

# Unit 10 • Motion

## Motion

- Describe why motion is relative depending on the observer's frame of reference and give an example.
- Explain what a vector is and name several vector examples.
- Draw and interpret motion diagrams.

## Displacement, Velocity & Acceleration

- Explain the difference between, and calculate, distance and displacement.
  - Calculate displacement in 2 dimensions using The Pythagorean Theorem.
- Explain the difference between, and calculate, speed and velocity.
- Explain the difference between instantaneous speed and average speed and give examples.
- Define and calculate acceleration.
- Explain projectile motion and complete calculations.\*\* (Hon Only)

## Interpreting Graphs: (Second Test!)

- Interpret position vs. time graphs to describe motion and calculate velocity.
- Interpret velocity vs. time graphs to describe motion and calculate acceleration.
- Interpret acceleration vs. time graphs to describe the motion of objects.\*\* (Hon Only)

## Unit Vocabulary

Acceleration (a)	Displacement ( $\Delta x$ )	Magnitude	Scalar
Acceleration of Gravity (g)	Direction	Motion	Speed (s)
Average (speed/velocity)	Instantaneous speed (or velocity)	Position (x)	Time (t)
Delta ( $\Delta$ )		Projectile Motion	Vector
Distance (d)		Pythagorean Theorem	Velocity (v)