

After completing chapters 1-3 in our first section for PHY1044, you should be able to:

1. Convert between units.
2. Understand and use significant figures correctly.
3. Estimate orders of magnitude.
4. Differentiate between theories, hypotheses, laws, and models.
5. Distinguish between speed, velocity, and acceleration.
6. Understand the difference between instantaneous and average quantities.
7. Use \pm signs to indicate direction in 1-dimensional motion.
8. Apply kinematic equations to 1-dimensional problems.
9. Solve free fall problems (where $a_y = -g = -9.8 \text{ m/s}^2$).
10. Create and interpret graphs of x , v , and a versus t .
11. Solve projectile motion problems using kinematic equations in the x and y directions.
12. Add vectors graphically and using the component method.
13. Break a vector into x and y components and convert components back into magnitude and direction.
14. Subtract vectors.