



**Science
Pre-Advanced Placement
Grade 8**

Unit Name Physics		6 Weeks Days to Teach: 2 nd – 3 rd 6weeks (about 8 weeks)	
Date Taught	TEKS and AP Required Elements	Content/Vocabulary	Guiding Questions
	<p>8.7A</p> <p>The student knows that there is a relationship between force and motion. (A) Demonstrate how unbalanced forces cause changes in the speed or direction of an object's motion;</p> <p>8.7B</p> <p>The student knows that substances have physical and chemical properties. (B) Recognize that waves are generated and can travel through different media</p> <p>8.10A</p> <p>The student knows that complex interactions occur between matter and energy. The student is expected to: (A) Illustrate interactions between matter and energy including specific heat</p>	<p>Unbalanced Force Balanced Force Speed/Velocity Constant Acceleration Instant Acceleration Mass Extrapolate Slope (graph) Medium Wave Pulse Reflection Wavelength Refraction Interference Mirrors Amplitude Lens Density Sound (speed) Viscosity Frequency Superposition Longitudinal wave Transverse wave Pitch Specific Heat</p>	<p>Guided Questions for TEK 8.7a</p> <p>What determines an objects force?</p> <p>What is the difference between the motion of an object in a balanced force system/unbalanced force system?</p> <p>Can you determine the speed of an object by its slope on a distance/time graph?</p> <p>Guided Questions for TEK 8.7b</p> <p>Can waves travel through different medium?</p> <p>What factors determine the speed of a wave?</p> <p>What direction does energy travel in a transverse wave/longitudinal wave?</p> <p>Guided Questions for TEK 8.10a</p> <p>What determines the level of specific heat of an object?</p> <p>How could knowing the specific heat of an object be helpful?</p>



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	<p>Connections to AP</p> <p>AP Physics:</p> <p>I. Newtonian Mechanics, A. Kinematics 1. Motion in one dimension.</p> <p>II. Newtonian Mechanics, C. Work, energy, and power</p> <p>IV. Waves and Optics, A. Wave motion (including sound</p> <p>AP Chemistry:</p> <p>II. States of Matter, B. Liquids and Solids, 3. Changes of state</p>	<p>Conductivity Thermal Energy Insulation Energy Power Work</p>	<p>How can you determine work done on an object? What is necessary to change the power applied to an object?</p>
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