

Lesson #3: Newton's Laws of Motion

Topics	Frank's Lecture Video	Hewitt Drew It	Khanacademy Videos	Solution Videos	Hippocampus.org	Phet Simulations
Forces	03-01 Forces 1 03-02 Forces 2 03-03 Forces 3 03-04 Forces 4 03-05 Forces 5	Video 1 Video 2 Video 3 Video 4 Video 5	Balanced and Unbalanced Forces Unbalanced Forces and Motion Mass and Weight Clarification	None		
Newton's First Law	03-06 Newton Inertia Fun Inertia Demos	Video 16 Video 17	Newton's 1st Law of Motion Newton's First Law of Motion Concepts Newton's First Law of Motion	None	Newton's 1st Law	
Newton's Second Law	03-07 Newton Falling Objects 03-08 Newton Apparent Weight	Video 19 Video 20	Newton's Second Law of Motion	None	Newton's 2nd Law	Force & Motion Basics Forces in 1-D
Newton's Third Law	03-09 Normal Forces 03-10 Newton Concept Check 03-11 Moving Earth Demo	Video 21	Newton's Third Law of Motion	None	Newton's 3rd Law Force Simulation Forces in 2-D	
Friction	Friction Intro	None	Force of Friction Keeping the Block Stationary Correction to Force of Friction Keeping the Block Stationary Force of Friction Keeping Velocity Constant Intuition on Static and Kinetic Friction Comparisons Static and Kinetic Friction Example	None	Friction	Friction
Drawing Free Body Diagrams		Video 6 Video 7	Slow Sock on Lubricon VI Normal Forces on Lubricon VI Inclined Plane Force Components	MECH_06 MECH_07 MECH_08 MECH_09		
Circular Motion	Acceleration 03-30 Circular Motion 1 03-31 Circular Motion 2 03-32 Non-uniform motion	Video 37 Video 38	Centripetal Force and Acceleration Intuition Visual Understanding of Centripetal Acceleration Formula Calculus proof of centripetal acceleration formula	None	Uniform Cir Motion Centripetal Acc. Loop the Loop	
Using Newton's Laws	None	Video 22 Video 23	Normal Force in an Elevator Introduction to Tension Tension (part 2) Tension in an accelerating system and pie in the fa Moving pulley problem (part 1)	MECH_10B MECH_11 PAR MECH_11 PAR MECH_12 MECH_13	Inclines Incline & Friction Sim Pulleys Masses on Incline Sim	Lunar Lander Ramp Forces & Motion Ramp Force Motion

		Moving pulley problem (part 2)	MECH_14		
		Loop De Loop Question	MECH_15B		
		Loop De Loop Answer part 1	MECH_17C		
		Loop De Loop Answer part 2			