

# PLT Correlations: SCIENCE GRADE K (revised 8/09)

## Kindergarten : Embedded Inquiry

<b>Learning Expectations</b>	<b>PLT Correlations</b>
<p><b>GLE 0007.Inq.1</b> Observe the world of familiar objects using the senses and tools.</p> <p><b>GLE 0007.Inq.2</b> Ask questions, make logical predictions, plan investigations, and represent data.</p> <p><b>GLE 0007.Inq.3</b> Explain the data from an investigation.</p>	<p><b>1. The Shape of Things</b> (p.17) - In Part B, students take a walk and look for their assigned shapes.</p> <p><b>2. Get in Touch With Trees</b> (p.20) - Students compare different trees and tree parts using their sense of touch.</p> <p><b>3. Peppermint Beetle</b> (p.23) - Students experience scent-marking and consider its benefit to animals.</p> <p><b>4. Sounds Around</b> (p.26) - In Part A, students listen to and imitate sounds, comparing their loudness.</p> <p><b>20. Environmental Exchange Box</b> (p.92) - By exchanging boxes with classes in other regions, students compare the other regions to their own.</p> <p><b>21. Adopt a Tree</b> (p.97) - In Part A, students compare their “adopted tree” to other trees.</p> <p><b>22. Trees as Habitats</b> (p.102) - Students inventory the plants and animals that live in, on, and around trees and discover how plants and animals depend on trees in many ways.</p> <p><b>24. Nature's Recyclers</b> (p.108) - Students devise an experiment to investigate the eating habits of pill bugs or earthworms.</p> <p><b>25. Birds and Worms</b> (p.111) - Students pretend to be birds in search of colored worms or bugs. As an Enrichment, they compare results for different “backgrounds”.</p> <p><b>37. Reduce, Reuse, Recycle</b> (p.159) – Students plan and conduct a service learning project, and in doing so find ways to cut down on the waste they produce and improve how waste is managed in their community.</p> <p><b>41. How Plants Grow</b> (p.179) - In the Variation, students grow, measure, and compare plants growing with versus without light, water, soil, or space.</p> <p><b>43. Have Seeds, Will Travel</b> (p.185) - Students observe, collect, and classify seeds according to their likely means of dispersal. In the <b>Enrichment</b>, they modify dried lima beans to allow various types of dispersal.</p> <p><b>46. Schoolyard Safari</b> (p.197) - Students go on a safari to explore a nearby habitat – the school yard – while looking for signs of animals living there.</p> <p><b>47. Are Vacant Lots Vacant?</b> (p.200) - Students stake out a “plot” and inventory the plant and animal life within the plot. In the <b>Variation</b>, students use hand lenses to closely observe plants and tiny animals along a 3-foot piece of string or within the area defined by a coat hanger stretched into a circle.</p>

	<p><b>48. Field, Forest and Stream</b> (p.203) - Students work in teams to investigate and record observations of both living and non-living components of three different study sites. In the <b>Variation</b>, students work in pairs to place “most” and “least” markers within a designated study site to locate extremes of light, moisture, temperature, wind, plant life, and animal life.</p> <p><b>54. I'd Like To Visit a Place Where ...</b> (p.236) - By working on a service learning project to improve a local park, students will also learn about the community’s system for managing open spaces.</p> <p><b>61. The Closer You Look</b> (p.263) - Students carefully examine tree features and parts.</p> <p><b>64. Looking at Leaves</b> (p.273) - Students explore leaf attributes such as color, shape, size, and bilateral symmetry through careful observation and various “leaf art” activities.</p> <p><b>67. How Big Is Your Tree?</b> (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><b>70. Soil Stories</b> (p.297) - In Part A, students use a “Soil Shake” test to separate the components of soil by their particle size. In Part B, students use a “Percolation Test” to test how well soils in different outdoor locations drain water.</p> <p><b>78. Signs of Fall</b> (p.299) - In Part A, students observe and record “signs of fall” in a wooded area. In Part B, they use a “paper chromatography” process to separate the pigments in leaves.</p> <p><b>95. Did You Notice?</b> (p.414) - Students study changes in their local environment over short and long periods to identify patterns of change.</p>
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<b>Kindergarten : Embedded Technology &amp; Engineering</b>		
<b>Learning Expectations</b>	<b>Checks for Understanding</b>	<b>PLT Correlations</b>
<p><b>GLE 0007.T/E.K-2.1</b> Recognize that both natural materials and human-made tools have specific characteristics that determine their use.</p> <p><b>GLE 0007.T/E.2</b> Apply engineering design and creative thinking to solve practical problems.</p>	<p><b>0007.T/E.1</b> Explain how simple tools are used to extend the senses, make life easier, and solve everyday problems.</p> <p><b>0007.T/E.2</b> Invent designs for simple products.</p> <p><b>0007.T/E.3</b> Use tools to measure materials and construct simple products.</p>	

## Kindergarten : Standard 1 - Cells

Learning Expectations	Checks for Understanding	PLT Correlations
<p><b>GLE 0007.1.1</b> Recognize that many things are made of parts.</p>	<p><b>0007.1.1</b> Use puzzles to determine that there are many parts that make up a whole.</p> <p><b>0007.1.2</b> Use building blocks to create a whole from the parts.</p> <p><b>0007.1.3</b> Take apart an object and describe how the parts work together.</p>	<p><b>61. The Closer You Look</b> (p. 263)</p> <p><b>62. To Be a Tree</b> (p. 265)</p> <p><b>63. Tree Factory</b> (p. 269)</p>

## Kindergarten : Standard 2 - Interdependence

Learning Expectations	Checks for Understanding	PLT Correlations
<p><b>GLE 0007.2.1</b> Recognize that some things are living and some are not.</p>	<p><b>0007.2.1</b> Categorize objects or images of objects as living or non-living according to their characteristics.</p>	<p><b>20. Environmental Exchange Box</b> (p.92)</p> <p><b>21. Adopt a Tree</b> (p.97)</p> <p><b>22. Trees as Habitats</b> (p.102)</p> <p><b>49. Tropical Treehouse</b> (p.207)</p> <p><b>70. Soil Stories</b> (p. 297)</p>
<p><b>GLE 0007.2.2</b> Know that people interact with their environment through their senses.</p>	<p><b>0007.2.2</b> Use the senses to investigate and describe an object.</p>	<p><b>1. The Shape of Things</b> (p.17)</p> <p><b>2. Get in Touch With Trees</b> (p.20)</p> <p><b>3. Peppermint Beetle</b> (p.23)</p> <p><b>4. Sounds Around</b> (p.26)</p> <p><b>21. Adopt a Tree</b> (p.97)</p> <p><b>54. I'd Like To Visit a Place Where ...</b> (p.236)</p>

## Kindergarten : Standard 3 - Flow of Matter and Energy

<b>Learning Expectations</b>	<b>Checks for Understanding</b>	<b>PLT Correlations</b>
<p><b>GLE 0007.3.1</b> Recognize that living things require water, food, and air.</p>	<p><b>0007.3.1</b> Observe plants and animals and make records of their similarities and differences.</p> <p><b>0007.3.2</b> Record information about the care, feeding, and maintenance of a living thing.</p>	<p><b>22. Trees as Habitats</b> (p.102)</p> <p><b>27. Every Tree For Itself</b> (p.117)</p> <p><b>41. How Plants Grow</b> (p. 179)</p> <p><b>48. Field, Forest and Stream</b> (p.203) - plant life and animal life</p> <p><b>63. Tree Factory</b> (p. 269)</p>

## Kindergarten : Standard 4 - Heredity

<b>Learning Expectations</b>	<b>Checks for Understanding</b>	<b>PLT Correlations</b>
<p><b>GLE 0007.4.1</b> Observe how plants and animals change as they grow.</p> <p><b>GLE 0007.4.2</b> Observe that offspring resemble their parents.</p>	<p><b>0007.4.1</b> Observe a plant to identify how it changes as it grows from a seed to the adult plant and record data using non-standard measurement devices.</p> <p><b>0007.4.2</b> Match pictures of seedlings to adult plants and a juvenile to the adult animal.</p>	<p><b>31. Plant a Tree</b> (p.132)</p> <p><b>41. How Plants Grow</b> (p. 179)</p> <p><b>43. Have Seeds, Will Travel</b> (p.185)</p> <p><b>67. How Big Is Your Tree?</b> (p. 284)</p> <p><b>78. Signs of Fall</b> (p.299)</p> <p><b>79. Tree Lifecycle</b> (p.341)</p> <p><b>95. Did You Notice?</b> (p.414)</p>

## Kindergarten : Standard 5 - Biodiversity and Change

Learning Expectations	Checks for Understanding	PLT Correlations
<p><b>GLE 0007.5.1</b> Compare the basic features of plants and animals.</p>	<p><b>0007.5.1</b> Use a variety of representations to describe similarities and differences among plants and animals.</p> <p><b>0007.5.2</b> Create a mural of an ecosystem and compare the characteristics of animals and plants within that environment.</p> <p><b>0007.5.3</b> Match pictures of animal and plant characteristics needed for survival to appropriate environments.</p>	<p><b>6. Picture This</b> (p.34)  <b>18. Tale of The Sun</b> (p.86)  <b>20. Environmental Exchange Box</b> (p.92)  <b>25. Birds and Worms</b> (p.111)  <b>43. Have Seeds, Will Travel</b> (p.185)  <b>46. Schoolyard Safari</b> (p.197)  <b>47. Are Vacant Lots Vacant?</b> (p.200)</p>

## Grade K: Standard 6 - Omitted

## Kindergarten : Standard 7 – The Earth

Learning Expectations	Checks for Understanding	PLT Correlations
<p><b>GLE 0007.7.1</b> Identify non-living materials found on the surface of the earth.</p>	<p><b>0007.7.1</b> Identify non-living materials found on the school site and discuss how these materials are similar and different.</p> <p><b>0007.7.2</b> Investigate and compare a variety of non-living materials using simple tools.</p>	<p><b>20. Environmental Exchange Box</b> (p.92)  <b>24. Nature's Recyclers</b> (p.108)  <b>37. Reduce, Reuse, Recycle</b> (p.159)  <b>48. Field, Forest and Stream</b> (p.203)  <b>70. Soil Stories</b> (p. 297)</p>
<p><b>GLE 0007.7.2</b> Recognize that some objects are manmade and that some occur naturally.</p>	<p><b>0007.7.3</b> Observe familiar environments and make lists of natural and manmade objects.</p>	<p><b>37. Reduce, Reuse, Recycle</b> (p.159)</p>

## Kindergarten : Standard 8 - The Atmosphere

<b>Learning Expectations</b>	<b>Checks for Understanding</b>	<b>PLT Correlations</b>
<p><b>GLE 0007.8.2</b> Collect daily weather data at different times of the year.</p>	<p><b>0007.8.1</b> Collect, compare, and record daily weather data during different seasons.</p> <p><b>0007.8.2</b> Infer the relationship between temperature and seasonal change by maintaining a paper chain on which dates are recorded and temperature described according to different colors.</p>	<p><b>48. Field, Forest and Stream</b> (p.203) – moisture and wind</p> <p><b>78. Signs of Fall</b> (p.299)</p>

## Kindergarten : Standard 9 - Matter

<b>Learning Expectations</b>	<b>Checks for Understanding</b>	<b>PLT Correlations</b>
<p><b>GLE 0007.9.1</b> Describe an object by its observable properties.</p>	<p><b>0007.9.1</b> Observe, identify, and compare the properties of various objects such as color, shape, and size.</p>	<p><b>1. The Shape of Things</b> (p.17)</p> <p><b>13. We All Need Trees</b> (p.65)</p> <p><b>20. Environmental Exchange Box</b> (p.92)</p> <p><b>22. Trees as Habitats</b> (p.102)</p> <p><b>37. Reduce, Reuse, Recycle</b> (p.159)</p> <p><b>64. Looking at Leaves</b> (p.273)</p> <p><b>70. Soil Stories</b> (p. 297)</p> <p><b>78. Signs of Fall</b> (p. 299)</p>
<p><b>GLE 0007.9.2</b> Identify objects and materials as solids or liquids.</p>	<p><b>0007.9.2</b> Observe, discuss, and compare characteristics of various solids and liquids.</p>	

## Kindergarten : Standard 10 - Energy

Learning Expectations	Checks for Understanding	PLT Correlations
<p><b>GLE 0007.10.1</b> Identify the sun as the source of heat and light.</p>	<p><b>0007.10.1</b> Place a thermometer in a sunny window and one in a shady area of the classroom and record the temperatures over time. Compare, discuss, and record any temperature differences.</p> <p><b>0007.10.2</b> Investigate the temperature differences in various locations around the school. Discuss and record the results.</p>	<p><b>48. Field, Forest and Stream</b> (p.203) – Light and Temperature</p>
<p><b>GLE 0007.10.2</b> Investigate the effect of the sun on a variety of materials.</p>	<p><b>0007.10.3</b> Place a thermometer under pieces of different colored paper on a sunny window. Compare results and discuss possible causes.</p>	

# PLT Correlations: SCIENCE GRADE 1

Revised 7/2009

## Grade 1 : Embedded Inquiry

Learning Expectations	PLT Correlations
<p><b>GLE 0107.Inq.1</b> Observe the world of familiar objects using the senses and tools.</p> <p><b>GLE 0107.Inq.2</b> Ask questions, make logical predictions, plan investigations, and represent data.</p> <p><b>GLE 0107.Inq.3</b> Explain the data from an investigation.</p>	<p><b>1. The Shape of Things</b> (p.17) - In Part B, students take a walk and look for their assigned shapes.</p> <p><b>2. Get in Touch With Trees</b> (p.20) - Students compare different trees and tree parts using their sense of touch.</p> <p><b>4. Sounds Around</b> (p.26) - In Part A, students listen to and imitate sounds, comparing their loudness.</p> <p><b>20. Environmental Exchange Box</b> (p.92) - By exchanging boxes with classes in other regions, students compare the other regions to their own.</p> <p><b>21. Adopt a Tree</b> (p.97) - In Part A, students compare their “adopted tree” to other trees.</p> <p><b>22. Trees as Habitats</b> (p.102) - Students inventory the plants and animals that live in, on, and around trees and discover how plants and animals depend on trees in many ways.</p> <p><b>24. Nature's Recyclers</b> (p.108) - Students devise an experiment to investigate the eating habits of pill bugs or earthworms.</p> <p><b>25. Birds and Worms</b> (p.111) - Students pretend to be birds in search of colored worms or bugs. As an Enrichment, they compare results for different “backgrounds”.</p> <p><b>37. Reduce, Reuse, Recycle</b> (p.159) – Students plan and conduct a service learning project, and in doing so find ways to cut down on the waste they produce and improve how waste is managed in their community.</p> <p><b>41. How Plants Grow</b> (p.179) - In the Variation, students grow, measure, and compare plants growing with versus without light, water, soil, or space.</p> <p><b>43. Have Seeds, Will Travel</b> (p.185) - Students observe, collect, and classify seeds according to their likely means of dispersal. In the <b>Enrichment</b>, they modify dried lima beans to allow various types of dispersal.</p> <p><b>46. Schoolyard Safari</b> (p.197) - Students go on a safari to explore a nearby habitat – the school yard – while looking for signs of animals living there.</p> <p><b>47. Are Vacant Lots Vacant?</b> (p.200) - Students stake out a “plot” and inventory the plant and animal life within the plot. In the <b>Variation</b>, students use hand lenses to closely observe plants and tiny animals along a 3-foot piece of string or within the area defined by a coat hanger stretched into a circle.</p>

	<p><b>48. Field, Forest and Stream</b> (p.203) - Students work in teams to investigate and record observations of both living and non-living components of three different study sites. In the <b>Variation</b>, students work in pairs to place “most” and “least” markers within a designated study site to locate extremes of light, moisture, temperature, wind, plant life, and animal life.</p> <p><b>54. I'd Like To Visit a Place Where ...</b> (p.236) - By working on a service learning project to improve a local park, students will also learn about the community’s system for managing open spaces.</p> <p><b>61. The Closer You Look</b> (p.263) - Students carefully examine tree features and parts.</p> <p><b>64. Looking at Leaves</b> (p.273) - Students explore leaf attributes such as color, shape, size, and bilateral symmetry through careful observation and various “leaf art” activities.</p> <p><b>65. Bursting Buds</b> (p.277) - Students observe tree buds throughout the year.</p> <p><b>67. How Big Is Your Tree?</b> (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><b>70. Soil Stories</b> (p.297) - In Part A, students use a “Soil Shake” test to separate the components of soil by their particle size. In Part B, students use a “Percolation Test” to test how well soils in different outdoor locations drain water.</p> <p><b>77. Trees In Trouble</b> (p.332) - Students examine trees for signs of damage or poor health and conduct experiments to determine the conditions the effects of crowding, acid, and fertilizer on seedling height and radish diameter.</p> <p><b>78. Signs of Fall</b> (p.299) - In Part A, students observe and record “signs of fall” in a wooded area. In Part B, they use a “paper chromatography” process to separate the pigments in leaves.</p> <p><b>95. Did You Notice?</b> (p.414) - Students study changes in their local environment over short and long periods to identify patterns of change.</p>
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<b>Grade 1 : Embedded Technology &amp; Engineering</b>		
<b>Learning Expectations</b>	<b>Checks for Understanding</b>	<b>PLT Correlations</b>
<p><b>GLE 0107.T/E.1</b> Recognize that both natural materials and human-made tools have specific characteristics that determine their use.</p> <p><b>GLE 0107.T/E.2</b> Apply engineering design and creative thinking to solve practical problems.</p>	<p><b>0107.T/E.1</b> Explain how simple tools are used to extend the senses, make life easier, and solve everyday problems.</p> <p><b>0107.T/E.2</b> Invent designs for simple products.</p> <p><b>0107.T/E.3</b> Use tools to measure materials and construct simple products.</p>	

## Grade 1 : Standard 1 - Cells

Learning Expectations	Checks for Understanding	PLT Correlations
<p><b>GLE 0107.1.1</b> Recognize that living things have parts that work together.</p> <p><b>GLE 0107.1.2</b> Use tools to examine major body parts and plant structures.</p>	<p><b>0107.1.1</b> Combine pictures of major body parts to assemble a complete animal.</p> <p><b>0107.1.2</b> Communicate the effect of using tools like magnifiers when examining different body parts.</p> <p><b>0107.1.3</b> Make diagrams to record and communicate observations.</p>	<p><b>4. Sounds Around</b> (p.26)  <b>16. Pass The Plants, Please</b> (p.77)  <b>61. The Closer You Look</b> (p.263)  <b>62. To Be a Tree</b> (p.265)  <b>63. Tree Factory</b> (p. 269)  <b>64. Looking at Leaves</b> (p.273)  <b>65. Bursting Buds</b> (p.277)</p>

## Grade 1 : Standard 2 - Interdependence

Learning Expectations	Checks for Understanding	PLT Correlations
<p><b>GLE 0107.2.1</b> Distinguish between living and non-living things in an environment.</p>	<p><b>0107.2.1</b> Identify the basic characteristics of living things.</p> <p><b>0107.2.2</b> Record information about living or non-living objects in local environments.</p> <p><b>0107.2.3</b> Sort and classify a variety of living and non-living materials based on their characteristics.</p>	<p><b>24. Nature's Recyclers</b> (p.108)  <b>37. Reduce, Reuse, Recycle</b> (p.159)</p>

## Grade 1 : Standard 3 - Flow of Matter and Energy

Learning Expectations	Checks for Understanding	PLT Correlations
<p><b>GLE 0107.3.1</b> Recognize that plants and animals are living things that grow and change over time.</p>	<p><b>0107.3.1</b> Conduct investigations and record data about the growth of different plants under varying conditions.</p> <p><b>0107.3.2</b> Describe what plants and animals need in order to grow and remain healthy.</p>	<p><b>21. Adopt a Tree</b> (p.97)  <b>25. Birds and Worms</b> (p.111)  <b>27. Every Tree For Itself</b> (p.117)  <b>31. Plant a Tree</b> (p.132)  <b>41. How Plants Grow</b> (p.179)  <b>67. How Big Is Your Tree?</b> (p. 284)  <b>76. Tree Cookies</b> (p.327)  <b>77. Trees In Trouble</b> (p. 332)  <b>78. Signs of Fall</b> (p. 299)  <b>95. Did You Notice?</b> (p.414)</p>

## Grade 1 : Standard 4 - Heredity

Learning Expectations	Checks for Understanding	PLT Correlations
<p><b>GLE 0107.4.1</b> Observe and illustrate the life cycle of animals.</p> <p><b>GLE 0107.4.2</b> Describe ways in which animals closely resemble their parents.</p>	<p><b>0107.4.1</b> Observe, describe, and record the life cycle of a particular animal.</p> <p><b>0107.4.2</b> Match pictures of parents and related offspring by identifying common characteristics.</p>	<p><b>18. Tale of The Sun</b> (p.86)  <b>43. Have Seeds, Will Travel</b> (p.185)  <b>65. Bursting Buds</b> (p.277)  <b>79. Tree Lifecycle</b> (p.341)</p>

## Grade 1 : Standard 5 - Biodiversity and Change

Learning Expectations	Checks for Understanding	PLT Correlations
<p><b>GLE 0107.5.1</b> Investigate how plants and animals can be grouped according to their habitats.</p> <p><b>GLE 0107.5.2</b> Recognize that some organisms which formerly lived are no longer found on earth.</p>	<p><b>0107.5.1</b> Observe plants and animals on the school grounds and group them according to where they are found.</p> <p><b>0107.5.2</b> Create a chart of different habitats and match animals to specific locations.</p> <p><b>0107.5.3</b> Sort pictures or illustrations of animals into groups that are extinct and those that still exist and offer possible explanations for extinction.</p>	<p><b>6. Picture This</b> (p.34)  <b>8. The Forest of S.T. Shrew</b> (p.40)  <b>20. Environmental Exchange Box</b> (p.92)  <b>22. Trees as Habitats</b> (p.102)  <b>46. Schoolyard Safari</b> (p.197)  <b>47. Are Vacant Lots Vacant?</b> (p.200)  <b>49. Tropical Treehouse</b> (p.207)</p>

## Grade 1: Standard 6 - Omitted

## Grade 1 : Standard 7 – The Earth

Learning Expectations	Checks for Understanding	PLT Correlations
<p><b>GLE 0107.7.1</b> Realize that water, rocks, soil, living organisms, and man-made objects make up the earth's surface.</p>	<p><b>0107.7.1</b> Create a diagram of the school grounds to identify where water, rocks, soil, living organisms, and man-made objects are found.</p>	<p><b>30. Three Cheers for Trees</b> (p.130)  <b>37. Reduce, Reuse, Recycle</b> (p.159)  <b>46. Schoolyard Safari</b> (p.197)  <b>47. Are Vacant Lots Vacant?</b> (p.200)  <b>48. Field, Forest and Stream</b> (p.203)  <b>54. I'd Like To Visit a Place Where ...</b> (p.236)</p>
<p><b>GLE 0107.7.2</b> Classify earth materials according to their physical properties.</p>	<p><b>0107.7.2</b> Sample areas of the school grounds to identify where different materials are found.</p> <p><b>0107.7.3</b> Use bagged samples of earth materials or pictures from different areas to classify materials according to their use.</p>	<p><b>1. The Shape of Things</b> (p.17)  <b>2. Get in Touch With Trees</b> (p.20)  <b>70. Soil Stories</b> (p.297)  <b>81. Living With Fire</b> (p.350)</p>

## Grade 1 : Standard 8 - The Atmosphere

Learning Expectations	Checks for Understanding	PLT Correlations
<p><b>GLE 0107.8.1</b> Gather and interpret daily weather data.</p>	<p><b>0107.8.1</b> Collect daily weather information to predict what conditions might occur on the following day.</p> <p><b>0107.8.2</b> Discuss what makes a weather prediction accurate or inaccurate.</p>	

## Grade 1 : Standard 9 - Matter

Learning Expectations	Checks for Understanding	PLT Correlations
<p><b>GLE 0107.9.1</b> Classify objects according to their physical properties.</p> <p><b>GLE 0107.9.2</b> Distinguish between the properties of solids and liquids.</p> <p><b>GLE 0107.9.3</b> Predict the changes that may occur when different materials are mixed.</p>	<p><b>0107.9.1</b> Classify solids according to their size, shape, color, texture, hardness, ability to change shape, magnetic attraction, whether they sink or float, and use.</p> <p><b>0107.9.2</b> Compare liquids according to their color, ability to flow, solubility in water, and use.</p> <p><b>0107.9.3</b> Investigate and describe the results of mixing different substances such as salt and pepper, water and sand, water and oil, and water and salt.</p>	<p><b>37. Reduce, Reuse, Recycle</b> (p.159)</p>

## Grade 1 : Standard 10 - Energy

Learning Expectations	Checks for Understanding	PLT Correlations
<p><b>GLE 0107.10.1</b> Investigate the effect of the sun on land, water, and air.</p>	<p><b>0107.10.1</b> Predict and determine what happens over the course of a school day when containers of sand, soil, and water with thermometers are placed in a sunny window.</p> <p><b>0107.10.2</b> Predict and determine what happens over the course of a school day when containers of sand, soil and water with thermometers are placed in a shady location.</p> <p><b>0107.10.3</b> Compare the temperature at different places around the school such as black top driveway, lawn, concrete areas, side of the building, under a shade tree, wet area, in the ground.</p>	<p><b>48. Field, Forest and Stream</b> (p.203)</p>

## Grade 1 : Standard 12 – Forces in Nature

Learning Expectations	Checks for Understanding	PLT Correlations
<p><b>GLE 0107.12.1</b> Investigate materials that are attracted to magnets.</p>	<p><b>0107.12.1</b> Identify and classify objects in the classroom as magnetic or non-magnetic.</p> <p><b>0107.12.2</b> Make predictions about how various objects will be affected by a magnet.</p>	<p><b>37. Reduce, Reuse, Recycle</b> (p.159)</p>

# PLT Correlations: SCIENCE GRADE 2

Revised 8/2009

## Grade 2 : Embedded Inquiry

Learning Expectations	PLT Correlations
<p><b>GLE 0207.Inq.1</b> Observe the world of familiar objects using the senses and tools.</p>	<p><b>4. Sounds Around</b> (p.26) - In Part A, students listen to and imitate sounds, comparing their loudness.</p> <p><b>15. A Few of My Favorite Things</b> (p.75) - Students identify the materials and energy used to make a favorite object. As <b>Enrichments</b>, they trace solid waste in their community, set up a Swap Shop, or use “trash” to create new products.</p> <p><b>20. Environmental Exchange Box</b> (p.92) - By exchanging boxes with classes in other regions, students compare the other regions to their own.</p> <p><b>21. Adopt a Tree</b> (p.97) - In Part A, students compare their “adopted tree” to other trees.</p> <p><b>22. Trees as Habitats</b> (p.102) - Students inventory the plants and animals that live in, on, and around trees and discover how plants and animals depend on trees in many ways.</p> <p><b>24. Nature's Recyclers</b> (p.108) - Students devise an experiment to investigate the eating habits of pill bugs or earthworms.</p> <p><b>25. Birds and Worms</b> (p.111) - Students pretend to be birds in search of colored worms or bugs. As an <b>Enrichment</b>, they compare results for different “backgrounds”.</p> <p><b>41. How Plants Grow</b> (p.179) - In the <b>Variation</b>, students grow, measure, and compare plants growing with versus without light, water, soil, or space.</p> <p><b>43. Have Seeds, Will Travel</b> (p.185) - Students observe, collect, and classify seeds according to their likely means of dispersal. In the <b>Enrichment</b>, they modify dried lima beans to allow various types of dispersal.</p> <p><b>46. Schoolyard Safari</b> (p.197) - Students go on a safari to explore a nearby habitat – the school yard – while looking for signs of animals living there.</p> <p><b>47. Are Vacant Lots Vacant?</b> (p.200) - Students stake out a “plot” and inventory the plant and animal life within the plot. In the <b>Variation</b>, students use hand lenses to closely observe plants and tiny animals along a 3-foot piece of string or within the area defined by a coat hanger stretched into a circle.</p> <p><b>48. Field, Forest and Stream</b> (p.203) - Students work in teams to investigate and record observations of both living and non-living components of three different study sites. In the <b>Variation</b>, students work in pairs to place “most” and “least” markers within a designated study site to locate extremes of light, moisture, temperature, wind, plant life, and animal life.</p> <p><b>51. Make Your Own Paper</b> (p.224) - As an <b>Enrichment</b>, students investigate how different materials affect the characteristics of the paper created.</p>

	<p><b>54. I'd Like To Visit a Place Where ...</b> (p.236) - By working on a service learning project to improve a local park, students will also learn about the community's system for managing open spaces.</p> <p><b>61. The Closer You Look</b> (p.263) - Students carefully examine tree features and parts.</p> <p><b>64. Looking at Leaves</b> (p.273) - Students explore leaf attributes such as color, shape, size, and bilateral symmetry through careful observation and various "leaf art" activities.</p> <p><b>65. Bursting Buds</b> (p.277) - Students observe tree buds throughout the year.</p> <p><b>67. How Big Is Your Tree?</b> (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><b>68. Name That Tree</b> (p.288) - Students learn more about trees through examining various identifying features.</p> <p><b>70. Soil Stories</b> (p.297) - In Part A, students use a "Soil Shake" test to separate the components of soil by their particle size. In Part B, students use a "Percolation Test" to test how well soils in different outdoor locations drain water.</p> <p><b>74. People, Places, Things</b> (p. 318) - As an <b>Enrichment</b>, students map their neighborhood.</p> <p><b>77. Trees In Trouble</b> (p.332) - Students examine trees for signs of damage or poor health and conduct experiments to determine the conditions the effects of crowding, acid, and fertilizer on seedling height and radish diameter.</p> <p><b>78. Signs of Fall</b> (p.299) - In Part A, students observe and record "signs of fall" in a wooded area. In Part B, they use a "paper chromatography" process to separate the pigments in leaves.</p> <p><b>95. Did You Notice?</b> (p.414) - Students study changes in their local environment over short and long periods to identify patterns of change.</p>	
<p><b>GLE 0207.Inq.2</b> Ask questions, make logical predictions, plan investigations, and represent data.</p> <p><b>GLE 0207.Inq.3</b> Explain the data from an investigation.</p>	<p><b>37. Reduce, Reuse, Recycle</b> (p.159) – Students plan and conduct a service learning project, and in doing so find ways to cut down on the waste they produce and improve how waste is managed in their community.</p>	

<b>Grade 2 : Embedded Technology &amp; Engineering</b>		
<b>Learning Expectations</b>	<b>Checks for Understanding</b>	<b>PLT Correlations</b>
<p><b>GLE 0207.T/E.1</b> Recognize that both natural materials and human-made tools have specific characteristics that determine their uses.</p>	<p><b>0207.T/E.1</b> Explain how simple tools are used to extend the senses, make life easier, and solve everyday problems.</p>	

<p><b>GLE 0207.T/E.2</b> Apply engineering design and creative thinking to solve practical problems.</p>	<p><b>0207.T/E.2</b> Invent designs for simple products.</p> <p><b>0207.T/E.3</b> Use tools to measure materials and construct simple products.</p>	
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<b>Grade 2 : Standard 1 - Cells</b>		
<b>Learning Expectations</b>	<b>Checks for Understanding</b>	<b>PLT Correlations</b>
<p><b>GLE 0207.1.1</b> Recognize that plants and animals are made up of smaller parts and use food, water, and air to survive.</p>	<p><b>0207.1.1</b> Design a new living thing and explain how it would acquire food, water, and air.</p>	<p><b>27. Every Tree For Itself</b> (p.117)  <b>41. How Plants Grow</b> (p. 179)  <b>61. The Closer You Look</b> (p. 263)  <b>62. To Be a Tree</b> (p. 265)  <b>63. Tree Factory</b> (p. 269)  <b>64. Looking at Leaves</b> (p.273)  <b>68. Name That Tree</b> (p.288)  <b>76. Tree Cookies</b> (p.327)</p>

<b>Grade 2 : Standard 2 - Interdependence</b>		
<b>Learning Expectations</b>	<b>Checks for Understanding</b>	<b>PLT Correlations</b>
<p><b>GLE 0207.2.1</b> Investigate the habitats of different kinds of local plants and animals.</p>	<p><b>0207.2.2</b> Investigate ways that plants and animals depend on each other.</p>	<p><b>6. Picture This</b> (p.34)  <b>8. The Forest of S.T. Shrew</b> (p.40)  <b>20. Environmental Exchange Box</b> (p.92)  <b>22. Trees as Habitats</b> (p.102)  <b>46. Schoolyard Safari</b> (p.197)  <b>47. Are Vacant Lots Vacant?</b> (p.200)  <b>48. Field, Forest and Stream</b> (p.203)  <b>49. Tropical Treehouse</b> (p.207)</p>

<b>GLE 0207.2.2</b> Investigate living things found in different places.	<b>0207.2.1</b> Draw or use pictures of a local environment to label the plants and animals.	<b>21. Adopt a Tree</b> (p.97) <b>46. Schoolyard Safari</b> (p.197) <b>47. Are Vacant Lots Vacant?</b> (p.200) <b>67. How Big Is Your Tree?</b> (p. 284)
<b>GLE 0207.2.3</b> Identify basic ways that plants and animals depend on each other.	<b>0207.2.3</b> Construct a flow chart that demonstrates how plants, animals, and the environment interact to provide basic life requirements.	<b>25. Birds and Worms</b> (p.111) <b>30. Three Cheers for Trees</b> (p.130) <b>31. Plant a Tree</b> (p.132) <b>55. Planning the Ideal Community</b> (p.239) <b>74. People, Places, Things</b> (p. 318) <b>77. Trees In Trouble</b> (p. 332)

## Grade 2 : Standard 3 - Flow of Matter and Energy

<b>Learning Expectations</b>	<b>Checks for Understanding</b>	<b>PLT Correlations</b>
<b>GLE 0207.3.1</b> Recognize that animals eat plants or other animals for food.	<b>0207.3.1</b> Describe the habitat of a particular organism based on its food, water, and air requirements.  <b>0207.3.2</b> Design a model of a habitat for an organism in which all of its needs would be met.	<b>16. Pass The Plants, Please</b> (p.77) <b>24. Nature's Recyclers</b> (p.108) <b>39. Energy Sleuths</b> (p.167)

## Grade 2 : Standard 4 - Heredity

<b>Learning Expectations</b>	<b>Checks for Understanding</b>	<b>PLT Correlations</b>
<b>GLE 0207.4.1</b> Compare the life cycles of various organisms.  <b>GLE 0207.4.2</b> Realize that parents pass along physical characteristics to their offspring.	<b>0207.4.1</b> Compare and contrast the life cycles of different organisms such as a chicken, butterfly, meal worm, frog, or human.  <b>0207.4.2</b> Sequence a collection of pictures or illustrations into the correct stages of an organism's life cycle.	<b>43. Have Seeds, Will Travel</b> (p.185) <b>79. Tree Lifecycle</b> (p.341) <b>95. Did You Notice?</b> (p.414)

	<p><b>0207.4.3</b> Look for similarities in pictures of members from the same human family.</p> <p><b>0207.4.4</b> Create a graphic organizer that compares observable traits that offspring share with their parents.</p>	
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## Grade 2 : Standard 5 - Biodiversity and Change

Learning Expectations	Checks for Understanding	PLT Correlations
<p><b>GLE 0207.5.1</b> Investigate the relationship between an animal’s characteristics and the features of the environment where it lives.</p> <p><b>GLE 0207.5.2</b> Draw conclusions from fossils about organisms that lived in the past.</p>	<p><b>0207.5.1</b> Compare and contrast the characteristics of organisms from two different environments.</p> <p><b>0207.5.2</b> Infer the characteristics needed by an organism to survive in a particular environment.</p> <p><b>0207.5.3</b> Observe fossils or pictures of fossils and make inferences about the organisms from which they originated.</p> <p><b>0207.5.4</b> Compare pictures of fossils with animals or plants that are living today.</p>	<p><b>6. Picture This</b> (p.34)  <b>8. The Forest of S.T. Shrew</b> (p.40)  <b>18. Tale of The Sun</b> (p.86)  <b>20. Environmental Exchange Box</b> (p.92)  <b>22. Trees as Habitats</b> (p.102)  <b>48. Field, Forest and Stream</b> (p.203)</p>

## Grade 2: Standard 6 - Omitted

## Grade 2 : Standard 7 – The Earth

Learning Expectations	Checks for Understanding	PLT Correlations
<p><b>GLE 0207.7.1</b> Compare and record the components of a variety of soil types.</p>	<p><b>0207.7.1</b> Sort, analyze, and compare a variety of soil types.</p>	<p><b>70. Soil Stories</b> (p. 297)</p>

<b>GLE 0207.7.2</b> Describe rocks according to their origin, size, shape, texture, and color.	<b>0207.7.2</b> Observe rocks of different sizes with a hand lens and describe these materials according to their basic features.	
<b>GLE 0207.7.3</b> Differentiate between renewable and non-renewable resources.	<b>0207.7.3</b> Identify and categorize items in the classroom made from renewable or nonrenewable resources.  <b>0207.7.4</b> Identify simple methods for reusing the earth's resources.	<b>13. We All Need Trees</b> (p.65) <b>14. Renewable Or Not?</b> (p.69) <b>15. A Few of My Favorite Things</b> (p.75) <b>32. A Forest of Many Uses</b> (p.135) <b>36. Pollution Search</b> (p.153) <b>37. Reduce, Reuse, Recycle</b> (p.159) <b>39. Energy Sleuths</b> (p.167) <b>51. Make Your Own Paper</b> (p.224) <b>54. I'd Like To Visit a Place Where ...</b> (p.236) <b>89. Trees For Many Reasons</b> (p.387)

## Grade 2 : Standard 8 - The Atmosphere

<b>Learning Expectations</b>	<b>Checks for Understanding</b>	<b>PLT Correlations</b>
<b>GLE 0207.8.1</b> Associate temperature patterns with seasonal changes.	<b>0207.8.1</b> Use records and graphs of seasonal temperature changes to draw conclusions about the weather during different times of the year.	<b>65. Bursting Buds</b> (p.277) <b>78. Signs of Fall</b> (p.299)

## Grade 2 : Standard 9 - Matter

<b>Learning Expectations</b>	<b>Checks for Understanding</b>	<b>PLT Correlations</b>
<b>GLE 0207.9.1</b> Use tools to observe the physical properties of objects.  <b>GLE 0207.9.2</b> Investigate how temperature	<b>0207.9.1</b> Use tools such as hand lenses, measurement devices, and simple arm balances to gather data about the physical properties of different objects.	

changes affect the state of matter.	<p><b>0207.9.2</b> Describe what happens when ice changes from a solid to a liquid.</p> <p><b>0207.9.3</b> Describe what happens when water is heated to the point of evaporation.</p>	
<b>GLE 0207.9.3</b> Recognize that air takes up space.	<b>0207.9.4</b> Explain what happens when a balloon is blown up and pops.	<b>37. Reduce, Reuse, Recycle</b> (p.159)

## Grade 2 : Standard 10 - Energy

Learning Expectations	Checks for Understanding	PLT Correlations
<p><b>GLE 0207.10.1</b> Explain why the sun is the primary source of the earth's energy.</p>	<p><b>0207.10.1</b> Identify and explain how the sun affects objects on the surface of the earth.</p> <p><b>0207.10.2</b> Investigate how the sun affects various objects and materials.</p>	

## Grade 2 : Standard 11 - Motion

Learning Expectations	Checks for Understanding	PLT Correlations
<p><b>GLE 0207.11.1</b> Investigate how vibrating objects produce sound.</p> <p><b>GLE 0207.11.2</b> Classify sounds according to their loudness and pitch.</p>	<p><b>0207.11.1</b> Use a variety of objects that vibrate to demonstrate how sounds are produced.</p> <p><b>0207.11.2</b> Describe the sounds produced by different types of vibrating objects.</p>	<b>4. Sounds Around</b> (p.26)

## PLT Correlations: SCIENCE GRADE 3 (revised 12/09)

### Grade 3 : Embedded Inquiry

<b>Learning Expectations</b>	<b>PLT Correlations</b>
<p><b>GLE 0307.Inq.1</b> Explore different scientific phenomena by asking questions, making logical predictions, planning investigations, and recording data.</p>	<p><b>1. The Shape of Things</b> (p.17) - In Part B, students take a walk and look for their assigned shapes.</p> <p><b>3. Peppermint Beetle</b> (p.23) - Students experience scent-marking and consider its benefit to animals.</p> <p><b>9. Planet Diversity</b> (p.45) - Students describe, in minute detail, all the life they find in a small plot of land.</p> <p><b>15. A Few of My Favorite Things</b> (p.75) - Students identify the materials and energy used to make a favorite object. As <b>Enrichments</b>, they trace solid waste in their community, set up a Swap Shop, or use “trash” to create new products.</p> <p><b>20. Environmental Exchange Box</b> (p.92) - By exchanging boxes with classes in other regions, students compare the other regions to their own.</p> <p><b>22. Trees as Habitats</b> (p.102) - Students inventory the plants and animals that live in, on, and around trees and discover how plants and animals depend on trees in many ways.</p> <p><b>23. The Fallen Log</b> (p.105) - Students inventory the living things in and on rotting logs.</p> <p><b>24. Nature's Recyclers</b> (p.108) - Students devise an experiment to investigate the eating habits of pill bugs or earthworms.</p> <p><b>25. Birds and Worms</b> (p.111) - Students pretend to be birds in search of colored worms or bugs. As an Enrichment, they compare results for different “backgrounds”.</p> <p><b>27. Every Tree For Itself</b> (p.117) - Students record and compare results of a simulation for rounds conducted according to different scenarios.</p> <p><b>37. Reduce, Reuse, Recycle</b> (p.159) – Students plan and conduct a service learning project, and in doing so find ways to cut down on the waste they produce and improve how waste is managed in their community.</p> <p><b>46. Schoolyard Safari</b> (p.197) - Students go on a safari to explore a nearby habitat – the school yard – while looking for signs of animals living there.</p> <p><b>47. Are Vacant Lots Vacant?</b> (p.200) - Students stake out a “plot” and inventory the plant and animal life within the plot. In the <b>Variation</b>, students use hand lenses to closely observe plants and tiny animals along a 3-foot piece of string or within the area defined by a coat hanger stretched into a circle.</p> <p><b>48. Field, Forest and Stream</b> (p.203) - Students work in teams to investigate and record observations of both living and non-living components of three different study sites. In the <b>Variation</b>, students work in pairs to place “most” and “least” markers within a designated study site to locate extremes of light, moisture, temperature, wind, plant life, and animal life.</p>

	<p><b>51. Make Your Own Paper</b> (p.224) - As an <b>Enrichment</b>, students investigate how different materials affect the characteristics of the paper created.</p> <p><b>55. Planning the Ideal Community</b> (p.239) - Students survey the area around their school to look for the components of the human community in which they live.</p> <p><b>61. The Closer You Look</b> (p.263) - Students carefully examine tree features and parts.</p> <p><b>64. Looking at Leaves</b> (p.273) - Students explore leaf attributes such as color, shape, size, and bilateral symmetry through careful observation and various “leaf art” activities.</p> <p><b>65. Bursting Buds</b> (p.277) - Students observe tree buds throughout the year.</p> <p><b>67. How Big Is Your Tree?</b> (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><b>70. Soil Stories</b> (p.297) - In Part A, students use a “Soil Shake” test to separate the components of soil by their particle size. In Part B, students use a “Percolation Test” to test how well soils in different outdoor locations drain water.</p> <p><b>73. Waste Watchers</b> (p.314) - Students conduct an <b>Energy Audit</b> of the energy they use in their own homes and create an action plan to reduce energy use.</p> <p><b>76. Tree Cookies</b> (p.327) - Students examine a “tree cookie” to estimate its age when it was cut and to interpret the “clues” rings give as to environmental events the tree experienced.</p> <p><b>77. Trees In Trouble</b> (p.332) - Students examine trees for signs of damage or poor health and conduct experiments to determine the conditions the effects of crowding, acid, and fertilizer on seedling height and radish diameter.</p> <p><b>78. Signs of Fall</b> (p.299) - In Part A, students observe and record “signs of fall” in a wooded area. In Part B, they use a “paper chromatography” process to separate the pigments in leaves.</p> <p><b>96. Improve Your Place</b> (p.418) - Students plan and carry out a service learning project that focuses on making positive environmental changes in their community.</p>	
<p><b>GLE 0307.Inq.2</b> Select and use appropriate tools and simple equipment to conduct an investigation.</p> <p><b>GLE 0307.Inq.3</b> Organize data into appropriate tables, graphs, drawings, or diagrams.</p> <p><b>GLE 0307.Inq.4</b> Identify and interpret simple patterns of evidence to communicate the findings of multiple investigations.</p> <p><b>GLE 0307.Inq.5</b> Recognize that people may interpret the same results in different ways.</p> <p><b>GLE 0307.Inq.6</b> Compare the results of an investigation with what scientists already accept about this question.</p>		

## Grade 3 : Embedded Technology & Engineering

Learning Expectations	Checks for Understanding	PLT Correlations
<p><b>GLE 0307.T/E.1</b> Describe how tools, technology, and inventions help to answer questions and solve problems.</p> <p><b>GLE 0307.T/E.2</b> Recognize that new tools, technology, and inventions are always being developed.</p> <p><b>GLE 0307.T/E.3</b> Identify appropriate materials, tools, and machines that can extend or enhance the ability to solve a specified problem.</p> <p><b>GLE 0307.T/E.4</b> Recognize the connection between scientific advances, new knowledge, and the availability of new tools and technologies.</p>	<p><b>0307.T/E.1</b> Explain how different inventions and technologies impact people and other living organisms.</p> <p><b>0307.T/E.2</b> Design a tool or a process that addresses an identified problem caused by human activity.</p> <p><b>0307.T/E.3</b> Determine criteria to evaluate the effectiveness of a solution to a specified problem.</p> <p><b>0307.T/E.4</b> Evaluate an invention that solves a problem and determine ways to improve the design.</p>	
<p><b>GLE 0307.T/E.5</b> Apply a creative design strategy to solve a particular problem generated by societal needs and wants.</p>		<p><b>37. Reduce, Reuse, Recycle</b> (p.159) – Students plan and conduct a service learning project, and in doing so find ways to cut down on the waste they produce and improve how waste is managed in their community.</p>

## Grade 3 : Standard 1 - Cells

Learning Expectations	Checks for Understanding	PLT Correlations
<p><b>GLE 0307.1.1</b> Use magnifiers to make observations of specific plant and body parts and describe their functions.</p>	<p><b>0307.1.1</b> Use a magnifier to investigate and describe the function of root hairs, stem cross sections, and leaf veins.</p> <p><b>0307.1.2</b> Use a magnifier to investigate and describe the function of skin pores, hair follicles, finger nails, veins, and cuticles, etc.</p>	<p><b>64. Looking at Leaves</b> (p.273)</p>

## Grade 3 : Standard 2 - Interdependence

Learning Expectations	Checks for Understanding	PLT Correlations
<b>GLE 0307.2.1</b> Categorize things as living or non-living.	<b>0307.2.1</b> Use a T-Chart to compare and contrast the characteristics of living and nonliving things.	<b>5. Poet-Tree (p.31)</b> <b>23. The Fallen Log (p.105)</b> <b>24. Nature's Recyclers (p.108)</b>
<b>GLE 0307.2.2</b> Explain how organisms with similar needs compete with one another for resources.	<b>0307.2.2</b> Label a drawing of an environment to illustrate interrelationships among plants and animals.  <b>0307.2.3</b> Construct a diagram to demonstrate how plants, animals, and the environment interact to provide basic life requirements.	<b>23. The Fallen Log (p.105)</b> <b>27. Every Tree For Itself (p.117)</b> <b>46. Schoolyard Safari (p.197)</b> <b>55. Planning the Ideal Community (p.239)</b> <b>77. Trees In Trouble (p.332)</b> <b>79. Tree Lifecycle(p.341)</b>

## Grade 3 : Standard 3 - Flow of Matter and Energy

Learning Expectations	Checks for Understanding	PLT Correlations
<b>GLE 0307.3.1</b> Describe how animals use food to obtain energy and materials for growth and repair.	<b>0307.3.1</b> Label a diagram to illustrate the food relationships that exist between plant and animals.  <b>0307.3.2</b> Create a chart to show how plants and animals satisfy their energy requirements.  <b>0307.3.3</b> Identify structures used by different plants and animals to meet their basic energy requirements.  <b>0307.3.4</b> Use a piece of text to obtain basic information about how plants and animals obtain food.	<b>23. The Fallen Log (p.105)</b> <b>24. Nature's Recyclers (p.108)</b> <b>25. Birds and Worms (p.111)</b> <b>45. Web of Life (p.194)</b>

## Grade 3 : Standard 4 - Heredity

Learning Expectations	Checks for Understanding	PLT Correlations
<p><b>GLE 0307.4.1</b> Identify the different life stages through which plants and animals pass.</p> <p><b>GLE 0307.4.2</b> Recognize common human characteristics that are transmitted from parents to offspring.</p>	<p><b>0307.4.1</b> Sequence diagrams that illustrate various stages in the development of an organism.</p> <p><b>0307.4.2</b> Create a timeline to depict the changes that occur during an organism’s life cycle.</p> <p><b>0307.4.3</b> Differentiate among the stages in the life cycle of a butterfly, mealworm, frog, and plant.</p> <p><b>0307.4.4</b> Draw conclusions about the similarities and differences between parents and their offspring</p> <p><b>0307.4.5</b> Make a list of human characteristics that are transmitted from parents to their offspring.</p>	<p><b>67. How Big Is Your Tree?</b> (p.284)</p> <p><b>76. Tree Cookies</b> (p.327)</p> <p><b>79. Tree Lifecycle</b>(p.341)</p>

## Grade 3 : Standard 5 - Biodiversity and Change

Learning Expectations	Checks for Understanding	PLT Correlations
<p><b>GLE 0307.5.1</b> Explore the relationship between an organism’s characteristics and its ability to survive in a particular environment.</p>	<p><b>0307.5.1</b> Create representations of animals that have characteristics necessary to survive in a particular environment.</p> <p><b>0307.5.2</b> Investigate the connection between an organism’s characteristics and its ability to survive in a specific environment.</p> <p><b>0307.5.3</b> Describe how environmental factors change over place and time.</p> <p><b>0307.5.4</b> Determine how changes in an environmental variable can affect plants and animals of an area.</p> <p><b>0307.5.5</b> Construct a diorama that shows plants and animals in an appropriate environment.</p>	<p><b>3. Peppermint Beetle</b> (p.23)  <b>4. Sounds Around</b> (p.26)  <b>6. Picture This</b> (p.34)  <b>18. Tale of The Sun</b> (p.86)  <b>20. Environmental Exchange Box</b> (p.92)  <b>22. Trees as Habitats</b> (p.102)  <b>47. Are Vacant Lots Vacant?</b> (p.200)  <b>48. Field, Forest and Stream</b> (p.203)  <b>61. The Closer You Look</b> (p.263)  <b>64. Looking at Leaves</b> (p.273)  <b>65. Bursting Buds</b>(p.277)  <b>78. Signs of Fall</b> (p.299)  <b>80. Nothing Succeeds Like Succession</b> (p.345)</p>
<p><b>GLE 0307.5.2</b> Classify organisms as thriving, threatened, endangered, or extinct.</p>	<p><b>0307.5.6</b> Identify evidence used to determine the previous existence of an organism.</p> <p><b>0307.5.7</b> Use a data chart or informational text to classify organisms as thriving, threatened, endangered, or extinct.</p>	<p><b>7. Habitat Pen Pals</b> (p.37)  <b>8. The Forest of S.T. Shrew</b> (p.40)  <b>9. Planet Diversity</b> (p.45)  <b>10. Charting Diversity</b> (p.50)  <b>12. Invasive Species</b> (p.59)  <b>22. Trees as Habitats</b> (p.102)  <b>49. Tropical Treehouse</b> (p.207)  <b>88. Life On The Edge</b> (p.382)</p>

## Standard 6 Omitted

## Grade 3 : Standard 7 – The Earth

Learning Expectations	Checks for Understanding	PLT Correlations
<p><b>GLE 0307.7.1</b> Use information and illustrations to identify the earth’s major landforms and water bodies.</p> <p><b>GLE 0307.7.2</b> Recognize that rocks can be composed of one or more minerals.</p>	<p><b>0307.7.1</b> Use a Venn diagram to compare and contrast two different landforms or bodies of water.</p> <p><b>0307.7.2</b> Analyze the physical characteristics of different kinds of rocks.</p>	
<p><b>GLE 0307.7.3</b> Distinguish between natural and manmade objects.</p>	<p><b>0307.7.3</b> Use a magnifier to observe, describe, and compare materials to determine if they are natural or manmade.</p> <p><b>0307.7.4</b> Design and evaluate a method for reusing or recycling classroom materials.</p>	<p><b>1. The Shape of Things</b> (p.17)  <b>13. We All Need Trees</b> (p.65)</p>
<p><b>GLE 0307.7.4</b> Design a simple investigation to demonstrate how earth materials can be conserved or recycled.</p>	<p><b>0307.7.5</b> Create a web that demonstrates the link between basic human needs and the earth’s resources.</p>	<p><b>15. A Few of My Favorite Things</b> (p.75)  <b>31. Plant a Tree</b> (p.132)  <b>32. A Forest of Many Uses</b> (p.135)  <b>34. Who Works in This Forest?</b> (p.144)  <b>37. Reduce, Reuse, Recycle</b> (p.159)  <b>51. Make Your Own Paper</b> (p.224)  <b>69. Forest For The Trees</b> (p.291)  <b>73. Waste Watchers</b> (p.314)  <b>96. Improve Your Place</b> (p.418)</p>

## Grade 3 : Standard 8 - The Atmosphere

Learning Expectations	Checks for Understanding	PLT Correlations
<p><b>GLE 0307.8.1</b> Recognize that that there are a variety of atmospheric conditions that can be measured.</p>	<p><b>0307.8.1</b> Select appropriate tools used for collecting weather data that correspond to the atmospheric condition being measured.</p>	

<p><b>GLE 0307.8.2</b> Use tools such as the barometer, thermometer, anemometer, and rain gauge to measure atmospheric conditions.</p>		<p><b>48. Field, Forest and Stream</b> (p.203)</p>
<p><b>GLE 0307.8.3</b> Identify cloud types associated with particular atmospheric conditions.</p> <p><b>GLE 0307.8.4</b> Predict the weather based on cloud observations.</p>	<p><b>0307.8.2</b> Identify major cloud types and associate them with particular weather conditions.</p>	

### **Grade 3 : Standard 9 - Matter**

<b>Learning Expectations</b>	<b>Checks for Understanding</b>	<b>PLT Correlations</b>
<p><b>GLE 0307.9.1</b> Design a simple experiment to determine how the physical properties of matter can change over time and under different conditions.</p>	<p><b>0307.9.1</b> Use physical properties to compare and contrast substances.</p> <p><b>0307.9.3</b> Make predictions and conduct experiments about conditions needed to change the physical properties of particular substances.</p>	
<p><b>GLE 0307.9.2</b> Investigate different types of mixtures.</p>	<p><b>0307.9.2</b> Compare and contrast events that demonstrate evaporation, crystallization, and melting.</p> <p><b>0307.9.4</b> Classify combinations of materials according to whether they have retained or lost their individual properties.</p>	
<p><b>GLE 0307.9.3</b> Describe different methods to separate mixtures.</p>	<p><b>0307.9.5</b> Investigate different ways to separate mixtures such as filtration, evaporation, settling, or using a sieve.</p>	<p><b>70. Soil Stories</b> (p.297)</p>

## Grade 3 : Standard 10 - Energy

Learning Expectations	Checks for Understanding	PLT Correlations
<p><b>GLE 0307.10.1</b> Investigate phenomena that produce heat.</p> <p><b>GLE 0307.10.2</b> Design and conduct an experiment to investigate the ability of different materials to conduct heat.</p>	<p><b>0307.10.1</b> Associate the sun's energy with the melting of an ice cube placed in a window.</p> <p><b>0307.10.2</b> Investigate various materials to explore heat conduction.</p>	<p><b>81. Living With Fire</b> (p.350)</p>

## Grade 3 : Standard 11 - Motion

Learning Expectations	Checks for Understanding	PLT Correlations
<p><b>GLE 0307.11.1</b> Explore how the direction of a moving object is affected by unbalanced forces.</p> <p><b>GLE 0307.11.2</b> Recognize the relationship between the mass of an object and the force needed to move it.</p>	<p><b>0307.11.1</b> Plan an investigation to illustrate how changing the mass affects a balanced system.</p>	
<p><b>GLE 0307.11.3</b> Investigate how the pitch and volume of a sound can be changed.</p>	<p><b>0307.11.2</b> Use a variety of materials to produce sounds of different pitch and volume.</p> <p><b>0307.11.3</b> Classify a variety of taped sounds according to their pitch and volume.</p>	<p><b>4. Sounds Around</b> (p.26)</p>

## Grade 3 : Standard 12 – Forces in Nature

Learning Expectations	Checks for Understanding	PLT Correlations
<p><b>GLE 0307.12.1</b> Explore how magnets attract objects made of certain metals.</p>	<p><b>0307.12.1</b> Experiment with magnets to determine how distance affects magnetic attraction.</p> <p><b>0307.12.2</b> Determine that only certain types of objects are attracted to magnets.</p>	<p><b>37. Reduce, Reuse, Recycle</b> (p.159)</p>

# PLT Correlations: SCIENCE GRADE 4 (revised 12/09)

## Grade 4 : Embedded Inquiry

<b>Learning Expectations</b>	<b>PLT Correlations</b>
<p><b>GLE 0407.Inq.1</b> Explore different scientific phenomena by asking questions, making logical predictions, planning investigations, and recording data.</p>	<p><b>3. Peppermint Beetle</b> (p.23) - Students experience scent-marking and consider its benefit to animals.</p> <p><b>15. A Few of My Favorite Things</b> (p.75) - Students identify the materials and energy used to make a favorite object. As <b>Enrichments</b>, they trace solid waste in their community, set up a Swap Shop, or use “trash” to create new products.</p> <p><b>20. Environmental Exchange Box</b> (p.92) - By exchanging boxes with classes in other regions, students compare the other regions to their own.</p> <p><b>22. Trees as Habitats</b> (p.102) - Students inventory the plants and animals that live in, on, and around trees and discover how plants and animals depend on trees in many ways.</p> <p><b>23. The Fallen Log</b> (p.105) - Students inventory the living things in and on rotting logs.</p> <p><b>24. Nature's Recyclers</b> (p.108) - Students devise an experiment to investigate the eating habits of pill bugs or earthworms.</p> <p><b>27. Every Tree For Itself</b> (p.117) - Students record and compare results of a simulation for rounds conducted according to different scenarios.</p> <p><b>37. Reduce, Reuse, Recycle</b> (p.159) - Students plan and conduct a service learning project, and in doing so find ways to cut down on the waste they produce and improve how waste is managed in their community.</p> <p><b>38. Every Drop Counts</b> (p.163) - Students monitor their water use and create an <b>Action Plan</b> to conserve water in their school.</p> <p><b>39. Energy Sleuths</b> (p.167) - In Part C, students track their energy activities for one day.</p> <p><b>41. How Plants Grow</b> (p.179) - In the Variation, students grow, measure, and compare plants growing with versus without light, water, soil, or space.</p> <p><b>43. Have Seeds, Will Travel</b> (p.185) - Students observe, collect, and classify seeds according to their likely means of dispersal. In the <b>Enrichment</b>, they modify dried lima beans to allow various types of dispersal.</p> <p><b>44. Water Wonders</b> (p.188) - Students create “stream tables” to explore runoff under different conditions. As a <b>Enrichment</b>, they create terrariums in which they can observe the functioning of the water cycle.</p> <p><b>46. Schoolyard Safari</b> (p.197) - Students go on a safari to explore a nearby habitat – the school yard – while looking for signs of animals living there.</p>

	<p><b>47. Are Vacant Lots Vacant?</b> (p.200) - Students stake out a “plot” and inventory the plant and animal life within the plot. In the <b>Variation</b>, students use hand lenses to closely observe plants and tiny animals along a 3-foot piece of string or within the area defined by a coat hanger stretched into a circle.</p> <p><b>48. Field, Forest and Stream</b> (p.203) - Students work in teams to investigate and record observations of both living and non-living components of three different study sites. In the <b>Variation</b>, students work in pairs to place “most” and “least” markers within a designated study site to locate extremes of light, moisture, temperature, wind, plant life, and animal life.</p> <p><b>52. A Look at Aluminum</b> (p.228) - Students plan and participate in a service learning project to encourage aluminum recycling in their community.</p> <p><b>61. The Closer You Look</b> (p.263) - Students carefully examine tree features and parts.</p> <p><b>64. Looking at Leaves</b> (p.273) - Students explore leaf attributes such as color, shape, size, and bilateral symmetry through careful observation and various “leaf art” activities.</p> <p><b>65. Bursting Buds</b> (p.277) - Students observe tree buds throughout the year.</p> <p><b>66. Germinating Giants</b> (p.279) - Students compare their local trees to the world’s tallest tree, the coast redwood, and to the tree with the largest seeds, the coconut palm.</p> <p><b>67. How Big Is Your Tree?</b> (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><b>70. Soil Stories</b> (p.297) - In Part A, students use a “Soil Shake” test to separate the components of soil by their particle size. In Part B, students use a “Percolation Test” to test how well soils in different outdoor locations drain water.</p> <p><b>74. People, Places, Things</b> (p.318) - As an <b>Enrichment</b>, students map their neighborhood.</p> <p><b>76. Tree Cookies</b> (p.327) - Students examine a “tree cookie” to estimate its age when it was cut and to interpret the “clues” rings give as to environmental events the tree experienced.</p> <p><b>78. Signs of Fall</b> (p.299) - In Part A, students observe and record “signs of fall” in a wooded area. In Part B, they use a “paper chromatography” process to separate the pigments in leaves.</p> <p><b>83. A Peek at Packaging</b> (p.360) - Students examine the pros and cons of different packaging strategies.</p> <p><b>85. In the Driver’s Seat</b> (p.370) - Students keep a log of their family’s transportation for a week, learn how petroleum is refined.</p> <p><b>95. Did You Notice?</b> (p.414) - Students study changes in their local environment over short and long periods to identify patterns of change.</p> <p><b>96. Improve Your Place</b> (p.418) - Students plan and carry out a service learning project that focuses on making positive environmental changes in their community.</p>
<p><b>GLE 0407.Inq.2</b> Select and use appropriate tools and simple equipment to conduct an investigation.</p>	

<p><b>GLE 0407.Inq.3</b> Organize data into appropriate tables, graphs, drawings, or diagrams.</p> <p><b>GLE 0407.Inq.4</b> Identify and interpret simple patterns of evidence to communicate the findings of multiple investigations.</p> <p><b>GLE 0407.Inq.5</b> Recognize that people may interpret the same results in different ways.</p> <p><b>GLE 0407.Inq.6</b> Compare the results of an investigation with what scientists already accept about this question.</p>	
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<b>Grade 4 : Embedded Technology &amp; Engineering</b>		
<b>Learning Expectations</b>	<b>Checks for Understanding</b>	<b>PLT Correlations</b>
<p><b>GLE 0407.T/E.1</b> Describe how tools, technology, and inventions help to answer questions and solve problems.</p> <p><b>GLE 0407.T/E.2</b> Recognize that new tools, technology, and inventions are always being developed.</p> <p><b>GLE 0407.T/E.3</b> Identify appropriate materials, tools, and machines that can extend or enhance the ability to solve a specified problem.</p> <p><b>GLE 0407.T/E.4</b> Recognize the connection between scientific advances, new knowledge, and the availability of new tools and technologies.</p>	<p><b>0407.T/E.1</b> Explain how different inventions and technologies impact people and other living organisms.</p> <p><b>0407.T/E.2</b> Design a tool or a process that addresses an identified problem caused by human activity.</p> <p><b>0407.T/E.4</b> Evaluate an invention that solves a problem and determine ways to improve the design.</p>	<p><b>83. A Peek at Packaging</b> (p.360) – Students examine the pros and cons of different packaging strategies.</p>

<p><b>GLE 0407.T/E.5</b> Apply a creative design strategy to solve a particular problem generated by societal needs and wants.</p>	<p><b>0407.T/E.3</b> Determine criteria to evaluate the effectiveness of a solution to a specified problem.</p>	<p><b>37. Reduce, Reuse, Recycle</b> (p.159) – Students plan and conduct a service learning project, and in doing so find ways to cut down on the waste they produce and improve how waste is managed in their community.</p>
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## Grade 4 : Standard 1 - Cells

Learning Expectations	Checks for Understanding	PLT Correlations
<p><b>GLE 0407.1.1</b> Recognize that cells are the building blocks of all living things.</p>	<p><b>0407.1.1</b> Use illustrations or direct observations to compare and contrast the basic structures of plant and animal cells.</p> <p><b>0407.1.2</b> Create a basic model of the cell that illustrates different cell structures and describes their functions.</p>	

## Grade 4 : Standard 2 - Interdependence

Learning Expectations	Checks for Understanding	PLT Correlations
<p><b>GLE 0407.2.1</b> Analyze the effects of changes in the environment on the stability of an ecosystem.</p>	<p><b>0407.2.1</b> Analyze how an increase or decrease in competition or predation affects an ecosystem.</p> <p><b>0407.2.2</b> Design a simple experiment to illustrate the effects of competition, predation, and interdependency among living things.</p>	<p><b>12. Invasive Species</b> (p.59)  <b>23. The Fallen Log</b> (p.105)  <b>27. Every Tree For Itself</b> (p.117)  <b>76. Tree Cookies</b> (p.327)  <b>95. Did You Notice?</b> (p.414)  <b>96. Improve Your Place</b> (p.418)</p>

## Grade 4 : Standard 3 - Flow of Matter and Energy

Learning Expectations	Checks for Understanding	PLT Correlations
<p><b>GLE 0407.3.1</b> Demonstrate that plants require light energy to grow and survive.</p>	<p><b>0407.3.3</b> Identify how a variety of organisms meet their energy needs.</p>	<p><b>41. How Plants Grow</b> (p179)  <b>64. Looking at Leaves</b> (p.273)  <b>67. How Big Is Your Tree?</b> (p.284)  <b>76. Tree Cookies</b> (p.327) – Effects of shade</p>
<p><b>GLE 0407.3.2</b> Investigate different ways that organisms meet their energy needs.</p>	<p><b>0407.3.1</b> Create a food web that illustrates the energy relationships between plants and animals and the key issues or assumptions found in the model.</p> <p><b>0407.3.2</b> Classify organisms as carnivores, herbivores, or omnivores.</p>	<p><b>23. The Fallen Log</b> (p.105)  <b>24. Nature's Recyclers</b> (p.108)  <b>45. Web of Life</b> (p.194)  <b>46. Schoolyard Safari</b> (p.197)</p>

## Grade 4 : Standard 4 - Heredity

Learning Expectations	Checks for Understanding	PLT Correlations
<p><b>GLE 0407.4.1</b> Recognize the relationship between reproduction and the continuation of a species.</p> <p><b>GLE 0407.4.2</b> Differentiate between complete and incomplete metamorphosis.</p>	<p><b>0407.4.1</b> Design a simple demonstration that illustrates the relationship between reproduction and survival of a species.</p> <p><b>0407.4.2</b> Study the life cycles of a variety of organisms and determine whether these processes illustrate complete or incomplete metamorphosis.</p>	<p><b>31. Plant a Tree</b> (p.132)  <b>43. Have Seeds, Will Travel</b> (p.185)  <b>66. Germinating Giants</b> (p.279)</p>

## Grade 4 : Standard 5 - Biodiversity and Change

Learning Expectations	Checks for Understanding	PLT Correlations
<p><b>GLE 0407.5.1</b> Analyze physical and behavioral adaptations that enable organisms to survive in their environment.</p>	<p><b>0407.5.1</b> Classify animals according to their physical adaptations for obtaining food, oxygen, and surviving within a particular environment.</p> <p><b>0407.5.2</b> Describe how animal behaviors such as migration, defense, means of locomotion, and hibernation enable them to survive in an environment.</p> <p><b>0407.5.3</b> Investigate tropisms that plants exhibit in response to changes in their environment.</p>	<p><b>3. Peppermint Beetle</b> (p.23)  <b>5. Poet-Tree</b> (p.31)  <b>7. Habitat Pen Pals</b> (p.37)  <b>6. Picture This</b> (p.34)  <b>18. Tale of The Sun</b> (p.86)  <b>20. Environmental Exchange Box</b> (p.92)  <b>22. Trees as Habitats</b> (p.102)  <b>47. Are Vacant Lots Vacant?</b> (p.200)  <b>48. Field, Forest and Stream</b> (p.203)  <b>61. The Closer You Look</b> (p.263)  <b>65. Bursting Buds</b> (p.277)  <b>78. Signs of Fall</b> (p.299)  <b>80. Nothing Succeeds Like Succession</b> (p.345)</p>
<p><b>GLE 0407.5.2</b> Describe how environmental changes caused the extinction of various plant and animal species.</p>	<p><b>0407.5.4</b> Gather fossil information to draw conclusions about organisms that exist today.</p> <p><b>0407.5.5</b> Analyze the common causes of extinction and explain how human actions sometimes result in the extinction of a species.</p>	<p><b>12. Invasive Species</b> (p.59)  <b>89. Trees For Many Reasons</b> (p.387)</p>

## Standard 6 Omitted

## Grade 4 : Standard 7 – The Earth

Learning Expectations	Checks for Understanding	PLT Correlations
<p><b>GLE 0407.7.1</b> Investigate how the Earth's geological features change as a result of erosion (weathering and transportation) and deposition.</p>	<p><b>0407.7.1</b> Prepare a demonstration to illustrate how wind and water affect the earth's surface features.</p>	<p><b>70. Soil Stories</b> (p.297)  <b>95. Did You Notice?</b> (p.414)</p>

	<b>0407.7.2</b> Design an investigation to demonstrate how erosion and deposition change the earth's surface.	
<b>GLE 0407.7.2</b> Evaluate how some earth materials can be used to solve human problems and enhance the quality of life.	<p><b>0407.7.3</b> List factors that determine the appropriate use of an earth material.</p> <p><b>0407.7.4</b> Use data from a variety of informational texts to analyze and evaluate man's impact on non-renewable resources.</p>	<p><b>13. We All Need Trees</b> (p.65)  <b>14. Renewable Or Not?</b> (p.69)  <b>15. A Few of My Favorite Things</b> (p.75)  <b>37. Reduce, Reuse, Recycle</b> (p.159)  <b>39. Energy Sleuths</b> (p.167)  <b>52. A Look at Aluminum</b> (p.228)  <b>70. Soil Stories</b> (p.297)  <b>74. People, Places, Things</b> (p.318) - As an <b>Enrichment</b>, students map their neighborhood.  <b>75. Tipi Talk</b> (p.320)  <b>82. Resource- Go-Round</b> (p.355)  <b>83. A Peek at Packaging</b> (p.360)  <b>85. In the Driver's Seat</b> (p.370)  <b>90. The Native Way</b> (p.389)  <b>91. In The Good Old Days</b> (p.396)  <b>92. A Look At Lifestyles</b> (p.401)  <b>93. Paper Civilizations</b> (p.407)</p>

<b>Grade 4 : Standard 8 - The Atmosphere</b>		
<b>Learning Expectations</b>	<b>Checks for Understanding</b>	<b>PLT Correlations</b>
<b>GLE 0407.8.1</b> Recognize the major components of the water cycle.	<p><b>0407.8.1</b> Prepare a model that illustrates the basic features of the water cycle.</p> <p><b>0407.8.3</b> Use an illustration to predict and draw conclusions about how weather and climate affect the water cycle.</p>	<p><b>38. Every Drop Counts</b> (p.163)  <b>44. Water Wonders</b> (p.188)</p>
<b>GLE 0407.8.2</b> Differentiate between weather and climate.	<b>0407.8.2</b> Use long term weather data to distinguish between weather and climate.	<b>76. Tree Cookies</b> (p.327) – Effects of drought

## Grade 4 : Standard 9 - Matter

Learning Expectations	Checks for Understanding	PLT Correlations
<p><b>GLE 0407.9.1</b> Collect data to illustrate that the physical properties of matter can be described with tools that measure weight, mass, length, and volume.</p> <p><b>GLE 0407.9.2</b> Explore different types of physical changes in matter.</p>	<p><b>0407.9.1</b> Use appropriate tools to measure and compare the physical properties of various solids and liquids.</p> <p><b>0407.9.2</b> Compare the causes and effects of various physical changes in matter.</p>	

## Grade 4 : Standard 10 - Energy

Learning Expectations	Checks for Understanding	PLT Correlations
<p><b>GLE 0407.10.1</b> Distinguish among heat, radiant, and chemical forms of energy.</p> <p><b>GLE 0407.10.2</b> Investigate how light travels and is influenced by different types of materials and surfaces.</p>	<p><b>0407.10.1</b> Design an investigation to demonstrate how different forms of energy release heat or light.</p> <p><b>0407.10.2</b> Design an experiment to investigate how different surfaces determine if light is reflected, refracted, or absorbed.</p> <p><b>0407.10.3</b> Gather and organize information about a variety of materials to categorize them as translucent, transparent, or opaque.</p>	

# PLT Correlations: SCIENCE GRADE 5 (revised 12/09)

## Grade 5 : Embedded Inquiry

<b>Learning Expectations</b>	<b>PLT Correlations</b>
<p><b>GLE 0507.Inq.1</b> Explore different scientific phenomena by asking questions, making logical predictions, planning investigations, and recording data.</p>	<p><b>2. Get in Touch With Trees</b> (p.20) - Students compare different trees and tree parts using their sense of touch.</p> <p><b>16. Pass The Plants, Please</b> (p.77) - In Part A, students sort plant-derived foods into plant-part categories. In Part B, they create daily bar graphs for the plant-part items in their lunch.</p> <p><b>20. Environmental Exchange Box</b> (p.92) - By exchanging boxes with classes in other regions, students compare the other regions to their own.</p> <p><b>23. The Fallen Log</b> (p.105) - Students inventory the living things in and on rotting logs.</p> <p><b>24. Nature's Recyclers</b> (p.108) - Students devise an experiment to investigate the eating habits of pill bugs or earthworms.</p> <p><b>28. Air Plants</b> (p.120) - Students observe oxygen production in a submerged aquatic plant to infer the roles of light and carbon dioxide in photosynthesis.</p> <p><b>36. Pollution Search</b> (p.153) - In Part A, students look for and record evidences of pollution in and around the school.</p> <p><b>37. Reduce, Reuse, Recycle</b> (p.159) - Students plan and conduct a service learning project, and in doing so find ways to cut down on the waste they produce and improve how waste is managed in their community.</p> <p><b>41. How Plants Grow</b> (p.179) - In the Variation, students grow, measure, and compare plants growing with versus without light, water, soil, or space.</p> <p><b>42. Sunlight and Shades of Green</b> (p.182) - Students test what happens when they block sunlight from the leaves of a tree or shrub, and then they will interpret their findings. As an <b>Enrichment</b>, they test leaves for the presence of starch.</p> <p><b>51. Make Your Own Paper</b> (p.224) - As an <b>Enrichment</b>, students investigate how different materials affect the characteristics of the paper created.</p> <p><b>54. I'd Like To Visit a Place Where ...</b> (p.236) - By working on a service learning project to improve a local park, students learn about the community's system for managing open spaces.</p> <p><b>61. The Closer You Look</b> (p.263) - Students carefully examine tree features and parts.</p> <p><b>64. Looking at Leaves</b> (p.273) - Students explore leaf attributes such as color, shape, size, and bilateral symmetry through careful observation and various "leaf art" activities.</p> <p><b>65. Bursting Buds</b> (p.277) - Students observe tree buds throughout the year.</p> <p><b>67. How Big Is Your Tree?</b> (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><b>68. Name That Tree</b> (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><b>73. Waste Watchers</b> (p.314) - Students conduct an <b>Energy Audit</b> of the energy they use in their own homes and create an action plan to reduce energy use.</p> <p><b>77. Trees In Trouble</b> (p.332) - Students examine trees for signs of damage or poor health and conduct experiments to determine the conditions the effects of crowding, acid, and fertilizer on seedling height and radish diameter.</p> <p><b>78. Signs of Fall</b> (p.299) - In Part A, students observe and record “signs of fall” in a wooded area. In Part B, they use a “paper chromatography” process to separate the pigments in leaves.</p> <p><b>96. Improve Your Place</b> (p.418) - Students plan and carry out a service learning project that focuses on making positive environmental changes in their community.</p>
<p><b>GLE 0507.Inq.2</b> Select and use appropriate tools and simple equipment to conduct an investigation.</p> <p><b>GLE 0507.Inq.3</b> Organize data into appropriate tables, graphs, drawings, or diagrams.</p> <p><b>GLE 0507.Inq.4</b> Identify and interpret simple patterns of evidence to communicate the findings of multiple investigations.</p> <p><b>GLE 0507.Inq.5</b> Recognize that people may interpret the same results in different ways.</p> <p><b>GLE 0507.Inq.6</b> Compare the results of an investigation with what scientists already accept about this question.</p>	

## Grade 5 : Embedded Technology & Engineering

Learning Expectations	Checks for Understanding	PLT Correlations
<p><b>GLE 0507.T/E.1</b> Describe how tools, technology, and inventions help to answer questions and solve problems.</p> <p><b>GLE 0507.T/E.2</b> Recognize that new tools, technology, and inventions are always being developed.</p> <p><b>GLE 0507.T/E.3</b> Identify appropriate materials, tools, and machines that can extend or enhance the ability to solve a specified problem.</p> <p><b>GLE 0507.T/E.4</b> Recognize the connection between scientific advances, new knowledge, and the availability of new tools and technologies.</p>	<p><b>0507.T/E.1</b> Explain how different inventions and technologies impact people and other living organisms.</p> <p><b>0507.T/E.2</b> Design a tool or a process that addresses an identified problem caused by human activity.</p> <p><b>0507.T/E.3</b> Determine criteria to evaluate the effectiveness of a solution to a specified problem.</p> <p><b>0507.T/E.4</b> Evaluate an invention that solves a problem and determine ways to improve the design.</p>	

## Grade 5 : Standard 1 - Cells

Learning Expectations	Checks for Understanding	PLT Correlations
<p><b>GLE 0507.1.1</b> Distinguish between the basic structures and functions of plant and animal cells.</p>	<p><b>0507.1.1</b> Label drawings of plant and animal cells.</p> <p><b>0507.1.2</b> Compare and contrast the basic structures and functions of plant and animal cells.</p>	

## Grade 5 : Standard 2 - Interdependence

Learning Expectations	Checks for Understanding	PLT Correlations
<p><b>GLE 0507.2.1</b> Investigate different nutritional relationships among organisms in an ecosystem.</p>	<p><b>0507.2.1</b> Evaluate producer/consumer, predator/prey, and parasite/host relationships.</p>	<p><b>20. Environmental Exchange Box</b> (p.92) – Exchange info on nutritional relationships.  <b>24. Nature's Recyclers</b> (p.108)</p>
<p><b>GLE 0507.2.2</b> Explain how organisms interact through symbiotic, commensal, and parasitic relationships.</p>	<p><b>0507.2.2</b> Classify interspecific relationships within an ecosystem as mutualism, commensalism, or parasitism.</p> <p><b>0507.2.3</b> Create a simple model illustrating the interspecific relationships within an ecosystem.</p> <p><b>0507.2.4</b> Analyze basic information from a body of text to identify key issues or assumptions about the relationships among organisms in an ecosystem.</p>	<p><b>7. Habitat Pen Pals</b> (p.37)  <b>8. The Forest of S.T. Shrew</b> (p.40)  <b>11. Can It Be Real?</b> (p.54)  <b>23. The Fallen Log</b> (p.105)  <b>26. Dynamic Duos</b> (p.113)</p>
<p><b>GLE 0507.2.3</b> Establish the connections between human activities and natural disasters and their impact on the environment.</p>	<p><b>0507.2.5</b> Create a poster to illustrate how human activities and natural disasters affect the environment.</p>	<p><b>12. Invasive Species</b> (p.59)  <b>17. People of The Forest</b> (p.82)  <b>31. Plant a Tree</b> (p.132)  <b>36. Pollution Search</b> (p.153)  <b>37. Reduce, Reuse, Recycle</b> (p.159)  <b>40. Then and Now</b> (p.174)  <b>51. Make Your Own Paper</b> (p.224)  <b>54. I'd Like To Visit a Place Where ...</b> (p.236)  <b>56. We Can Work It Out</b> (p.241)  <b>57. Democracy In Action</b> (p.245)  <b>60. Publicize It!</b> (p.256)  <b>73. Waste Watchers</b> (p.314)  <b>81. Living With Fire</b> (p.350)  <b>86. Our Changing World</b> (p.375)  <b>88. Life On The Edge</b> (p.382)  <b>89. Trees For Many Reasons</b> (p.387)  <b>96. Improve Your Place</b> (p.418)</p>

## Grade 5 : Standard 3 - Flow of Matter and Energy

Learning Expectations	Checks for Understanding	PLT Correlations
GLE 0507.3.1 Demonstrate how all living things rely on the process of photosynthesis to obtain energy.	<p><b>0507.3.1</b> Identify the cell structures that enable plants to conduct photosynthesis.</p> <p><b>0507.3.2</b> Design a graphic organizer that illustrates the difference between plants and animals in the movement of food energy through an ecosystem.</p>	<p><b>16. Pass The Plants, Please</b> (p.77)</p> <p><b>28. Air Plants</b> (p.120)</p> <p><b>30. Three Cheers for Trees</b> (p.130)</p> <p><b>41. How Plants Grow</b> (p179)</p> <p><b>42. Sunlight and Shades of Green</b> (p.182)</p> <p><b>62. To Be a Tree</b> (p.265)</p> <p><b>63. Tree Factory</b> (p.269)</p>

## Grade 5 : Standard 4 - Heredity

Learning Expectations	Checks for Understanding	PLT Correlations
GLE 0507.4.1 Describe how genetic information is passed from parents to offspring during reproduction.	<b>0507.4.1</b> Explain how genetic information is transmitted from parents to offspring.	
GLE 0507.4.2 Recognize that some characteristics are inherited while others result from interactions with the environment.	<p><b>0507.4.2</b> Create a chart that compares hereditary and environmental traits.</p> <p><b>0507.4.3</b> Distinguish between a scar and a birthmark in terms of their origins.</p>	<p><b>67. How Big Is Your Tree?</b> (p.284)</p> <p><b>77. Trees In Trouble</b> (p.332)</p> <p><b>78. Signs of Fall</b> (p.299)</p>

## Grade 5 : Standard 5 - Biodiversity and Change

Learning Expectations	Checks for Understanding	PLT Correlations
GLE 0507.5.1 Investigate physical characteristics associated with different groups of animals.	<p><b>0507.5.1</b> Classify animals according to their physical characteristics.</p> <p><b>0507.5.2</b> Design a model to illustrate how an animal's physical characteristics enable it to survive in a particular environment.</p>	<p><b>2. Get in Touch With Trees</b> (p.20)</p> <p><b>5. Poet-Tree</b> (p.31)</p> <p><b>61. The Closer You Look</b> (p.263)</p> <p><b>64. Looking at Leaves</b> (p.273)</p> <p><b>65. Bursting Buds</b> (p.277)</p> <p><b>68. Name That Tree</b> (p.288)</p>

<p><b>GLE 0507.5.2</b> Analyze fossils to demonstrate the connection between organisms and environments that existed in the past and those that currently exist.</p>	<p><b>0507.5.3</b> Identify the processes associated with fossil formation.</p> <p><b>0507.5.4</b> Use fossil evidence to describe an environment from the past.</p> <p><b>0507.5.5</b> Use fossils to match a previously existing organism with one that exists today.</p>	
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## Standard 6 Omitted

### Grade 5 : Standard 7 – The Earth

<b>Learning Expectations</b>	<b>Checks for Understanding</b>	<b>PLT Correlations</b>
<p><b>GLE 0507.7.1</b> Compare geologic events responsible for the earth’s major geological features.</p>	<p><b>0507.7.1</b> Create a model to illustrate geologic events responsible for changes in the earth’s crust.</p> <p><b>0507.7.2</b> Prepare a chart to compare how volcanoes, earthquakes, faulting, and plate movements affect the earth’s surface features.</p>	

### Grade 5 : Standard 8 - The Atmosphere

<b>Learning Expectations</b>	<b>Checks for Understanding</b>	<b>PLT Correlations</b>
<p><b>GLE 0507.8.1</b> Analyze and predict how major landforms and bodies of water affect atmospheric conditions.</p>	<p><b>0507.8.1</b> Compare the climates of coastal and inland areas at similar latitudes to demonstrate the ocean’s impact on weather and climate.</p>	

	<p><b>0507.8.2</b> Use land maps to demonstrate how mountain ranges affect weather and climate.</p> <p><b>0507.8.3</b> Use weather maps of the United States to graph temperature and precipitation for inland and coastal regions.</p> <p><b>0507.8.4</b> Use local environmental information to analyze how weather and climate are affected by landforms and bodies of water.</p>	
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<b>Grade 5 : Standard 9 - Matter</b>		
<b>Learning Expectations</b>	<b>Checks for Understanding</b>	<b>PLT Correlations</b>
<p><b>GLE 0507.9.1</b> Observe and measure the simple chemical properties of common substances.</p>	<p><b>0507.9.1</b> Compare the simple chemical properties of common substances.</p>	
<p><b>GLE 0507.9.2</b> Design and conduct an experiment to demonstrate how various types of matter freeze, melt, or evaporate.</p>	<p><b>0507.9.2</b> Investigate how different types of materials freeze, melt, evaporate, or dissipate.</p>	
<p><b>GLE 0507.9.3</b> Investigate factors that affect the rate at which various materials freeze, melt, or evaporate.</p>	<p><b>0507.9.3</b> Use data from a simple investigation to determine how temperature change affects the rate of evaporation and condensation.</p>	

# PLT Correlations: SCIENCE GRADE 6 (revised 5/2010)

<b>Grade 6 : Embedded Inquiry</b>	
<b>Learning Expectations</b>	<b>Project PLT Correlations</b>
<p><b>GLE 0607.Inq.1</b> Design and conduct open-ended scientific investigations.</p>	
<p><b>GLE 0607.Inq.2</b> Use appropriate tools and techniques to gather, organize, analyze, and interpret data.</p>	<p><b>9. Planet Diversity, p.45</b> - Students describe, in minute detail, all the life they find in a small plot of land.</p> <p><b>20. Environmental Exchange Box, p.92</b> - By exchanging boxes with classes in other regions, students compare the other regions to their own.</p> <p><b>21. Adopt a Tree, p. 97</b> - In <b>Part B</b>, students use a journal to record observations and answer questions about their adopted tree.</p> <p><b>22. Trees as Habitats, p.102</b> - Students inventory the plants and animals that live in, on, and around trees and discover how plants and animals depend on trees in many ways. As a <b>Variation</b>, they inventory life associated with urban structures.</p> <p><b>23. The Fallen Log, p.105</b> - Students become familiar with some of those organisms by inventorying life in and on fallen logs.</p> <p><b>24. Nature's Recyclers, p.108</b> - Students devise an experiment to investigate the eating habits of one of pill bugs or earthworms.</p> <p><b>25. Birds and Worms, p.111</b> - As an Enrichment, students compare results for collecting colored “worms” scattered on different “backgrounds”.</p> <p><b>27. Every Tree For Itself, p.117</b> - Students record and compare results of the simulation for rounds conducted according to different scenarios.</p> <p><b>29. Rain Reasons, p.123</b> - Students design experiments to see how climatic factors influence the growth of plants.</p> <p><b>41. How Plants Grow, p.179</b> - Students design and conduct tests to study plants’ needs for light, water, and soil.</p> <p><b>47. Are Vacant Lots Vacant?, p.200</b> - Students stake out a “plot” and inventory the plant and animal life within the plot.</p> <p><b>48. Field, Forest and Stream, p.203</b> - Students work in teams to investigate and record observations of both living and non-living components of three different study sites.</p> <p><b>70. Soil Stories, p.297</b> - In Part B, students use a “Percolation Test” to test how well soils in different outdoor locations drain water.</p> <p><b>71. Watch on Wetlands, p. 303</b> - Students conduct field studies in a local wetland, and learn how land-use decisions and legislation affect wetland areas.</p>

	<p><b>76. Tree Cookies, p.327</b> - Students examine a “tree cookie” to estimate its age when it was cut and to interpret the “clues” rings give as to environmental events the tree experienced.</p> <p><b>77. Trees In Trouble, p.332</b> - Students examine trees for signs of damage or poor health and conduct experiments to determine the effects of crowding, acid, and fertilizer on seedling height and radish diameter.</p> <p><b>78. Signs of Fall, p.299</b> - In Part B, students use a “paper chromatography” process to separate the pigments in leaves.</p> <p><b>80. Nothing Succeeds Like Succession, p.345</b> - Students investigate the connection between plants, animals, and successional stages in a local ecosystem.</p>
<p><b>GLE 0607.Inq.3</b> Synthesize information to determine cause and effect relationships between evidence and explanations.</p> <p><b>GLE 0607.Inq.4</b> Recognize possible sources of bias and error, alternative explanations, and questions for further exploration.</p> <p><b>GLE 0607.Inq.5</b> Communicate scientific understanding using descriptions, explanations, and models.</p>	

## Grade 6 : Embedded Technology & Engineering

<b>Learning Expectations</b>	<b>Checks for Understanding</b>	<b>Project PLT Correlations</b>
<p><b>GLE 0607.T/E.1</b> Explore how technology responds to social, political, and economic needs.</p> <p><b>GLE 0607.T/E.2</b> 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><b>GLE 0607.T/E.3</b> Compare the intended benefits with the unintended consequences of a new technology.</p>	<p><b>0607.T/E.1</b> Use appropriate tools to test for strength, hardness, and flexibility of materials.</p> <p><b>0607.T/E.2</b> Apply the engineering design process to construct a prototype that meets certain specifications.</p> <p><b>0607.T/E.3</b> Explore how the unintended consequences of new technologies can impact society.</p>	

<p><b>GLE 0607.T/E.4</b> Describe and explain adaptive and assistive bioengineered products.</p>	<p><b>0607.T/E.4</b> Research bioengineering technologies that advance health and contribute to improvements in our daily lives.</p> <p><b>0607.T/E.5</b> Develop an adaptive design and test its effectiveness.</p>	
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## Grade 6 : Standard 2 - Interdependence

<b>Learning Expectations</b>	<b>Checks for Understanding</b>	<b>Project PLT Correlations</b>
<p><b>GLE 0607.2.1</b> Examine the roles of consumers, producers, and decomposers in a biological community.</p>	<p><b>0607.2.1</b> Compare and contrast the different methods used by organisms to obtain nutrition in a biological community.</p>	<p><b>23. The Fallen Log, p.105</b>  <b>24. Nature's Recyclers, p.108</b>  <b>45. Web of Life, p.194</b>  <b>79. Tree Lifecycle, p.341</b></p>
<p><b>GLE 0607.2.2</b> Describe how matter and energy are transferred through an ecosystem.</p>	<p><b>0607.2.3</b> Use a food web or energy pyramid to demonstrate the interdependence of organisms within a specific biome.</p>	<p><b>41. How Plants Grow, p.179</b></p>
<p><b>GLE 0607.2.3</b> Draw conclusions from data about interactions between the biotic and abiotic elements of a particular environment.</p>	<p><b>0607.2.2</b> Create a graphic organizer that illustrates how biotic and abiotic elements of an environment interact.</p>	<p><b>21. Adopt a Tree, p.97</b>  <b>22. Trees as Habitats, p.102</b>  <b>25. Birds and Worms, p.111 – Assessment</b>  <b>26. Dynamic Duos, p.113</b>  <b>27. Every Tree For Itself, p.117</b>  <b>45. Web of Life, p.194</b>  <b>47. Are Vacant Lots Vacant?, p.200</b>  <b>48. Field, Forest and Stream, p.203</b>  <b>70. Soil Stories, p.297</b>  <b>76. Tree Cookies, p.327</b>  <b>77. Trees In Trouble, p.332</b>  <b>78. Signs of Fall, p.299</b>  <b>80. Nothing Succeeds Like Succession, p.345</b></p>

<p><b>GLE 0607.2.4</b> Analyze the environments and the interdependence among organisms found in the world's major biomes.</p>	<p><b>0607.2.4</b> Create poster presentations to illustrate differences among the world's major biomes.</p>	<p><b>7. Habitat Pen Pals, p.37</b>  <b>8. The Forest of S.T. Shrew, p.40</b>  <b>9. Planet Diversity, p.45</b>  <b>10. Charting Diversity, p.50</b>  <b>20. Environmental Exchange Box, p.92</b>  <b>29. Rain Reasons, p.123</b>  <b>45. Web of Life, p.194</b>  <b>71. Watch on Wetlands, p. 303</b></p>
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## Grade 6 : Standard 8 - The Atmosphere

<b>Learning Expectations</b>	<b>Checks for Understanding</b>	<b>Project PLT Correlations</b>
<p><b>GLE 0607.8.1</b> Design and conduct an investigation to determine how the sun drives atmospheric convection.</p> <p><b>GLE 0607.8.2</b> Describe how the sun's energy produces the wind.</p> <p><b>GLE 0607.8.3</b> Investigate the relationship between currents and oceanic temperature differences.</p> <p><b>GLE 0607.8.4</b> Analyze meteorological data to predict weather conditions.</p>	<p><b>0607.8.1</b> Recognize how convection currents in the atmosphere produce wind.</p> <p><b>0607.8.2</b> Design an experiment to investigate differences in the amount of the sun's energy absorbed by a variety of surface materials.</p> <p><b>0607.8.3</b> Design an experiment to demonstrate how ocean currents are associated with the sun's energy.</p> <p><b>0607.8.4</b> Analyze ocean temperature data to demonstrate how these conditions affect the weather in nearby land masses.</p> <p><b>0607.8.5</b> Interpret data found on ocean current maps.</p> <p><b>0607.8.6</b> Use data collected from instruments such as a barometer, thermometer, psychrometer, and anemometer to describe local weather conditions.</p>	

## Grade 6 : Standard 12 – Forces in Nature

Learning Expectations	Checks for Understanding	Project PLT Correlations
<p><b>GLE 0607.12.1</b> Describe how simple circuits are associated with the transfer of electrical energy.</p>	<p><b>0607.12.1</b> Prepare a poster that illustrates how electricity passes through a simple circuit to produce heat, light, or sound.</p>	
<p><b>GLE 0607.12.2</b> Explain how simple electrical circuits can be used to determine which materials conduct electricity.</p>	<p><b>0607.12.2</b> Determine a material's electrical conductivity by testing it with a simple battery/bulb circuit.</p> <p><b>0607.12.3</b> Compare and contrast the characteristics of objects and materials that conduct electricity with those that are electrical insulators.</p>	

# PLT Correlations: SCIENCE GRADE 7

Revised 8/2009

## Grade 7 : Embedded Inquiry

Learning Expectations	Project PLT Correlations
<p><b>GLE 0707.Inq.1</b> Design and conduct open-ended scientific investigations.</p>	
<p><b>GLE 0707.Inq.2</b> Use appropriate tools and techniques to gather, organize, analyze, and interpret data.</p>	<p><b>3. Peppermint Beetle, p.23</b> - Students experience scent-marking and consider its benefit to animals.</p> <p><b>4. Sounds Around, p.26</b> – Students compare noise levels between a sheltered site and an open site.</p> <p><b>15. A Few of My Favorite Things, p.75</b> - Students identify the materials and energy used to make a favorite object.</p> <p><b>21. Adopt a Tree, p. 97</b> - In <b>Part B</b>, students use a journal to record observations and answer questions about their adopted tree.</p> <p><b>27. Every Tree For Itself, p.117</b> - Students record and compare results of the simulation for rounds conducted according to different scenarios.</p> <p><b>28. Air Plants, p.120</b> - Students observe oxygen production in a submerged aquatic plant to infer the roles of light and carbon dioxide in photosynthesis.</p> <p><b>36. Pollution Search, p.153</b> - In Part A, students look for and record evidences of pollution in and around the school.</p> <p><b>37. Reduce, Reuse, Recycle, p.159</b> - Students plan and conduct a service learning project, and in doing so find ways to cut down on the waste they produce and improve how waste is managed in their community.</p> <p><b>38. Every Drop Counts, p.163</b> - Students monitor their water use and create an <b>Action Plan</b> to conserve water in their school.</p> <p><b>39. Energy Sleuths, p.167</b> - In Part C, students track their energy activities for one day.</p> <p><b>42. Sunlight and Shades of Green, p.182</b> - Students test what happens when they block sunlight from the leaves of a tree or shrub, and then they will interpret their findings. As an <b>Enrichment</b>, they test leaves for the presence of starch.</p> <p><b>43. Have Seeds, Will Travel, p.185</b> - Students observe, collect, and classify seeds according to their likely means of dispersal. In the <b>Enrichment</b>, they modify dried lima beans to allow various types of dispersal.</p> <p><b>44. Water Wonders, p.188</b> - Students create “stream tables” to explore runoff under different conditions. As a <b>Enrichment</b>, they create terrariums in which they can observe the functioning of the water cycle.</p>

	<p><b>51. Make Your Own Paper, p.224</b> - As an <b>Enrichment</b>, students investigate how different materials affect the characteristics of the paper created.</p> <p><b>54. I'd Like To Visit a Place Where ...</b> (p.236) - By working on a service learning project to improve a local park, students learn about the community's system for managing open spaces.</p> <p><b>61. The Closer You Look, p.263</b> - Students carefully examine tree features and parts.</p> <p><b>65. Bursting Buds, p.277</b> - Students observe tree buds throughout the year.</p> <p><b>70. Soil Stories, p.297</b> - In Part B, students use a "Percolation Test" to test how well soils in different outdoor locations drain water.</p> <p><b>72. Air We Breathe, p.309</b> - Students use flashlights and coated slides to observe particles in the air.</p> <p><b>76. Tree Cookies, p.327</b> - Students examine a "tree cookie" to estimate its age when it was cut and to interpret the "clues" rings give as to environmental events the tree experienced.</p> <p><b>85. In the Driver's Seat, p.370</b> - Students keep a log of their family's transportation for a week and, as an Enrichment, conduct a survey to determine the average occupancy of vehicles in their community.</p> <p><b>96. Improve Your Place, p.418</b> - Students plan and carry out a service learning project that focuses on making positive environmental changes in their community.</p>
<p><b>GLE 0707.Inq.3</b> Synthesize information to determine cause and effect relationships between evidence and explanations.</p> <p><b>GLE 0707.Inq.4</b> Recognize possible sources of bias and error, alternative explanations, and questions for further exploration.</p> <p><b>GLE 0707.Inq.5</b> Communicate scientific understanding using descriptions, explanations, and models.</p>	

<b>Grade 7 : Embedded Technology &amp; Engineering</b>		
<b>Learning Expectations</b>	<b>Checks for Understanding</b>	<b>Project PLT Correlations</b>
<p><b>GLE 0707.T/E.1</b> Explore how technology responds to social, political, and economic needs.</p>	<p><b>0707.T/E.1</b> Use appropriate tools to test for strength, hardness, and flexibility of materials.</p>	<p><b>83. A Peek at Packaging, p.360 (Assessment Opportunity)</b></p>

<p><b>GLE 0707.T/E.2</b> 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><b>GLE 0707.T/E.3</b> Compare the intended benefits with the unintended consequences of a new technology.</p> <p><b>GLE 0707.T/E.4</b> Describe and explain adaptive and assistive bioengineered products.</p>	<p><b>7707.T/E.2</b> Apply the engineering design process to construct a prototype that meets certain specifications.</p> <p><b>0707.T/E.3</b> Explore how the unintended consequences of new technologies can impact society.</p> <p><b>0707.T/E.4</b> Research bioengineering technologies that advance health and contribute to improvements in our daily lives.</p> <p><b>0707.T/E.5</b> Develop an adaptive design and test its effectiveness.</p>	
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## Grade 7 : Standard 1 - Cells

<b>Learning Expectations</b>	<b>Checks for Understanding</b>	<b>Project PLT Correlations</b>
<p><b>GLE 0707.1.1</b> Make observations and describe the structure and function of organelles found in plant and animal cells.</p> <p><b>GLE 0707.1.2</b> Summarize how the different levels of organization are integrated within living systems.</p>	<p><b>0707.1.1</b> Examine and describe plant and animal cells using compound microscopes.</p> <p><b>0707.1.2</b> Identify the function of the major plant and animal cellular organelles.</p> <p><b>0707.1.3</b> Make a Venn diagram to compare the structures and functions of an animal cell with a city or school.</p> <p><b>0707.1.4</b> Build a 3-D model of a cell.</p>	

<p><b>GLE 0707.1.3</b> Describe the function of different organ systems and how collectively they enable complex multicellular organisms to survive.</p>	<p><b>0707.1.5</b> Construct a poster that illustrates the hierarchy among cells, tissues, organs, organ systems, and organisms.</p> <p><b>0707.1.6</b> Describe the function of different organ systems.</p> <p><b>0707.1.7</b> Explain how different organ systems interact to enable complex multicellular organisms to survive.</p> <p><b>0707.1.8</b> Apply the idea of the division of labor to explain why living things are organized into cells, tissues, organs, and organ systems.</p>	<p><b>3. Peppermint Beetle, p.23</b>  <b>4. Sounds Around, p.26</b>  <b>21. Adopt a Tree, p. 97</b>  <b>27. Every Tree For Itself, p.117</b>  <b>16. Pass The Plants, Please, p.77</b>  <b>61. The Closer You Look, p.263</b>  <b>63. Tree Factory, p.269</b>  <b>65. Bursting Buds, p.277</b>  <b>76. Tree Cookies, p.327</b>  <b>72. Air We Breathe, p.309</b></p>
<p><b>GLE 0707.1.4</b> Illustrate how cell division occurs in sequential stages to maintain the chromosome number of a species.</p> <p><b>GLE 0707.1.5</b> Observe and explain how materials move through simple diffusion.</p>	<p><b>0707.1.9</b> Model the movement of chromosomes during plant cell division.</p> <p><b>0707.1.10</b> Design a demonstration that illustrates how materials move across a semi-permeable membrane by simple diffusion.</p>	

<b>Grade 7 : Standard 3 - Flow of Matter and Energy</b>		
<b>Learning Expectations</b>	<b>Checks for Understanding</b>	<b>Project PLT Correlations</b>
<p><b>GLE 0707.3.1</b> Distinguish between the basic features of photosynthesis and respiration.</p> <p><b>GLE 0707.3.2</b> Investigate the exchange of oxygen and carbon dioxide between living things and the environment.</p>	<p><b>0707.3.1</b> Associate the fundamental processes of photosynthesis and respiration with appropriate cell structures.</p> <p><b>0707.3.2</b> Examine and identify the chloroplasts in a leaf cell.</p> <p><b>0707.3.3</b> Identify the materials used by plants to make food.</p>	<p><b>28. Air Plants, p.120</b>  <b>42. Sunlight and Shades of Green, p.182</b></p>

	<p><b>0707.3.4</b> Create a chart that compares the reactants and products of photosynthesis and respiration.</p> <p><b>0707.3.5</b> Model the pathways of water, oxygen, and carbon dioxide through a plant.</p> <p><b>0707.3.6</b> Describe the movement of oxygen and carbon dioxide between living things and the environment.</p> <p><b>0707.3.7</b> Describe structures that animals use to obtain oxygen.</p>	
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<b>Grade 7 : Standard 4 - Heredity</b>		
<b>Learning Expectations</b>	<b>Checks for Understanding</b>	<b>Project PLT Correlations</b>
<b>GLE 0707.4.1</b> Compare and contrast the fundamental features of sexual and asexual reproduction.	<b>707.4.1</b> Classify organisms according to whether they reproduce sexually or asexually.	
<b>GLE 0707.4.2</b> Demonstrate an understanding of sexual reproduction in flowering plants.	<p><b>0707.4.2</b> Label and explain the function of the reproductive parts of a flower.</p> <p><b>0707.4.3</b> Describe various methods of plant pollination.</p>	<p><b>31. Plant a Tree, p.132</b>  <b>43. Have Seeds, Will Travel, p.185</b>  <b>66. Germinating Giants, p.279</b></p>
<p><b>GLE 0707.4.3</b> Explain the relationship among genes, chromosomes, and inherited traits.</p> <p><b>GLE 0707.4.4</b> Predict the probable appearance of offspring based on the genetic characteristics of the parents</p>	<p><b>0707.4.4</b> Investigate the relationship among DNA, genes, and chromosomes.</p> <p><b>0707.4.5</b> Explain the differences between dominant and recessive traits.</p> <p><b>0707.4.6</b> Use a Punnett square to predict the genotypes of offspring resulting from a monohybrid cross.</p>	

	<b>0707.4.7</b> Draw a phenotypically accurate picture of an individual whose traits are modeled by the role of a die.	
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## Grade 7 : Standard 7 – The Earth

<b>Learning Expectations</b>	<b>Checks for Understanding</b>	<b>Project PLT Correlations</b>
<b>GLE 0707.7.1</b> Describe the physical properties of minerals.	<b>0707.7.1</b> Organize and explain information about the properties of minerals and their uses.	
<b>GLE 0707.7.2</b> Summarize the basic events that occur during the rock cycle.	<p><b>0707.7.2</b> Label a diagram that depicts the major processes of the rock cycle.</p> <p><b>0707.7.3</b> Distinguish among sedimentary, igneous, and metamorphic rocks and relate these to a simple diagram of the rock cycle.</p>	<b>44. Water Wonders, p.188</b>
<p><b>GLE 0707.7.3</b> Analyze the characteristics of the earth’s layers and the location of the major plates.</p> <p><b>GLE 0707.7.4</b> Explain how earthquakes, mountain building, volcanoes, and sea floor spreading are associated with movements of the earth’s major plates.</p>	<p><b>0707.7.4</b> Recognize that the earth’s layers have different thickness, states of matter, densities, and chemical makeup.</p> <p><b>0707.7.5</b> Analyze the relationship between plate movements and areas of earthquake activity.</p> <p><b>0707.7.6</b> Analyze the relationship between plate movements and mountain building.</p> <p><b>0707.7.7</b> Analyze the relationship between plate movements, volcanoes, and sea floor spreading.</p>	
<b>GLE 0707.7.5</b> Differentiate between renewable and nonrenewable resources in terms of their use by man.	<b>0707.7.8</b> Determine the impact of man’s use of renewable and nonrenewable resources on future supplies.	<p><b>14. Renewable Or Not?, p.69</b></p> <p><b>37. Reduce, Reuse, Recycle, p.159</b></p> <p><b>38. Every Drop Counts, p.163</b></p> <p><b>39. Energy Sleuths, p.167</b></p>

		<p>51. Make Your Own Paper, p.224</p> <p>52. A Look at Aluminum, p.228</p> <p>70. Soil Stories, p.297</p> <p>83. A Peek at Packaging, p.360 (Assessment Opportunity)</p> <p>84. The Global Climate, p.363</p> <p>85. In the Driver's Seat, p.370</p> <p>89. Trees For Many Reasons, p.387</p>
<p><b>GLE 0707.7.6</b> Evaluate how human activities affect the earth's land, oceans, and atmosphere.</p>	<p><b>0707.7.9</b> Evaluate how human activities affect the condition of the earth's land, water, and atmosphere.</p>	<p>4. Sounds Around, p.26</p> <p>15. A Few of My Favorite Things, p.75</p> <p>19. Viewpoints on The Line, p.89</p> <p>33. Forest Consequences, p. 138</p> <p>35. Loving It Too Much, p.147</p> <p>36. Pollution Search, p.153</p> <p>37. Reduce, Reuse, Recycle, p.159</p> <p>40. Then and Now, p.174</p> <p>54. I'd Like To Visit a Place Where ..., p.236</p> <p>56. We Can Work It Out, p.241</p> <p>59. Power Of Print, p.253</p> <p>60. Publicize It!, p.256</p> <p>81. Living With Fire, p.350</p> <p>89. Trees For Many Reasons, p.387</p> <p>96. Improve Your Place, p.418</p>

## Grade 7 : Standard 11 - Motion

<b>Learning Expectations</b>	<b>Checks for Understanding</b>	<b>Project PLT Correlations</b>
<p><b>GLE 0707.11.1</b> Identify six types of simple machines.</p> <p><b>GLE 0707.11.2</b> Apply the equation for work in experiments with simple machines to determine the amount of force needed to do work.</p> <p><b>GLE 0707.11.3</b> Distinguish between speed and velocity.</p>	<p><b>0707.11.1</b> Compare the six types of simple machines.</p> <p><b>0707.11.2</b> Compete an investigation to determine how machines reduce the amount of force needed to do work.</p> <p><b>0707.11.3</b> Summarize the difference between the speed and velocity based on the distance and amount of time traveled.</p>	

<p><b>GLE 0707.11.4</b> Investigate how Newton's laws of motion explain an object's movement.</p> <p><b>GLE 0707.11.5</b> Compare and contrast the basic parts of a wave.</p> <p><b>GLE 0707.11.6</b> Investigate the types and fundamental properties of waves.</p>	<p><b>0707.11.4</b> Recognize how a net force impacts an object's motion.</p> <p><b>0707.11.5</b> Create a graphic organizer to illustrate and describe the basic parts of a wave.</p> <p><b>0707.11.6</b> Compare how transverse and longitudinal waves are produced and transmitted.</p>	
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# PLT Correlations: SCIENCE GRADE 8

Revised 8/2009

## Grade 8 : Embedded Inquiry

Learning Expectations	Project PLT Correlations
<p><b>GLE 0807.Inq.1</b> Design and conduct open-ended scientific investigations.</p> <p><b>GLE 0807.Inq.2</b> Use appropriate tools and techniques to gather, organize, analyze, and interpret data.</p> <p><b>GLE 0807.Inq.3</b> Synthesize information to determine cause and effect relationships between evidence and explanations.</p> <p><b>GLE 0807.Inq.4</b> Recognize possible sources of bias and error, alternative explanations, and questions for further exploration.</p> <p><b>GLE 0807.Inq.5</b> Communicate scientific understanding using descriptions, explanations, and models.</p>	<p><b>9. Planet Diversity, p.45</b> - Students describe, in minute detail, all the life they find in a small plot of land.</p> <p><b>2. Get in Touch With Trees, p.20</b> - Students compare different trees and tree parts using their sense of touch.</p> <p><b>21. Adopt a Tree, p. 97</b> - In <b>Part B</b>, students use a journal to record observations and answer questions about their adopted tree.</p> <p><b>64. Looking at Leaves, p.273</b> - Students explore leaf attributes such as color, shape, size, and bilateral symmetry.</p> <p><b>67. How Big Is Your Tree?, p.284</b> - Students use string or “hand-spans” to measure the distance around a tree trunk or join arms to reach around larger trunks.</p> <p><b>68. Name That Tree, p.288</b> - 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><b>73. Waste Watchers, p.314</b> - Students conduct an <b>Energy Audit</b> 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><b>GLE 0807.T/E.1</b> Explore how technology responds to social, political, and economic needs.</p> <p><b>GLE 0807.T/E.2</b> 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><b>0807.T/E.1</b> Use appropriate tools to test for strength, hardness, and flexibility of materials.</p> <p><b>0807.T/E.2</b> Apply the engineering design process to construct a prototype that meets certain specifications.</p>	

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

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

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

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

	<p><b>0807.9.10</b> Identify the atomic number, atomic mass, number of protons, neutrons, and electrons in an atom of an element using the periodic table.</p> <p><b>0807.9.11</b> Use investigations of chemical and physical changes to describe the Law of Conservation of Mass.</p> <p><b>0807.9.12</b> Differentiate between the reactants and products of a chemical equation.</p> <p><b>0807.9.13</b> 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

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