

	1ST SIX WEEKS	2ND SIX WEEKS	3RD SIX WEEKS	4TH SIX WEEKS		5TH SIX WEEKS	6TH SIX WEEKS	
# of days	11	17	10	8	12	9	14	
ESSENTIAL UNITS OF STUDY	1 Momentum and Constant Velocity Motion	2 Forces and Accelerated Motion	3 Freefall and Projectile Motion	4 Work, Energy, Thermodynamics	5 Waves and Periodic Motion	6 Electricity and Magnetism	7 Optics, Light, Modern and Nuclear	
CONTENT TOPICS	<p>Momentum</p> <p>Impulse as the change in momentum of an object (not $F\Delta t$)</p> <p>Conservation of Momentum</p> <p>Position, Displacement</p> <p>Slope & y-intercept of position graphs</p> <p>Constant velocity calculations</p> <p>Velocity and Momentum as Vectors</p> <p>Position-to-velocity graphs</p> <p>Velocity-to-position graphs</p>	<p>Impulse ($\Delta p = F_{NET}\Delta t$)</p> <p>Newton's 3rd law</p> <p>Types of forces</p> <p>Inertia</p> <p>Force diagrams</p> <p>Newton's 2nd law concepts and calculations</p> <p>Force and acceleration as vectors</p> <p>x vs. t to v vs. t, a vs. t graph</p> <p>Calculate distance, time, acceleration, final velocity</p> <p>Calculate acceleration as the slope of a velocity vs. time graph</p> <p>Compare instantaneous velocity vs. average velocity</p>	<p>Free Fall motion</p> <p>Projectile motion</p> <p>-Calculations for Horizontal Projectiles</p> <p>-Concepts for Projectiles at an Angle</p>	<p>Energy transformations</p> <p>Conservation of energy</p> <p>Work</p> <p>Power</p> <p>Thermodynamics and efficiency of energy transformations</p>	<p>Uniform Circular Motion</p> <p>Universal Gravitation and satellite motion</p> <p>Simple Harmonic Motion and Oscillations</p> <p>Wave Properties: wavelength, amplitude, frequency, wave speed</p> <p>Wave Calculations: speed, freq, wavelength</p> <p>Constructive and destructive interference</p>	<p>Electric charge and electric force</p> <p>Conductors and insulators</p> <p>Electric Circuits: current, voltage, and resistance in Series and Parallel Circuits</p> <p>Electromagnetism: motors and generators</p>	<p>Ray model of light: Mirrors and Lenses</p> <p>Refraction and reflection</p> <p>Wave nature of light (2 source interference, diffraction)</p> <p>Particulate nature of light (photoelectric effect, atomic absorption/emission spectra)</p> <p>Forces: gravitational, electromagnetic, weak and strong nuclear</p> <p>Electromagnetic Spectrum</p> <p>Mass-energy equivalence</p> <p>Applications of atomic and nuclear physics: stability, fission, fusion, radiation, imaging, semi-conductors, solar cells, nuclear power</p>	<p>CBA 1 (Click HERE for dates)</p> <p>CBA 2 (Click HERE for dates)</p> <p>CBA 3 (Click HERE for dates)</p>
READING TEKS	P.4(A), P.4(B), P.6(C), P.6(D)	P.4(A), P.4(B), P.4(C), P.4(D)	P.4(A), P.4(C)	P.6(A), P.6(B), P.6(C), P.6(D), P.6(E)	P.7(B), P.5(B), P.5(A), P.7(C), P.7(A), P.7(D)	P5.(C), P.5(D), P5(E), P.5(F)	P.5(F), P.5(A), P.7(C), P.7(D), P.8(A), P.8(D), P.8(C), P.8(B), P.7(E)	
SUPPORTING TEKS	to be added							
RESOURCES	carts and tracks, motion detectors, photogates, etc.	motion detectors, photogates, etc.	projectiles			batteries, bulbs, wires, generators, motors	plane mirrors, convex lenses	