Instructional Guide

Grade Level Twelfth Subject Physical Science School System Pickens County
School Year 2011-2012

* Bolded eligible content areas are the lowest state testing scores

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)
1st Nine Weeks		PS.12 Identify metric units for mass, distance, time, temperature, velocity, acceleration, density, force, energy, and power	(Physical Science) Holt, Rinehart and Winston Pages 16-17, 48, 132, 133, 134, 320, 323, 327-328, 350, 363, 381, 393, 395, 433, 842 Pre-assessment, provide scaffolded instruction, activate prior knowledge, use graphic organizer		

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1st Nine Weeks		PS.5.a Describe physical changes in terms of endothermic and exothermic processes.	(Physical Science) Holt, Rinehart and Winston Pages 74-76 Use/develop practice sheets Provide more practice Pre-assessment, provide scaffolded instruction, activate prior knowledge, use graphic organizer		
1st Nine Weeks		PS.5.b Describe chemical changes in terms of endothermic and exothermic processes.	(Physical Science) Holt, Rinehart and Winston Pages 187-189 Use/develop practice sheets Provide more practice Pre-assessment, provide scaffolded instruction, activate prior knowledge, use graphic organizer		

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1st Nine Weeks		PS.1.a. Recognize the periodic trends of elements including the number of valence electrons. PS.1.B.1 Categorizing elements as metals, nonmetals, metalloids, and noble gases. PS.1.B.2 Differentiating between families and periods PS.1B.3.a. Using atomic number to identify isotopes. PS.1B.3.b. Using mass number to identify isotopes.	(Physical Science) Holt, Rinehart and Winston Pages 107-110, 121-128, 136 (Physical Science) Holt, Rinehart and Winston, Pages 121-128 (Physical Science) Holt, Rinehart, and Winston, Pages 111-114 (Physical Science) Holt, Rinehart, and Winston Pages 116-118 Pre-assessment, provide scaffolded instruction, activate prior knowledge, use graphic organizer.		

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1st Nine Weeks		PS.1.b. Recognize the periodic trends of elements including atomic size	Not in (Physical Science) Holt, Rinehart and Winston used (Modern Chemistry) Holt, Rinehart and Winston, Pages 150-156		
1st Nine Weeks		PS.1.c. Recognize the periodic trends of elements including reactivity.	(Physical Science) Holt, Rinehart and Winston Pages 50-52 Pre-assessment, provide scaffolded instruction, activate prior knowledge, use graphic organizer		

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1st Nine Weeks		PS.3 Contrast the formation of ionic and covalent bonds based on the transfer or sharing of valence electrons. PC3.B.1. Demonstrating the formation of positive monatomic ions by using electron dot diagrams PC.3.B.2 Demonstrating the formation of negative monatomic ions by using electron dot diagrams	(Physical Science) Holt, Rinehart and Winston Pages 151-158 Not in (Physical Science) Holt, Rinehart and Winston used (Modern Chemistry) Holt, Rinehart and Winston, Pages 190-191 Not in (Physical Science) Holt, Rinehart and Winston used (Modern Chemistry) Holt, Rinehart, and Winston Pages 190-191 Pre-assessment, provide scaffolded instruction, activate prior knowledge, use graphic organizer		

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1st Nine Weeks		PS.4. Use nomenclature and chemical formulas to write balanced chemical equations.	(Physical Science) Holt, Rinehart and Winston Pages 198-202 Use/develop practice sheets Provide more practice Pre-assessment, provide scaffolded instruction, activate prior knowledge, use graphic organizer		

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1st Nine Weeks		PS.4.B.2.a. Identifying chemical reactions as composition PS.4.B.2.b. Identifying chemical reactions as decomposition PS.4.B.2.c. Identifying chemical reactions as single replacement PS.4.B.2.d. Identifying chemical reactions as double replacement	(Physical Science) Holt, Rinehart and Winston Pages 190-191 (Physical Science) Holt, Rinehart and Winston Pages 190-192 (Physical Science) Holt, Rinehart and Winston Pages 194-195 (Physical Science) Holt, Rinehart and Winston Page 195 Use/develop practice sheets (Modern Chemistry) Holt, Rinehart, and Winston Pages 276-284 Pre-assessment, provide scaffolded instruction, activate prior knowledge, use graphic organizer		

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1st Nine Weeks		PS.6.b. Identify characteristics of electromagnetic forces	(Physical Science) Holt, Rinehart and Winston Pages 572-574 Pre-assessment, provide scaffolded instruction, activate prior knowledge, use graphic organizer		
1st Nine Weeks		PS.6.c. Identify characteristics of nuclear forces.	(Physical Science) Holt, Rinehart and Winston Pages 293-294 Pre-assessment, provide scaffolded instruction, activate prior knowledge, use graphic organizer		

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1st Nine Weeks		PS.4.B.3. Defining the role of electrons in chemical reactions	(Physical Science) Holt, Rinehart and Winston Pages 196-197 Use/develop practice sheets Pre-assessment, provide scaffolded instruction, activate prior knowledge, use graphic organizer		

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1st Nine Weeks		PS.4.B.3. Identify solutions in terms of concentration PS.2.B.3 Describing factors that affect solubility and rate of solution, including nature of solute and solvent, temperature, agitation, surface area, and pressure on gasses	(Physical Science) Holt, Rinehart and Winston Pages 243 and 244 Use/develop practice sheets Provide more practice Pre-assessment, provide scaffolded instruction, activate prior knowledge, use graphic organizer		

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1st Nine Weeks		PS.2.d. Identify solutions in terms of conductivity PS.2.B.2. Comparing characteristics of electrolytes and non-electrolytes	(Physical Science) Holt, Rinehart and Winston Pages 257-259 (Physical Science) Holt, Rinehart and Winston Pages 538 Pre-assessment, provide scaffolded instruction, activate prior knowledge, use graphic organizer		

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1st Nine Weeks		PS.11.a. Describe the nuclear composition of unstable isotopes and the resulting changes to their nuclear composition.	Not in (Physical Science) Holt, Rinehart and Winston use (Modern Chemistry) Holt, Rinehart, and Winston, Page 681 Pre-assessment, provide scaffolded instruction, activate prior knowledge, use graphic organizer		
1st Nine Weeks		PS.11.B.1. Identifying types of nuclear emissions, including alpha particles, beta particles, and gamma radiation	(Physical Science) Holt, Rinehart and Winston Pages 284-288 Use/develop practice sheets Pre-assessment, provide scaffolded instruction, activate prior knowledge, use graphic organizer		

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1st Nine Weeks		PS.11.B.2. Differentiating between fission and fusion	(Physical Science) Holt, Rinehart and Winston Pages 293-298, 308 Pre-assessment, provide scaffolded instruction, activate prior knowledge, use graphic organizer		
1st Nine Weeks		PS.11.B.3. Identifying uses and possible negative side effects of nuclear technology Examples: uses-nuclear power generation, medical applications, space travel' negative effects-radioactive contamination, nuclear fuel waste and waste storage	(Physical Science) Holt, Rinehart and Winston Pages 301-304 Pre-assessment, provide scaffolded instruction, activate prior knowledge, use graphic organizer		
1st Nine Weeks		PS.6.a. Identify characteristics of gravitational forces	(Physical Science) Holt, Rinehart and Winston Pages 352-359 Pre-assessment, provide scaffolded instruction, activate prior knowledge, use graphic organizer		

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2nd Nine Weeks		PS.7.a. Relate velocity distance and time. PS.7.B.1 Interpreting graphic representations of velocity versus time and distance versus time	(Physical Science) Holt, Rinehart and Winston Pages 321 Use/develop practice sheets Provide more practice Pre-assessment, provide scaffolded instruction, activate prior knowledge, use graphic organizer		
2nd Nine Weeks		PS.7.b. Relate acceleration distance and time.	(Physical Science) Holt, Rinehart and Winston Pages 318-324 Use/develop practice sheets Provide more practice Pre-assessment, provide scaffolded instruction, activate prior knowledge, use graphic organizer		

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2nd Nine Weeks		PS.7.B.2. Solving problems for velocity, acceleration, force, work, and power.	(Physical Science) Holt, Rinehart and Winston Pages (velocity) 323, (acceleration) 328, (force) 350, (work) 379, (power) 381 Use/develop practice sheets Provide more practice Pre-assessment, provide scaffoled instruction, activate prior knowledge, use graphic organizer		

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2nd Nine Weeks		PS.7.B.3. Describing action and reaction forces, inertia, acceleration, momentum, and friction in terms of Newton's three laws of motion	(Physical Science) Holt, Rinehart and Winston Pages (1st law) 346-348, (2nd law) 349-351, (3rd law) 360-362 Use/develop practice sheets Provide more practice Pre-assessment, provide scaffolded instruction, activate prior knowledge, use graphic organizer		
2nd Nine Weeks		PS.7.B.4. Determining the resultant of collinear forces acting on a body Example: solving problems involving the effect of a tailwind or headwind on an airplane	(Physical Science) Holt, Rinehart and Winston Pages 333-334, 360-366 Use/develop practice sheets Provide more practice Pre-assessment, provide scaffolded instruction, activate prior knowledge, use graphic organizer		

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2nd Nine Weeks		PS.7.B.5. Solving problems for efficiency and mechanical advantage of simple machines	(Physical Science) Holt, Rinehart and Winston Pages (efficiency) 333-334, 337 (mechanical advantage) 406-408, 441 Use/develop practice sheets Provide more practice Pre-assessment, provide scaffolded instruction, activate prior knowledge, use graphic organizer		
2nd Nine Weeks		PS.8.a. Relate the law of conservation of energy to transformations of potential energy. PS.8.B.4.a. Relating simple formulas to the calculation of potential energy.	(Physical Science) Holt, Rinehart and Winston Pages 392-393 Use/develop practice sheets Provide more practice Pre-assessment, provide scaffolded instruction, activate prior knowledge, use graphic organizer		

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2nd Nine Weeks		PS.8.b. Relate the law of conservation of energy to transformations of kinetic energy. PS.8.B.4.b. Relating simple formulas to the calculation of kinetic energy.	(Physical Science) Holt, Rinehart and Winston Pages 394-395 Use/develop practice sheets Provide more practice Pre-assessment, provide scaffolded instruction, activate prior knowledge, use graphic organizer		
2nd Nine Weeks		PS.8c. Relate the law of conservation of energy to transformations of thermal energy. PS.8.B.4.c. Relating simple formulas to the calculation of work	(Physical Science) Holt, Rinehart and Winston Pages 404-405 Use/develop practice sheets Provide more practice Pre-assessment, provide scaffolded instruction, activate prior knowledge, use graphic organizer		

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2nd Nine Weeks		PS.8.B.1. Identifying the relationship between thermal energy and the temperature of sample of matter	(Physical Science) Holt, Rinehart and Winston Pages 73, 420-424 Use/develop practice sheets Provide more practice Pre-assessment, provide scaffolded instruction, activate prior knowledge, use graphic organizer		
2nd Nine Weeks		PS.8.B.2. Describing the flow of thermal energy between two samples of matter	(Physical Science) Holt, Rinehart and Winston Pages 425-426 Pre-assessment, provide scaffolded instruction, activate prior knowledge, use graphic organizer		

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2nd Nine Weeks		PS.8.B.3. Explaining how thermal energy is transferred by radiation, conduction, and convection	(Physical Science) Holt, Rinehart and Winston Pages 428-429 Pre-assessment, provide scaffolded instruction, activate prior knowledge, use graphic organizer		
2nd Nine Weeks		PS.9.a. Compare methods of energy transfer by mechanical waves. PS.9B.1. Distinguishing between transverse and longitudinal mechanical waves.	(Physical Science) Holt, Rinehart and Winston Pages 461-462 Pre-assessment, provide scaffolded instruction, activate prior knowledge, use graphic organizer		
2nd Nine Weeks		PS.9.b. Compare methods of energy transfer by electromagnetic waves. PS.9.B.2. Relating physical properties of sound and light to wave characteristics Examples: loudness to amplitude, pitch to frequency, color to wavelength, and frequency	(Physical Science) Holt, Rinehart and Winston Pages 463-467 Pre-assessment, provide scaffolded instruction, activate prior knowledge, use graphic organizer		

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2nd Nine Weeks		PS.10.a. Explain the relationship between electricity and magnetism. Example: using a moving charge to create a magnetic field and using a moving magnetic field to induce a current in a closed wire loop	(Physical Science) Holt, Rinehart and Winston Pages 576-577 Provide more practice Pre-assessment, provide scaffolded instruction, activate prior knowledge, use graphic organizer		
2nd Nine Weeks		PS.10.B.1. Differentiating between induction and conduction	(Physical Science) Holt, Rinehart and Winston Pages 428, 576-578 Pre-assessment, provide scaffolded instruction, activate prior knowledge, use graphic organizer		
2nd Nine Weeks		PS.10.B.2. Identifying mechanical, magnetic, and chemical methods to create an electrical charge Examples: mechanical-rubbing materials together, magnetic-moving a closed loop of wire across a magnetic field, chemical-using batteries	(Physical Science) Holt, Rinehart and Winston Pages 333-334, 360-366 Use/develop practice sheets Pre-assessment, provide scaffolded instruction, activate prior knowledge, use graphic organizer		

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2nd Nine Weeks		PS.10.B.3. Describing electrical circuits in terms of Ohm's law	(Physical Science) Holt, Rinehart and Winston Pages 541-543, 545 Use/develop practice sheets Pre-assessment, provide scaffolded instruction, activate prior knowledge, use graphic organizer		