

Introduction to Physics & Engineering

16 Week Schedule (note: discussions at the end of each experiment are important - don't skip them!)

	Week 1	Week 2	Week 3	Week 4	Week 5	Week 6	Week 7	Week 8	Week 9	Week 10	Week 11	Week 12	Week 13	Week 14	Week 15	Week 16
Introduction (includes instructions on how to use the manual)	█															
Chapter 1 - Physics and Engineering Basics	█															
Learn entire chapter, pages 11-24	█															
Experiment 1: Distance Traveled vs. Distance Falling #1, pg 25	█															
Review pages 18-23, <i>Back to the Second Law through Motion in One and Two Dimensions</i>		█														
Experiment 2: Distance Traveled vs. Distance falling #2, pg 30		█														
What Do You Think? Journaling Idea, Chapter Review questions			█	█												
Chapter 2 - Simple Machines: The Lever																
Through first class levers, pg 36-41				█												
Lever Experiment #1: First-Class Levers, pg 48				█												
Through second-class levers, pg 41-44					█											
Lever Experiment #2: Second-Class Levers, pg 58					█											
Through third class-levers, pg 44-47						█										
Lever Experiment #3: Third-Class Levers, pg 68						█										
What Do You Think? Journaling Idea, Chapter Review questions							█	█								
Chapter 3 - Simple Machines: The Inclined Plane																
Through pg 81								█								
Inclined Plane Experiment #1: Angles, pg 82								█								
Inclined Plane Experiment #2: Parbuckling, 90									█							
What Do You Think? Journaling Idea, Chapter Review questions										█	█					
Chapter 4 - Simple Machines: The Wheel & Axle																
Through pg 106												█				
Wheel & Axle Experiment #1: Single Pulley, Attached Directly to Load, pg 107												█				
Movable Pulleys, Review page 104-105												█				
Wheel & Axle Experiment #2: Compound Pulley, pg 114												█				
Block & Tackle, Review page 105-106												█				

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Wheel & Axle Experiment #3: Block & Tackle, pg 116																
What Do You Think? Journaling Idea, Chapter Review questions																
Chapter 5 - Transfer of Energy																
Through page 127																
Gears Experiment #1: Change of Direction, pg 128																
Gears Experiment #2: Force and Speed Multiplication, pg 136																
Gears Experiment #3: Another Windmill, pg 140																
Gears Experiment #4: Screw Gears, pg 152																
Gears Experiment #5: The Rack & Pinion, pg 157																
Gears Experiment #6: Universal Joints, pg 161																
What Do You Think? Journaling Idea, Chapter Review questions																
Conclusion																
Bonus Food Science Experiment (Optional)																