

## Pre-AP Physics Year at a Glance

First Six-Weeks	Second Six-Weeks	Third Six-Weeks
<ul style="list-style-type: none"> <li>• Lab safety</li> <li>• Lab practices and ethical practices</li> <li>• Lab and field investigation questions</li> <li>• Critical thinking</li> <li>• Scientific reasoning</li> <li>• Problem solving</li> <li>• Laws of motion</li> <li>• Linear motion</li> </ul>	<ul style="list-style-type: none"> <li>• Experimental design</li> <li>• Scientific method</li> <li>• Laws of Motion</li> </ul>	<ul style="list-style-type: none"> <li>• Scientific process</li> <li>• Laws of Motion (continued from 2<sup>nd</sup> 6 weeks)</li> <li>• Conservation Laws</li> <li>• Energy and Momentum</li> <li>• Rotation</li> </ul>
Fourth Six-Weeks	Fifth Six-Weeks	Sixth-Six Weeks
<ul style="list-style-type: none"> <li>• Wave Characteristics (Part One)</li> <li>• Nature of forces in the physical world</li> <li>• Electricity</li> </ul>	<ul style="list-style-type: none"> <li>• Nature of forces in the physical world</li> <li>• Including gravitation, and magnetism</li> <li>• Thermodynamics</li> </ul>	<ul style="list-style-type: none"> <li>• Wave characteristics (Part Two)</li> <li>• Nature of forces in the physical world</li> <li>• Gravitation</li> <li>• Electricity</li> <li>• Magnetism</li> <li>• Atomic</li> <li>• Nuclear</li> <li>• Quantum phenomena</li> </ul>

Adopted by Mansfield ISD School Board 2007

Revised Spring 2011

Physics  
Science Timetable  
2011-2012

1<sup>st</sup> Six Weeks

Number of Days	Topics	Concepts	TEKS
Ongoing	Lab safety Lab practices and ethical practices	Safe practices Equipment Scientific method Ethical practices	1A-1B
Ongoing	Lab and field investigation questions	Scientific method Science history Technology Theories Hypothesis Natural and physical phenomena	2A- 2F  2H -2L
Ongoing	Critical thinking, scientific reasoning, problem solving	Scientific process Technology History Vectors	3A; 3D; 3E; 3F
3 weeks	Laws of motion Linear motion	Velocity Acceleration Graphical relationships	4A- 4B; 4F

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2<sup>nd</sup> Six Weeks

Number of Days	Topics	Concepts	TEKS
Ongoing	Experimental design Scientific method	Scientific method Science history Technology Theories Hypothesis Natural and physical phenomena	2(G)
4 weeks	Laws of motion	Free Fall Gravity Horizontal Projectile Projectile motion	4C
2weeks	Laws of Motion	Forces Graphical relationships Accelerations Weight Mass Newton's Laws Free body diagrams Gravity	4(D) ; 4E

3rd Six Weeks

Number of Days	Topics	Concepts	TEKS
Ongoing	Scientific process	Critical thinking, scientific reasoning, problem solving	3(B)
1 weeks	Laws of Motion (continued from 2 <sup>nd</sup> 6 wks)	Forces Graphical relationships Accelerations Weight Mass Newtons Laws Free body diagrams Gravity	4(D) ; 4E
3 weeks	Conservation Laws Energy and Momentum	Law of conservation of Energy/Momentum Work Energy Theorem Kinetic and Potential Energy Work Power	6A – 6D
2 weeks	Rotation	Rotation UCM Torque Tangential speed Angular characteristics	4C (continued from 2 <sup>nd</sup> 6 wks)

4<sup>th</sup> Six Weeks

Number of Days	Topics	Concepts	TEKS
Ongoing	Scientific Process	Critical thinking, scientific reasoning, problem solving	3(C)
3 weeks	Wave Characteristics	Wave properties Waves motion Transverse waves Longitudinal waves Resonance Sound characteristics Frequency Wave length Current Velocity Electromagnetic waves	7A – 7D
3 weeks	Nature of forces in the physical world Electricity	Coloumbs law Conductors and insulators Charges Circuits	5C; 5D; 5E -5G

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- 5<sup>th</sup> Six Weeks

Number of Days	Topics	Concepts	TEKS
3 weeks	Nature of forces in the physical world Including gravitation, and magnetism	Universal gravitation Satellite motion Gravitational and magnetic forces	5A; 5B
3 weeks	Thermodynamics	Mechanical Energy Thermodynamics Heat; convection; conduction; radiation; phase change; specific heat; temperature	6E – 6G

6<sup>th</sup> Six Weeks

Number of Days	Topics	Concepts	TEKS
2 weeks	Wave characteristics (part deux)	Lenses and optics Refraction Convex and flat mirror	7D (cont); 7E; 7F
2 weeks	Nature of forces in the physical world Including gravitation, electricity, and magnetism	Magnetic forces in everyday life Generators, transformers and motors	5D ; 5H
1 weeks	Atomic, nuclear and quantum phenomena	Photoelectric effect Dualality of light Emission spectra Fission and Fussion Nuclear power Nuclear imaging	8A – 8D
1 week	Finals	Review	1A – 8D