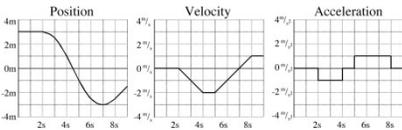
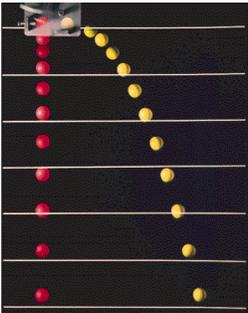
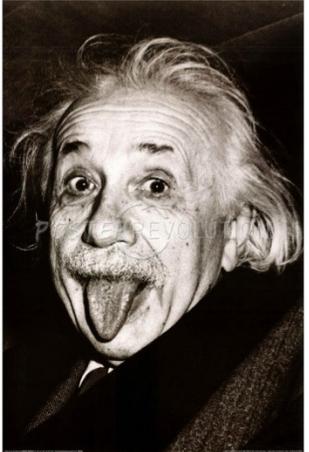


UNIT 1	Requirements	We'll be able to.....
	<ul style="list-style-type: none"> <li>- Students will conduct lab investigations in their physics classrooms.</li> <li>- Students will understand the importance of conserving resources.</li> <li>- Students will draw inferences and use the scientific method.</li> </ul>	<ol style="list-style-type: none"> <li>1)...conducts scientific investigations.</li> <li>2)...use considerations for resources during scientific investigations.</li> <li>3)...organize science activities modeling scientific method and draw conclusions.</li> </ol>
Intro/Lab Management	TEK: 1A, 2J, 2K	*Physics Process TEKS 1-3 will be taught within every unit.

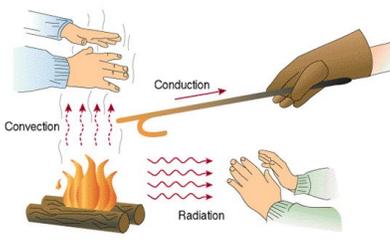
UNIT 2	Requirements	We'll be able to.....
	Students will use technology to make and learn about motion graphs.	<ol style="list-style-type: none"> <li>1)...generates graphs describing different types of motion.</li> <li>2)...interpret graphs describing different types of motion.</li> <li>3)...use technology to produce graphs of motion.</li> </ol>
Graphing Motion	TEK: 4A	

UNIT 3	Requirements	We'll be able to.....
	<p>Students will continue to use graphs of motion.</p> <p>Students will use equations to understand motion.</p>	<ol style="list-style-type: none"> <li>1)...describes motion in one dimension.</li> <li>2)...analyze motion using equations with distance, displacement, speed, average velocity, instantaneous velocity, and acceleration.</li> <li>3)...describe motion in two dimensions.</li> <li>4)...analyze motion using equations, such as projectile and circular examples.</li> </ol>
Kinematics 1D/2D Motion	TEK: 4B, C	

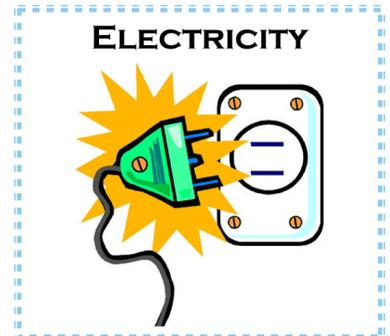
UNIT 4	Requirements	We'll be able to.....
	<p>Students will continue to use graphs and equations for motion.</p> <p>Students will be able to explain Newton's laws of motion.</p>	<ol style="list-style-type: none"> <li>1)...calculates the effect of forces on objects using each of Newton's 3 laws.</li> <li>2)...develop free body diagrams.</li> <li>3)...interpret free body diagrams.</li> </ol>
<p><b>Newton's Laws of Motion</b></p>	<p><b>TEK: 4D, E</b></p>	

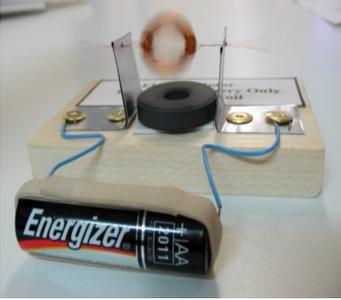
UNIT 5	Requirements	We'll be able to.....
	<p>Students will use their knowledge of forces and apply to real world situations.</p> <p>Students will learn that gravitational force is related in different aspects to mass and distance of measurable objects.</p>	<ol style="list-style-type: none"> <li>1)...identifies and describes motion in different frames of reference.</li> <li>2)...research and describe the history of gravity.</li> <li>3)...describe gravitational force between two objects (using mass and distance).</li> <li>4)...calculate gravitational force between two objects (using mass and distance).</li> </ol>
<p><b>Universal Gravitation, Speed of Light, Spec Rel</b></p>	<p><b>TEK: 4F, 5A, B</b></p>	

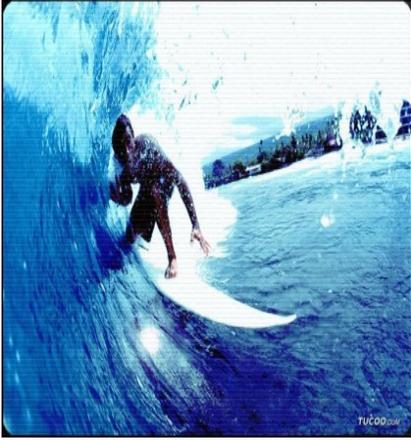
UNIT 6	Requirements	We'll be able to.....
	<p>Students will understand the law of conservation of energy.</p> <p>Students will understand the law of conservation of momentum.</p> <p>Students will be able to compare and contrast the laws of conservation of energy and momentum.</p>	<ol style="list-style-type: none"> <li>1)...investigates the relationship of work and energy in different situations.</li> <li>2)... calculate work-energy for different situations.</li> <li>3)...investigate examples of kinetic and potential energy.</li> <li>4)...investigate the transformations of kinetic and potential energy.</li> <li>5)...calculate mechanical energy, power, impulse, and momentum of a given system.</li> <li>6)...demonstrate and apply the laws of conservation of energy and momentum.</li> </ol>
<p><b>Conservation of Energy/Momentum</b></p>	<p><b>TEK: 6ABCD</b></p>	

UNIT 7	Requirements	We'll be able to.....
	<p>Students must continue to use the law of conservation of energy.</p> <p>Students must know the difference between heat and temperature.</p> <p>Students will investigate thermal energy transfer.</p> <p>Students must be able to apply knowledge of thermodynamics to real world situations.</p>	<ol style="list-style-type: none"> <li>1)...describes how things such as temperature, specific heat, and pressure relate to the molecular level of matter.</li> <li>2)...contrast the different processes of thermal energy transfer (conduction, convection, and radiation).</li> <li>3)...give examples of different processes of thermal energy transfer (conduction, convection, and radiation).</li> <li>4)...analyze and explain everyday examples of laws of thermodynamics, including the law of conservation of energy and the law of entropy.</li> </ol>
Thermodynamics	TEK: 6EFG	

UNIT 8	Requirements	We'll be able to.....
	<p>Students will use their knowledge of forces and apply to real world situations.</p> <p>Students will learn that electrostatic force is related in different aspects to charge and distance of measurable objects.</p> <p>Students will classify objects as conductors or insulators.</p>	<ol style="list-style-type: none"> <li>1)... research and describe the history of electromagnetism.</li> <li>2)...describe electrical force between two objects (using charge and distance).</li> <li>3)...calculate electrical force between two objects (using charge and distance).</li> <li>4)...characterize materials as either conductors or insulators based on electrical properties.</li> <li>5)...investigate examples of transformation of energy (potential and kinetic).</li> </ol>
Electrostatics - Force, Fields, & Energy	TEK: 5A, C, E and 6B	

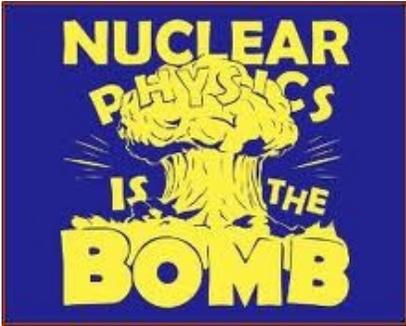
UNIT 9	Requirements	We'll be able to.....
	<p>Students must continue to use forces in everyday situations.</p> <p>Students will make circuits and calculate different elements.</p> <p>Students will investigate magnetism through various lab activities.</p>	<ol style="list-style-type: none"> <li>1)... identifies examples of electrical and magnetic forces in everyday life.</li> <li>2)... characterize materials as either conductors or insulators based on electrical properties.</li> <li>3)...design and construct electrical circuits that are connected both in series and parallel combinations.</li> <li>4)...calculate current through, potential difference across, resistance of, and power used of the constructed electrical circuits.</li> </ol>
Current Electricity and Magnetic Fields	TEK: 5D, E, F	

UNIT 10	Requirements	We'll be able to.....
	<p>Students must continue to use forces in everyday situations.</p> <p>Students will find a relationship between electricity and magnetism and know how it is used in various applications.</p>	<ol style="list-style-type: none"> <li>1)... research and describe the history of electromagnetism.</li> <li>2)...identify examples of electrical and magnetic forces in everyday life.</li> <li>3)...investigate and describe the relationship between electrical and magnetic fields in everyday items, such as generators, motors, and transformers.</li> </ol>
<b>Electromagnetism (Induction)</b>	<b>TEK: 5A, D, G</b>	

UNIT 11	Requirements	We'll be able to.....
	<p>Students will investigate the different parts of waves and how they behave in labs and everyday use.</p>	<ol style="list-style-type: none"> <li>1)...examines and describes oscillatory motion and wave propagation in different types of media.</li> <li>2)...investigate and analyze characteristics of waves (velocity, frequency, amplitude, and wavelength).</li> <li>3)...calculate wave speed, frequency, and wavelength using their given relationship.</li> <li>4)...compare transverse and longitudinal waves, such as electromagnetic waves and sound waves.</li> <li>5)...investigate the behaviors of waves including reflection, refraction, diffraction, interference, resonance, and the Doppler effect.</li> <li>6)...describe the role of waves in medical and industrial applications.</li> </ol>
<b>Waves: Properties and Applications</b>	<b>TEK: 7ABCDF</b>	

UNIT 12	Requirements	We'll be able to.....
	<p>Students must continue to understand waves.</p> <p>Students will investigate sound and light properties of waves.</p>	<ol style="list-style-type: none"> <li>1)... compares transverse and longitudinal waves, such as electromagnetic waves and sound waves.</li> <li>2)...investigate the behaviors of waves including reflection, refraction, diffraction, interference, resonance, and the Doppler effect.</li> <li>3)...describe and predict images from reflection of a plane mirror and refraction through a convex lens.</li> </ol>
<b>Waves: Light and Sound</b>	<b>TEK: 7CDE</b>	

UNIT 13	Requirements	We'll be able to.....
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Students will understand simple examples of the fields of physics including; atomic, nuclear, and quantum.

- 1)... research and describe the history of weak nuclear and strong nuclear forces.
- 2)...describe evidence for and effects of strong and weak nuclear forces in nature.
- 3)...describe the photoelectric effect and dual nature of light.
- 4)...compare and explain the emission spectra produced by various atoms.
- 5)...describe the significance of mass-energy equivalence.
- 6)...apply mass-energy equivalence to phenomena such as nuclear stability, fission, and fusion.
- 7)...give examples of applications of atomic and nuclear phenomena and quantum phenomena.

**Atomic, Nuclear, and Quantum  
Physics**

**TEK: 5A, H and 8ABCD**