a function of time by $s(t) = 4 + \sin(3t)$ (in meters, with t in seconds), what is the bird's average velocity between $t = 1.5$ and $t = 2.0$? What is its instantaneous velocity at $t = 1.5$ to within 0.1 m/s?