

PLT Correlations: SCIENCE GRADE 8

Revised 8/2009

Grade 8 : Embedded Inquiry

Learning Expectations	Project PLT Correlations
<p>GLE 0807.Inq.1 Design and conduct open-ended scientific investigations.</p> <p>GLE 0807.Inq.2 Use appropriate tools and techniques to gather, organize, analyze, and interpret data.</p> <p>GLE 0807.Inq.3 Synthesize information to determine cause and effect relationships between evidence and explanations.</p> <p>GLE 0807.Inq.4 Recognize possible sources of bias and error, alternative explanations, and questions for further exploration.</p> <p>GLE 0807.Inq.5 Communicate scientific understanding using descriptions, explanations, and models.</p>	<p>9. Planet Diversity, p.45 - Students describe, in minute detail, all the life they find in a small plot of land.</p> <p>2. Get in Touch With Trees, p.20 - Students compare different trees and tree parts using their sense of touch.</p> <p>21. Adopt a Tree, p. 97 - In Part B, students use a journal to record observations and answer questions about their adopted tree.</p> <p>64. Looking at Leaves, p.273 - Students explore leaf attributes such as color, shape, size, and bilateral symmetry.</p> <p>67. How Big Is Your Tree?, p.284 - Students use string or “hand-spans” to measure the distance around a tree trunk or join arms to reach around larger trunks.</p> <p>68. Name That Tree, p.288 - Students learn more about trees through examining various identifying features. Afterward, they play an active game that tests their knowledge of different types of trees.</p> <p>73. Waste Watchers, p.314 - Students conduct an Energy Audit of the energy they use in their own homes and create an action plan to reduce energy use.</p>

Grade 8 : Embedded Technology & Engineering

Learning Expectations	Checks for Understanding	Project PLT Correlations
<p>GLE 0807.T/E.1 Explore how technology responds to social, political, and economic needs.</p> <p>GLE 0807.T/E.2 Know that the engineering design process involves an ongoing series of events that incorporate design constraints, model building, testing, evaluating, modifying, and retesting.</p>	<p>0807.T/E.1 Use appropriate tools to test for strength, hardness, and flexibility of materials.</p> <p>0807.T/E.2 Apply the engineering design process to construct a prototype that meets certain specifications.</p>	

<p>GLE 0807.T/E.3 Compare the intended benefits with the unintended consequences of a new technology.</p> <p>GLE 0807.T/E.4 Describe and explain adaptive and assistive bioengineered products.</p>	<p>0807.T/E.3 Explore how the unintended consequences of new technologies can impact society.</p> <p>0807.T/E.4 Research bioengineering technologies that advance health and contribute to improvements in our daily lives.</p> <p>0807.T/E.5 Develop an adaptive design and test its effectiveness.</p>	
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Grade 8 : Standard 5 - Biodiversity and Change

Learning Expectations	Checks for Understanding	Project PLT Correlations
<p>GLE 0807.5.1 Identify various criteria used to classify organisms into groups.</p> <p>GLE 0807.5.2 Use a simple classification key to identify a specific organism.</p>	<p>0807.5.1 Select characteristics of plants and animals that serve as the basis for developing a classification key.</p> <p>0807.5.2 Create and apply a simple classification key to identify an organism.</p>	<p>2. Get in Touch With Trees, p.20 21. Adopt a Tree, p. 97 64. Looking at Leaves, p.273 68. Name That Tree, p.288 67. How Big Is Your Tree?, p.284</p>
<p>GLE 0807.5.3 Analyze how structural, behavioral, and physiological adaptations within a population enable it to survive in a given environment.</p>	<p>0807.5.3 Compare and contrast the ability of an organism to survive under different environmental conditions.</p>	<p>9. Planet Diversity, p.45 10. Charting Diversity, p.50 11. Can It Be Real?, p.54 12. Invasive Species, p.59</p>
<p>GLE 0807.5.4 Explain why variation within a population can enhance the chances for group survival.</p>	<p>0807.5.4 Collect and analyze data relating to variation within a population of organisms.</p>	
<p>GLE 0807.5.5 Describe the importance of maintaining the earth's biodiversity.</p>	<p>0807.5.5 Prepare a poster that illustrates the major factors responsible for reducing the amount of global biodiversity.</p> <p>0807.5.6 Prepare graphs that demonstrate how the amount of biodiversity has changed in a particular continent or biome.</p>	<p>9. Planet Diversity, p.45 10. Charting Diversity, p.50 12. Invasive Species, p.59 88. Life On The Edge, p.382</p>

<p>GLE 0807.5.6 Investigate fossils in sedimentary rock layers to gather evidence of changing life forms.</p>	<p>0807.5.7 Create a timeline that illustrates the relative ages of fossils in sedimentary rock layers.</p>	
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Grade 8 : Standard 9 - Matter

Learning Expectations	Checks for Understanding	Project PLT Correlations
<p>GLE 0807.9.1 Understand that all matter is made up of atoms.</p> <p>GLE 0807.9.2 Explain that matter has properties that are determined by the structure and arrangement of its atoms.</p> <p>GLE 0807.9.3 Interpret data from an investigation to differentiate between physical and chemical changes.</p> <p>GLE 0807.9.4 Distinguish among elements, compounds, and mixtures.</p> <p>GLE 0807.9.5 Apply the chemical properties of the atmosphere to illustrate a mixture of gases.</p> <p>GLE 0807.9.6 Use the periodic table to determine the characteristics of an element.</p> <p>GLE 0807.9.7 Explain the Law of Conservation of Mass.</p> <p>GLE 0807.9.8 Interpret the events represented by a chemical equation.</p> <p>GLE 0807.9.9 Explain the basic difference between acids and bases.</p>	<p>0807.9.1 Identify atoms as the fundamental particles that make up matter.</p> <p>0807.9.2 Illustrate the particle arrangement and type of motion associated with different states of matter.</p> <p>0807.9.3 Measure or calculate the mass, volume, and temperature of a given substance.</p> <p>0807.9.4 Calculate the density of various objects.</p> <p>0807.9.5 Distinguish between elements and compounds by their symbols and formulas.</p> <p>0807.9.6 Differentiate between physical and chemical changes.</p> <p>0807.9.7 Describe how the characteristics of a compound are different than the characteristics of their component parts.</p> <p>0807.9.8 Determine the types of interactions between substances that result in a chemical change.</p> <p>0807.9.9 Explain how the chemical makeup of the atmosphere illustrates a mixture of gases.</p>	

	<p>0807.9.10 Identify the atomic number, atomic mass, number of protons, neutrons, and electrons in an atom of an element using the periodic table.</p> <p>0807.9.11 Use investigations of chemical and physical changes to describe the Law of Conservation of Mass.</p> <p>0807.9.12 Differentiate between the reactants and products of a chemical equation.</p> <p>0807.9.13 Determine whether a substance is an acid or a base by its reaction to an indicator.</p>	
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Grade 8 : Standard 12 - Forces in Nature

Learning Expectations	Checks for Understanding	Project PLT Correlations
<p>GLE 0807.12.1 Investigate the relationship between magnetism and electricity.</p>	<p>0807.12.1 Create a diagram to explain the relationship between electricity and magnetism.</p>	<p>73. Waste Watchers, p.314</p>
<p>GLE 0807.12.2 Design an investigation to change the strength of an electromagnet.</p> <p>GLE 0807.12.3 Compare and contrast the earth's magnetic field to that of a magnet and an electromagnet.</p> <p>GLE 0807.12.4 Identify factors that influence the amount of gravitational force between objects.</p> <p>GLE 0807.12.5 Recognize that gravity is the force that controls the motion of objects in the solar system.</p>	<p>0807.12.2 Produce an electromagnet using a bar magnet and a wire coil.</p> <p>0807.12.3 Experiment with an electromagnet to determine how to vary its strength.</p> <p>0807.12.4 Create a chart to distinguish among the earth's magnetic field, and fields that surround a magnet and an electromagnet.</p> <p>0807.12.5 Explain the difference between mass and weight.</p> <p>0807.12.6 Identify factors that influence the amount of gravitational force between objects.</p> <p>0807.12.7 Explain how the motion of objects in the solar system is affected by gravity.</p>	