

1D Kinematics

Students should be able to:

1. Define mechanics, dynamics, and kinematics.
2. Understand and use "bar" notation.
3. Distinguish between displacement and distance.
4. Distinguish between instantaneous velocity and average velocity.
5. Compare and contrast speed and velocity.
6. Relate displacement, distance, speed, and velocity.
7. Describe motion using displacement-time, velocity-time, and acceleration-time graphs.
8. Define and relate acceleration to displacement and velocity.
9. Explain the effect of reference frame on ability to judge motion.
10. Distinguish between instantaneous acceleration and average acceleration.
- Honors only 11. Define a jerk.
12. Compare and contrast scalar and vector.
13. Use trigonometric functions and Pythagorean Theorem to work with vectors.
14. Define the acceleration due to gravity and what is meant by "g".
15. Calculate displacement, velocity, and acceleration for free falling bodies.
- Honors only 16. Use calculator to represent motion.
17. Calculate the minimum length a yellow light should be based on the speed limit.