

# Physics: Learning Objectives

## Kinematics: One-Dimensional Motion (Part I)

1. Using the concept of frame of reference, explain why all motion is relative.
2. Define rectilinear motion and kinematics.
3. Identify and define the quantities of motion.
4. Distinguish between distance/displacement and speed/velocity.
5. Describe acceleration and be able to calculate acceleration from velocity.
6. Define and calculate average velocity and average acceleration.
7. Distinguish between *average* and *instantaneous* values of velocity and acceleration.
8. Apply the general motion equations to solve linear motion problems involving displacement, velocity and acceleration.
9. Apply graphical methods to analyze and interpret motion through position, velocity and acceleration graphs.
10. Distinguish uniform velocity from uniform acceleration.