

## Lesson #2: Motion & Kinematics

Topics	Frank's Lecture Video	Hewitt Drew It	Khanacademy Videos	Solution Videos	Hippocampus.org	Phet Simulations
Distance vs Displacement Speed vs Velocity	<a href="#">02-01 Definitions</a> <a href="#">02-02 Motion Diagrams 1</a> <a href="#">02-03 Motion Diagrams 2</a>	<a href="#">Video 8</a> <a href="#">Video 9</a> <a href="#">Video 10</a>	<a href="#">Introduction to Vectors and Scalars</a> <a href="#">Calculating Average Velocity or Speed</a> <a href="#">Solving for Time</a> <a href="#">Displacement from Time and Velocity</a>	None	<a href="#">Intro</a> <a href="#">Motion Basics</a> <a href="#">Velocity</a>	<a href="#">Maze Game</a>
Acceleration			<a href="#">Acceleration</a> <a href="#">Airbus A380 Take-off Time</a> <a href="#">Airbus A380 Take-off Distance</a>	None	<a href="#">Acceleration</a>	
1-D Kinematics	<a href="#">02-04 1-D Kinematics 1</a> <a href="#">02-05 1-D Kinematics 2</a> <a href="#">02-06 1-D Kinematics 3</a> <a href="#">02-07 1-D Kinematics 4</a> <a href="#">02-08 1-D Kinematics 5</a> <a href="#">02-09 1-D Kinematics 6</a> <a href="#">02-10 1-D Kinematics 7</a> <a href="#">02-11 Plotting x, v, a</a>	<a href="#">Video 12</a>	<a href="#">Why Distance is Area under Velocity-Time Line</a> <a href="#">Average Velocity for Constant Acceleration</a> <a href="#">Acceleration of Aircraft Carrier Takeoff</a> <a href="#">Plotting Projectile Displacement, a, and v</a> <a href="#">Projectile Height Given Time</a> <a href="#">Max Projectile Displacement Given Time</a> <a href="#">Impact Velocity From Given Height</a>	None	<a href="#">Motion in 1-D</a> <a href="#">Equations of Motion</a> <a href="#">Slowing Car</a> <a href="#">Freefall</a> <a href="#">Unknown Planet</a> <a href="#">Ball Toss Simulation</a>	<a href="#">Moving Man</a>
Velocity Addition	<a href="#">02-12 Velocity Addition 1</a> <a href="#">02-13 Velocity Addition 2</a> <a href="#">02-14 Velocity Addition 3</a> <a href="#">02-15 Velocity Addition 4</a> <a href="#">02-15b Boat Cross River</a>	<a href="#">Video 11</a>	None	<a href="#">MECH_05B</a>		
2-D Kinematics	<a href="#">02-16 2-D Kinematics 1</a> <a href="#">02-17 2-D Kinematics 2</a> <a href="#">02-18 2-D Kinematics 3</a> <a href="#">02-21 Projectile Demo</a>	<a href="#">Video 13</a> <a href="#">Video 14</a> <a href="#">Video 15</a>	<a href="#">Projectile at an Angle</a> <a href="#">Different Way to Determine Time in Air</a> <a href="#">Launching and Landing on Different Elevations</a> <a href="#">Total Displacement for Projectile</a> <a href="#">Clearing the Green Monster at Fenway</a> <a href="#">Green Monster at Fenway Part 2</a>	None	<a href="#">Motion in 2-D</a> <a href="#">Equations of Motion</a> <a href="#">Projectile Motion</a> <a href="#">Cannonball Simulation</a>	<a href="#">Ladybug Motion</a> <a href="#">Projectile Motion</a>
Using Kinematics Equations	<a href="#">2-D Kinematics Example</a> <a href="#">Velocity Addition Extra</a> <a href="#">Velocity Addition Example</a> <a href="#">02-20 2-D Problem</a>	None	<a href="#">Projectile motion (part 1)</a> <a href="#">Projectile motion (part 2)</a> <a href="#">Projectile motion (part 3)</a> <a href="#">Projectile motion (part 4)</a> <a href="#">Projectile motion (part 5)</a>	<a href="#">MECH_01_PART1</a> <a href="#">MECH_01_PART2</a> <a href="#">MECH_02_PART1</a> <a href="#">MECH_02_PART2</a> <a href="#">MECH_02B</a> <a href="#">MECH_03B_PART1</a>		

