

Instructional Guide

Grade Level Twelfth

Subject Physics

School System Pickens County

School Year 2011-2012

Time Period (Pacing – when)	State Assessment Correlations	Standards/ Components (Pacing – what)	Resources/ Activities (Pacing – how) Curricular Alignment	Date of Common Formative Assessment (Pacing – how well)	Mapping Comments (What works what needs adjustment)
1 st Nine Weeks 1 st week		PY.1.a. Explain linear motion using one- and two-dimensional vectors. PY.1.B.1. Explaining the significance of slope and area under a curve when graphing distance-time or velocity-time data. PY.1.B.2. Describing forces that act on an object.	Holt Physics pages 81-94 PowerPoint Lecture Practice Problems/Formulas Study Problems /Textbook Examples Demonstration Lab Practical Online Physics Video		

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1 st Nine Weeks 2 week		PY.1.b. Explain uniform circular motion using one- and two-dimensional vectors. PY.1.B.2. Describing forces that act on an object.	Holt Physics pages 60-63, 122-124 PowerPoint Lecture Practice Problems/Formulas Study Problems /Textbook Examples Demonstration Lab Practical Online Physics Video		

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1 st Nine Weeks 3 rd week		PY.1.c. Explain projectile motion using one- and two-dimensional vectors. PY.1.B.1. Explaining the significance of slope and area under a curve when graphing distance-time or velocity-time data. PY.1.B.2. Describing forces that act on an object.	Holt Physics pages 95-105 PowerPoint Lecture Practice Problems/Formulas Study Problems /Textbook Examples Demonstration Lab Practical		

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1 st Nine Weeks 4 th week		PY.2. Define the law of conservation of momentum. PY.2.B.1. Calculating the momentum of a single object.	Holt Physics pages 198-210 PowerPoint Lecture Practice Problems/Formulas Study Problems /Textbook Examples Demonstration Lab Practical Online Physics Video		

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1 st Nine Weeks 5 th week		PY.2.B.2. Calculating momenta of two objects before and after collision in one-dimensional motion	Holt Physics pages 212-220 PowerPoint Lecture Practice Problems/Form		
1 st Nine Weeks 6 th week		<p>PY.3. Explain planetary motion and navigation in space in terms of Kepler's and Newton's laws.</p> <p>Specific Knowledge Statements Clustered with Bullets</p> <p>PY.3.a. Explain planetary motion and navigation in space in terms of Kepler's law.</p> <p>PY.3.b. Explain planetary motion and navigation in space in terms of Newton's laws.</p>	<p>Holt Physics pages 234-264 Holt Physics pages 248-253</p> <p>PowerPoint Lecture</p> <p>Practice Problems/Formulas</p> <p>Study Problems /Textbook Examples</p> <p>Demonstration</p> <p>Lab Practical</p>		

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1 st Nine Weeks 7 th week		PY.4.a. Describe quantitative relationships for velocity and acceleration.	Holt Physics pages 39-59 PowerPoint Lecture Practice Problems/Formulas Study Problems /Textbook Examples Demonstration Lab Practical Online Physics Video		
1 st Nine Weeks 8 th week		PY.4.b. Describe quantitative relationships for force, work, and power.	Holt Physics pages 120-140 and 159-181 PowerPoint Lecture Practice Problems/Formulas		

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1 st Nine Weeks 9 th week		PY.4.c. Describe quantitative relationships for potential energy and kinetic energy.	Holt Physics pages 164-178 PowerPoint Lecture Practice Problems/Formulas Study Problems /Textbook Examples Demonstration Lab Practical Online Physics Video		

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2 nd Nine Weeks 1 st week		PY.5. Explain the concept of entropy as it relates to heating and cooling, using the laws of thermodynamics. PY.5.B.1. Using qualitative and quantitative methods to show the relationship between changes in heat energy and changes in temperature.	Holt Physics pages 334-358 PowerPoint Lecture Practice Problems/Formulas Study Problems /Textbook Examples Demonstration Lab Practical Online Physics Video		

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2 nd Nine Weeks 2 nd Week		<p>PY.6.B.1. Explaining reasons for differences in speed, frequency, and wavelength of a propagating wave in varying materials.</p> <p>PY.6.B.2. Explaining reasons for differences in speed, frequency, and wavelength of a propagating wave in varying materials.</p> <p>PY.6.B.3 Describing uses of different components of the electromagnetic spectrum, including radio waves, microwaves, infrared radiation, visible light, ultraviolet radiation, X rays, and gamma radiation.</p>	<p>Holt Physics pages 382-394 & 446- 449</p> <p>PowerPoint Lecture</p> <p>Practice Problems/Formulas</p> <p>Study Problems /Textbook Examples</p> <p>Demonstration</p> <p>Lab Practical</p> <p>Online Physics Video</p>		

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2 nd Nine Weeks 3 rd week		PY.6.B.4 Demonstrating particle and wave duality..	Holt Physics pages 389-394 PowerPoint Lecture Practice Problems/Formulas Study Problems /Textbook Examples Demonstration Lab Practical Online Physics Video		
2 nd Nine Weeks 4 th week		PY.6.B.5. Describing the change of wave speed in different media	Holt Physics pages 386-387 PowerPoint Lecture Practice Problems/Formulas Study Problems /Textbook		

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2 nd Nine Weeks 5 th week		PY.7.a. Describe properties of reflection. PY.7.b. Describe properties of refraction. PY.7.c. Describe properties of diffraction. PY.7.B.1. Demonstrating the path of light through mirrors, lenses, and prisms. PY.7.B.2. Describing the effect of filters and polarization on the transmission of light.	Holt Physics pages 445-459, 487-512 ,532-540 , 526-528, 469-474 PowerPoint Lecture Practice Problems/Formulas Study Problems /Textbook Examples Demonstration Lab Practical		

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2 nd Nine Weeks 6 th week		PY.8. Summarize similarities in the calculation of electrical, magnetic, and gravitational forces between objects. PY.8.B.1. Determining the force on charged particles using Coulomb's law.	Holt Physics pages 559-580 PowerPoint Lecture Practice Problems/Formulas Study Problems /Textbook Examples Demonstration		
2 nd Nine Weeks 7 week		PY.9. Describe quantitative relationships among charge, current, electrical potential energy, potential difference, resistance, and electrical power for simple series circuits.	Holt Physics pages 593-617 PowerPoint Lecture Practice Problems/Formulas Study Problems /Textbook Examples Demonstration		

