

**PROJECT LEARNING  
TREE<sup>®</sup> AND THE VERMONT  
FRAMEWORK OF STANDARDS**

A Guide for Educators  
2006



**Grades 3-4**

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Conservation Education-Vermont Project Learning Tree  
Vermont Department of Forests, Parks, and Recreation  
Agency of Natural Resources

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call 802-241-3651 for information on Project Learning Tree or on the creation of this alignment

2006-VGA-O

# **Project Learning Tree® and Vermont's Framework of Standards**

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## **Project Learning Tree<sup>®</sup> and the Vermont Framework of Standards**

***What It Is-*** Project Learning Tree<sup>®</sup> (PLT) is a multi-disciplinary environmental education curriculum resource with nearly 100 activities tailored to grade levels and learning objectives. The program's activity guide is based on a conceptual framework. The main guide contains activities appropriate for grades Prek-8 with activities arranged thematically. PLT materials are used in every US state, Canada, Mexico, Japan, the Philippines, and several European countries.

*Secondary level modules* appropriate for grades 6-12 are available on specific topics. These include: forest ecology, environmental issues, municipal solid waste, environmental risk, and placed-based (community) issues related to natural resources. In addition, PLT has a multi-media kit on "Energy and Society" appropriate for elementary students, and a community service piece entitled "Greenworks!" that is connected to a grants program for schools.

PLT materials are distributed in Vermont by the Department of Forests, Parks, and Recreation. Educators can attend 6-hour workshops that provide them with the activity guide or shorter workshops for the modules and kits. The workshops offer other valuable resources such as posters, booklets and Vermont-specific materials in addition to PLT.

***Framework Correlations-*** Vermont Project Learning Tree has developed correlations with the Project Learning Tree Prek-8 Activity Guide and the Project Learning Tree Secondary materials to help educators who wish to use the materials to address these new standards. PLT aligns particularly well with Fields of Study elements in Social Studies & History, and Science. But it has strong correlations in Vital Results Standards for Sustainability (3.9) and Continuity and Change (4.5), and Understanding Place (4.6). The activities link to other Vital Results standards as well. For example, each activity includes a literacy connection and suggestions for activities for technology applications.

***New Natural Resources and Agriculture Standards***-In September of 2005, the Vermont State Board of Education adopted new wording for 7.16, a Standard in the Design and Technology portion of the Vermont Framework of Standards and Learning Opportunities. This standard was added to the Science Framework, with the understanding that Grade Expectations will be developed for them in the future. The alignment in this document will be revised to conform to the Grade Expectations when they are completed and will be broken out into several documents to reflect grade levels. Until then, the correlations will cover the three basic grade ranges used in the main Framework document.

***Assessment and Learning Opportunities***- Each activity includes suggestions for student assessment of that activity and ideas for extensions and/or enrichment.

For more information about PLT and its mission, log onto [www.plt.org](http://www.plt.org)

**To schedule a PLT workshop in your community, or get more information about trees and forests in Vermont, call 802-241-365**

## **PLT Connections to Instruction, Literacy and Technology All Grade Levels**

### ***Differentiated Instruction***

PLT Activities apply Best Practices for instruction through differentiation techniques that are listed in the front of each activity for ease in use. These include:

- Highlighting key vocabulary.
- Creating links to prior knowledge.
- Using paired/cooperative learning.
- Providing nonlinguistic representations.
- Using realia and hands-on learning.
- Making curricular and personal connections.
- Developing oral, reading, and writing skills.
- Incorporating higher order thinking opportunities.

### ***Literacy/Reading***

Each activity listed in the Guides include suggested “Reading Connections.” These are fiction and nonfiction books that include:

Folktales, myths/legends, poetry, chants/songs, maps and charts, and content –based books and articles that relate to culturally-diverse topics and include global connections.

Some PLT activities include “read-aloud” sections. There are opportunities for writing, role playing and vocabulary building. The Guide contains an excellent glossary with a variety of words essential for building environmental literacy skills.

PLT offers teachers a reading list on-line at [www.plt.org](http://www.plt.org) that is correlated to the activities in the guide. PLT’s web site makes some of these materials available for on-line purchase, giving educators an easy way to acquire the materials.

### ***Technology***

PLT recognizes the importance of technology at the same time it advocates strongly for outdoor student experiences learning in the natural world. The activity planning sections point out appropriate technology opportunities in applicable activities. One appendix in the guide is devoted to technology tips including ethical considerations when using web-based research.

## **Vermont’ Framework of Standards and Learning Opportunities Sustainability**

- 3.9 Students make decisions that demonstrate understanding of natural and human communities, the ecological, economic, political, or social systems within them, and awareness of how their personal and collective actions affect the sustainability of these interrelated systems. This is evident when students:

<b>Prek-4</b>
3.9.a. Identify items that they consume on a daily basis and analyze the resources used in producing, transporting, using, and disposing of these items, including the origins of the resources;
3.9.b. Distinguish between personal wants and needs and identify how marketing and advertising inform their consumption patterns;
3.9.c. Identify and practice ways to repair, re-use, recycle, and (e.g., use both sides of paper), and design and implement a plan to monitor personal resource consumption;
3.9.d. Explore local natural and human communities (e.g., vernal pools, farms, mines, cities), identify the systems within them, and what is required for these communities to be sustained.

**PLT Activities from the PreK-8 Guide that correlated with 3.9:**

(Topic Area= Renewable, Recyclable, choosing products)

**Grades Pre-4.** 14. *Renewable or Not?*, 15. *A Few of My Favorite Things*, 69. *Forest for the Trees*, 82. *Resource-Go-Round*, 89. *Trees for Many Reasons.*,

**Note:** The Project Learning Tree® Activity Guide has an entire section devoted to “Systems.” PLT Activities 41-60 deal with “Environmental, technological, and social systems that are interconnected and interacting.” All of these activities are appropriate for discussing the systems in this standard. The best fit for this by grade level are:

**Grades PreK-4.** 40. *Then and Now*, 41. *How Plants Grow*,42. *Sunlight and Shades of Green*, 43. *Have Seeds, Will Travel*, 44. *Water Wonders*, 45. *Web of Life*,46. *Schoolyard Safari*, 47. *Are Vacant Lots Vacant?* 49. *Tropical Treehouse*, 48. *Field, Forest, and Stream*, 51. *Make Your Own Paper*, 53. *On the Move*, 54. *I’d Like to Visit a Place Where--*, 55. *Planning the Ideal Community*, 58. *There Ought to be a Law*

**Continuity and Change**

4.5 Students understand continuity and change. This is evident when students:

<b>Prek-4</b>
4.5.a. Demonstrate understanding that change results from new knowledge and events; and 4.5.b. Demonstrate understanding of the patterns of change (steady, cyclic, irregular) and constancy.

**PLT Activities that correlated with 4.5:**

**Prek-8 Guide:**

“**Patterns of Change**” is an entire thematic section within the PLT Guide. The following are storylines and activities that relate to this standard by grade level.

**Trees and forest ecosystems change over time.** 76. *Tree Cookies*, 77. *Trees in Trouble*, 78. *Signs of Fall* ,79. *Tree Lifecycle*, 80. *Nothing Succeeds Like Succession*, 81. *Living With Fire*, 87. *Earth Manners*, 89. *Trees for Many Reasons*, 90. *Native Ways*, 95. *Did You Notice?*

**Humans may change their attitudes and behaviors with regard to natural resources and the environment.** 14. *Renewable or Not?* 77. *Trees in Trouble*, 89. *Trees for Many Reasons*, 90. *Native Ways*, 95. *Did You Notice?*

**Human attitudes and behaviors have changed over time with regard to the environment.**  
**Grades -87.** *Earth Manners*, 88. *Life on the Edge*, 89. *Trees for Many Reasons*, 90. *Native Ways*

**Changes in resource use and the environment can be analyzed from a historical perspective.**  
**Grades -95.** *Did You Notice?*

**Also:** 41. *How Plants Grow*,42. *Sunlight and Shades of Green*, 43. *Have Seeds, Will Travel*, 44. *Water Wonders*, 45. *Web of Life*, 48. *Field, Forest, and Stream*, 53. *On the Move*, 54. *I’d Like to Visit a Place Where--*, 55. *Planning the Ideal Community*,

## Understanding Place

<b>H&amp;SS3-4:1</b>	<b>Students initiate an inquiry by...</b> <ul style="list-style-type: none"><li>• Asking relevant and focusing questions based on what they have seen, what they have read, what they have listened to, and/or what they have researched (e.g., Why was the soda machine taken out of the school? Why is the number of family farms in Vermont growing smaller?).</li></ul>
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- 4.6 Students demonstrate understanding of the relationship between their local environment and community heritage and how each shapes their lives. This is evident when students:

### Prek-4

4.6.a. Demonstrate knowledge and history of local environments, (e.g., soils, forests, watersheds) and how their community relies on its environment to meet its needs (e.g., nutritional, recreational, economic, emotional well being);

4.6.b. Describe the role of agriculture, forestry, and industry on the development of their local community over time;

4.6.c. Demonstrate knowledge of past and present community heritage (e.g., traditions, livelihoods, customs, stories, changing demographics, land use) and recognize ways in which this heritage influences their lives.

### **PLT Activities from Prek-8 Guide that correlated with 4.6:**

*2. Get in Touch with Trees, 3. Peppermint Beetle, 4. Sounds Around, 5. Poet-Tree, 8. the Forest of ST Shrew, 20. Environmental Exchange Box, 21. Adopt a Tree, 22. Trees as Habitats, 23. The Fallen Log, 32., A Forest of Many Uses, 42. Sunlight and Shades of Green, 43. Who Works in this Forest?, 45. Web of Life, 46. Schoolyard Safari, 53. On the Move, 54. I'd Like to Visit a Place Where---.55. Planning the Ideal Community, 69. Forest For the Trees, 74. People, Places, Things, 87. Earth Manners*

## **Grade 3-4 PLT and GE's for History and Social Studies Inquiry**



<b>H&amp;SS3-4:2</b>	<p><b>Students develop a hypothesis, thesis, or research statement by...</b></p> <ul style="list-style-type: none"> <li>Using prior knowledge to predict results or proposing a choice about a possible action (e.g., using experience from a field trip to the nature center, propose a way to preserve Vermont's natural habitats).</li> </ul>
<b>H&amp;SS3-4:3</b>	<p><b>Students design research by...</b></p> <ul style="list-style-type: none"> <li>Identifying resources for finding answers to their questions (e.g., books, videos, people, and the Internet).</li> <li>Identifying tasks and how they will be completed, including a plan for citing sources (e.g., I will interview the principal about why the soda machine was taken out of he school).</li> <li>Planning how to organize information so it can be shared.</li> </ul>
<b>H&amp;SS3-4:4</b>	<p><b>Students conduct research by...</b></p> <ul style="list-style-type: none"> <li>Referring to and following a plan for an inquiry.</li> <li>Locating relevant materials such as print, electronic, and human resources.</li> <li>Describing evidence and recording observations using notecards, videotape, tape recorders, journals, or databases (e.g., taking notes while interviewing the principal).</li> <li>Citing sources.</li> </ul>
<b>H&amp;SS3-4:5</b>	<p><b>Students develop reasonable explanations that support the research statement by...</b></p> <ul style="list-style-type: none"> <li>Organizing and displaying information in <u>a manner appropriate to the research statement</u> through tables, graphs, maps, dioramas, charts, narratives, and/or posters.</li> <li>Classifying information and justifying groupings based upon observations, prior knowledge, and/or <u>research</u>.</li> <li>Using appropriate methods for interpreting information such as comparing and contrasting.</li> </ul>
<b>H&amp;SS3-4:6</b>	<p><b>Students make connections to research by...</b></p> <ul style="list-style-type: none"> <li>Explaining the relevance of their findings to the research question.</li> <li>Proposing solutions to problems and asking other questions.</li> <li>Identifying what was easy or difficult about following the research plan.</li> </ul>

*PLT Activities* -2. Get in Touch With Trees, 7. Habitat Pen Pals, 10. Charting Diversity, 11. Can It Be Real? 20. Environmental Exchange Box, 22. Trees as Habitats, 25. Birds and Worms ,27. Every Tree for Itself, 31. Plant A Tree, 40. Then and Now, ?39. Energy Sleuths, 41. How Plants Grow, 45. Web of Life, 47. Are Vacant Lots Vacant? 48. Field, Forest, Stream, 55. Planning the Ideal Community, 67. How Big Is Your Tree? 90. Native Ways, , 95. Did You Notice?

## History

### H& SS3-4:12

**Students show understanding of human interaction with the environment over time by...**

- Describing how people have changed the environment in Vermont for specific purposes (e.g., clear-cutting, sheep-raising, interstate highways, farming, ski resorts). **■**
  - Identifying and participating in ways they can contribute to preserving natural resources (e.g., creating a class or school recycling center). **■**
  - Describing a community or state environmental issue (e.g., creating a slide show describing the environmental issues surrounding Lake Champlain).
  - Describing how patterns of human activities (for example, housing, transportation, food consumption, or employment) relate to natural resource distribution (e.g., how population concentrations in Vermont developed around fertile lowlands, French/English/Indian conflict for furs in northern Vermont). **■**
- Recognizing patterns of voluntary and involuntary migration in Vermont (e.g., use maps and place names to hypothesize about movements of people). **■**

**PLT Activities:** 14. *Renewable or Not?* 32. *A Forest of Many Uses*, 33. *Who Works in This Forest?* 37. *Reduce, Reuse, Recycle*, 38. *Every Drop Counts*, 39. *Energy Sleuths*, 40. *Then and Now*, 47. *Are Vacant Lots Vacant?* 53. *On the Move*, 54. *I'd Like to Visit a Place Where--*,55. *Planning the Ideal Community*, 56. *We Can Work It Out*, 74. *People, Places, Things*, 87. *Earth Manners*

### **H&SS3-4:13**

**Students analyze how and why cultures continue and change over time by...**

- Identifying expressions of culture in Vermont and the U.S., such as language, social institutions, beliefs and customs, economic activities, behaviors, material goods, food, clothing, buildings, tools, and machines (e.g., discovering how Abenaki oral tradition reflects and influences their society). ¶
- Describing the contributions of various cultural groups to Vermont and the U.S. (e.g., describing French cultural diffusion in Vermont). ¶

Identifying ways in which culture in Vermont has changed (e.g., Colonists learning maple sugaring from the Indians, Indians acquiring metal tools in exchange for furs). ¶

**PLT Activities** 74. *People, Places, Things*, 87. *Earth Manners*, 92. *A Look at Lifestyles*, 90. *Native Ways*

## **Civics, Government and Society**

### **H&SS3-4:14**

**Students act as citizens by...**

- Identifying the rights and responsibilities of citizenship in a school and local community (e.g., the right to use town roads and speak one's mind at town meeting, the responsibility to pay town taxes).
- Demonstrating positive interaction with group members (e.g., working with a group of people to complete a task).
- Identifying problems, planning and implementing solutions in the classroom, school or community. ¶
- Explaining their own point of view on issues that affect themselves and society (e.g., forming an opinion about a social or environmental issue in Vermont, then writing a letter to a legislator to try to influence change).
- Demonstrating the role of individuals in the election processes (e.g., voting in class or mock elections).
- Describing the roots of American culture, its development and many traditions, and the ways many people from a variety of groups and backgrounds played a role in creating it.
- Participating in setting, following and changing the rules of the group and school. ¶

**PLT Activities-** 53. *On the Move*, 54. *I'd Like to Visit a Place Where--*,55. *Planning the Ideal Community*, 56. *We Can Work It Out*, 74. *People, Places, Things*, 87. *Earth Manners*58. *There Ought to Be A Law.*

## **PLT and Grade Expectations for Grades 3-4: Science Inquiry**

### **Scientific Questioning**

#### **S3-4:1**

**Students demonstrate their understanding of SCIENTIFIC QUESTIONING by...**

- Identifying at least one variable that affects a system and using that variable to generate an experimental question that includes a cause and effect relationship.

*PLT Activities*- 3. *Peppermint Beetle*, 25. *Birds and Worms* ,22. *Trees as Habitats*, 27. *Every Tree for Itself*, 31. *Plant A Tree*, 40. *Then and Now*,?41. *How Plants Grow*

### **Predicting and Hypothesizing**

**S3-4:2**

**Students demonstrate their understanding of PREDICTING AND HYPOTHESIZING by...**

- Identifying simple patterns of evidence used to develop a prediction and propose an explanation.

*PLT Activities* -20.*Environmental Exchange Box*, 22. *Trees as Habitats*, 25. *Birds and Worms* ,27. *Every Tree for Itself*, 31. *Plant A Tree*, 40. *Then and Now*,?41. *How Plants Grow*, 45. *Web of Life*, 47. *Are Vacant Lots Vacant?*

### **Designing Experiments**

**S3-4:3**

**Students demonstrate their understanding of EXPERIMENTAL DESIGN by...**

- Writing a plan related to the question that includes:
  - a. A list of materials needed.
  - b. A diagram, with important elements labeled, that supports procedures and illustrates the setup .
  - c. A procedure that lists steps sequentially (beginning, middle, and end) and describes how the experimenter will manipulate or change only one variable at a time. (“Fair Test”).
  - d. Appropriate timing between observations (intervals) and/or number of trials needed.

### **Conducting Experiments**

**S3-4:4**

**Students demonstrate their ability to CONDUCT EXPERIMENTS by...**

- Referring to and following a detailed plan for an investigation. **AND**
- Clearly describing evidence and quantifying observations with appropriate units. **AND**
- Recording data at various points during an investigation by reporting what actually happens, even when data conflicts with expectations. **AND**
- Recording the sequence in which events take place **AND**
- Recording relevant details of an object and its surroundings when applicable. **AND**
- Drawing scientifically:
  - a. Recording varying degrees of color, shading or texture and consistent proportion throughout.
  - b. Labeling significant parts of a scientific drawing or diagram and includes a key if necessary.

*PLT Activities* -20.*Environmental Exchange Box*, 25. *Birds and Worms* ,27. *Every Tree for Itself*, 28. *Air Plants*, 31. *Plant A Tree*, 40. *Then and Now*, 34. *Who Works in This Forest?*41. *How Plants Grow*,42. *Sunlight and Shades of Green*, 44. *Water Wonders*, 47. *Are Vacant Lots Vacant?* 66. *Germinating Giants*.

### **Representing Data and Analysis**

**S3-4:5**

**Students demonstrate their ability to REPRESENT DATA**

by...

- Classifying objects and phenomena into sets and subsets and justifying groupings. **AND**
- Displaying and labeling data for separate trials/observations. **AND**
- Determining an appropriate representation (graph or table or chart or diagram) to represent their findings most accurately. **AND**
- Including in tables a title, labeled rows and columns and any necessary keys. **AND**
- Including in graphs a title, labels, scale, and recording data correctly.

*PLT Activities -20. Environmental Exchange Box 32. A Forest of Many Uses, 2. Get in Touch With Trees, 7. Habitat Pen Pals, 25. Birds and Worms, 41. How Plants Grow, 43. Have Seeds, Will Travel, 46. School Yard Safari, 64. Looking At Leaves, 67. How Big Is That Tree? 68. Name That Tree, 6. Picture This!, 9. Planet Diversity 4. Sounds Around, 13. We All Need Trees*

**Representing Data and Analysis**

**S3-4:6**

**Students demonstrate their ability to ANALYZE DATA by...**

- Interpreting patterns or trends in data. **AND**
- Relating data to the original question and prediction.

**S3-4:7**

**Students demonstrate their ability to EXPLAIN DATA by...**

- Providing a reasonable explanation that accurately reflects data. **AND**
- Identifying differences between proposed predictions and experimental data.

*PLT Activities - 3. Peppermint Beetle, 8. The Forest of S.T. Shrew 25. Birds and Worms, 40. Then and Now, 42. Sunlight and Shades of Green, 41. How Plants Grow, 44. Water Wonders, 47. Are Vacant Lots Vacant? 65. Bursting Buds, 69. Forest for the Trees, 66. Germinating Giants, 70. Soil Stories*

**Applying Results**

**S3-4:8**

**Students demonstrate their ability to APPLY RESULTS by...**

- Generating a new question to obtain additional information. **AND**
- Creating a plan to investigate a scientific concept further or connecting a classroom model to a real-world example. **AND**
- Connecting the investigation or model to a real world example.

*PLT Activities - 25. Birds and Worms, 40. Then and Now, 42. Sunlight and Shades of Green, 41. How Plants Grow, 47. Are Vacant Lots Vacant? 70. Soil Stories*

**Grade Expectations for Grades 3-4: Life Science**

<p><b>S3-4:30</b>  <b>Students demonstrate their understanding of Structure and Function–Survival Requirements by...</b></p> <ul style="list-style-type: none"> <li>• Identifying how the physical structure/characteristic of an organism allows it to survive and defend itself (e.g., The coloring of a fiddler crab allows it to camouflage itself in the sand and grasses of its environment so that it will be</li> </ul>	<p>Science Concept:  a. Organisms have characteristics that help them find what they need to survive in their environment and provide for their survival:</p> <ul style="list-style-type: none"> <li>– Defense</li> <li>– Obtaining food</li> </ul>
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protected from predators. A rose is protected by its thorns.).	<ul style="list-style-type: none"> <li>– Reproduction</li> <li>– Eliminate waste</li> </ul>
<i>PLT Activities - 7. Habitat Pen Pals, 11. Can It Be Real? 25. Birds and Worms, 26. Dynamic Duos, 45. Web of Life, 88. Life on the Edge.</i>	
<b>S3-4:31</b> <b>Students demonstrate their understanding of Reproduction by...</b> <ul style="list-style-type: none"> <li>• Investigating and describing a variety of plant and animal life cycles.</li> </ul>	Science Concept: a. Although all organisms have common stages of development, details of a life cycle are different for different organisms  <i>PLT Activities -43. Have Seeds, Will Travel, 76. Tree Cookies 79. Tree Lifecycle 23. The Fallen Log</i>
<b>S3-4:34</b> <b>Students demonstrate their understanding of Energy Flow in an Ecosystem by...</b> <ul style="list-style-type: none"> <li>• Identifying the source of energy for the survival of organisms.</li> </ul>	Science Concept: a. Energy derived from food is needed for all organisms (plants and animals) to stay alive and grow.
<i>PLT Activities- 16. Pass the Plants, Please, 23. The Fallen Log,, 41. How Plants Grow, 42. Sunlight and Shades of Green, 45. Web of Life,</i>	
<b>S3-4:35</b> <b>Students demonstrate their understanding of Food Webs in an Ecosystem by...</b> <ul style="list-style-type: none"> <li>• Recognizing that, in a simple food chain, all animals' food begins with plants.</li> </ul> <b>AND</b> <ul style="list-style-type: none"> <li>• Researching and designing a habitat and explaining how it meets the needs of the organisms that live there.</li> </ul>	Science Concept: a. Food for animals can be traced back to plants. b. Organisms can survive best only in habitats in which their needs are met.  <i>PLT Activities- 7. Habitat Pen Pals, 11. Can It Be Real? 25. Birds and Worms, 26. Dynamic Duos, 42. Sunlight and Shades of Green, 45. Web of Life, 77. Trees in Trouble</i>
<b>S3-4:36</b> <b>Students demonstrate their understanding of Equilibrium in an ecosystem by...</b> <ul style="list-style-type: none"> <li>• Explaining how one organism depends upon another organism to survive.</li> </ul>	Science Concept: a. Organisms interact with one another in various ways besides providing food (e.g., Many plants depend on animals for carrying their pollen to other plants for fertilizing their flowers).
<i>PLT Activities-11. Can It Be Real? 25. Birds and Worms, 26. Dynamic Duos, 45. Web of Life</i>	
<b>S3-4:38</b> <b>Students demonstrate their understanding of Classification of Organisms by...</b> <ul style="list-style-type: none"> <li>• Describing and sorting plants and animals into groups based on structural similarities and differences (e.g., All pine, spruce and evergreen trees have similar leaf structures; Spiders have eight legs, and insects have six).</li> </ul>	Science Concept: a. The great variety of living things can be sorted into groups in many ways using various characteristics to decide which things belong to which group.  <i>PLT Activities- 61. The Closer You Look, 62. To Be A Tree, 64. Looking At Leaves, 65. Bursting Buds, 68. Name that Tree</i>
<b>S3-4:39</b> <b>Students demonstrate their understanding of Evolution/ Natural Selection by...</b> <ul style="list-style-type: none"> <li>• Identifying differences in characteristics of a certain type of organism (e.g., dogs with long hair or short hair; humans with blue or brown eyes).</li> </ul>	Science Concept: a. Organisms of the same kind differ in their individual characteristics (traits) (e.g., Even though all dogs are of the same species, they can have very different traits.).  <i>PLT Activities, 62. To Be A Tree, 64. Looking At Leaves, 65. Bursting Buds, 66. Germinating Giants, 68. Name that Tree</i>

## Grade Expectations for Grades 3-4: Universe, Earth, Environment

<p><b>S3-4:46</b>  <b>Students demonstrate their understanding of Processes and Change over Time within Earth Systems by...</b></p> <ul style="list-style-type: none"> <li>Observing and identifying components of soils and rocks.</li> </ul> <p><b>AND</b></p> <ul style="list-style-type: none"> <li>Recognizing and identifying the four basic materials of the earth (i.e., rocks, soil water and gases).</li> </ul> <p><b>AND</b></p> <ul style="list-style-type: none"> <li>Observing and describing the properties of rocks.</li> </ul>	<p>Science Concepts:</p> <ul style="list-style-type: none"> <li>Soil is made partly from rock, partly from plant remains and also contains many living organisms.</li> <li>Earth materials are solid rocks, soils, water and the gases of the atmosphere.</li> <li>Rock is composed of different combinations of minerals. Large rocks can be broken down into small rocks.</li> <li>Rocks have properties of color, texture and hardness. Rocks can be classified by their physical properties.</li> </ul>
<p><i>PLT Activities-</i> 8. <i>The Forest of S.T. Shrew</i>, 24. <i>Nature’s Recyclers</i>, 70. <i>Soil Stories</i>,</p>	<p>Science Concept:</p> <ul style="list-style-type: none"> <li>Waves, wind, water and ice shape and reshape the earth’s land surface by eroding rock and soil in some areas and depositing them in other areas.</li> </ul> <p><i>PLT Activities-</i> 44. <i>Water Wonders</i>, 47. <i>Are Vacant Lots, Vacant?</i> 48. <i>Field, Forest and Stream</i>, 70. <i>Soil Stories</i></p>
<p><b>S3-4:47</b>  <b>Students demonstrate their understanding of Processes and Change over Time within Earth Systems by...</b></p> <ul style="list-style-type: none"> <li>Building models that simulate deposits of sediments (e.g., a stream table).</li> </ul> <p><b>AND</b></p> <ul style="list-style-type: none"> <li>Investigating local land forms and comparing them with models created in the classroom.</li> </ul>	<p>Science Concepts:</p> <ul style="list-style-type: none"> <li>Weather changes from day to day and over the seasons. Weather can be described by measurable quantities (such as temperature, wind direction and speed, precipitation and air pressure).</li> <li>Air is a substance that surrounds us, takes up space and whose movement we feel as wind.</li> <li>Liquid water is changed by heat from the sun to gas (vapor) and returns to a liquid or solid state when cooled to the freezing point.</li> <li>Clouds and fog are made of small drops of water.</li> </ul>
<p><b>S3-4:48</b>  <b>Students demonstrate their understanding of Processes and Change over Time within Earth Systems by...</b></p> <ul style="list-style-type: none"> <li>Observing, recording and analyzing local weather data and making predictions based on that data.</li> </ul> <p><b>AND</b></p> <ul style="list-style-type: none"> <li>Describing water as it changes into vapor in the air and reappears as a liquid when it is cooled.</li> </ul> <p><b>AND</b></p> <ul style="list-style-type: none"> <li>Explaining how this cycle of water relates to weather and the formation of clouds.</li> </ul> <p><i>PLT Activities-</i> 44. <i>Water Wonders</i>, 48. <i>Field, Forest and Stream</i>,</p>	<p>Science Concepts:</p> <ul style="list-style-type: none"> <li>The varied earth materials have different physical and chemical properties, which make them useful in different ways, for example, as building materials, as sources of fuel, for growing the plants we use as food, or supporting animal life. Earth materials provide many of the resources that humans use.</li> <li>Earth materials have chemical and physical properties that make them useful as building materials, or for growing plants or for fuel.</li> </ul>
<p><b>S3-4:49</b>  <b>Students demonstrate their understanding of Processes and Change within Natural Resources by...</b></p> <ul style="list-style-type: none"> <li>Observing and describing properties of living and nonliving resources.</li> </ul> <p><b>AND</b></p> <ul style="list-style-type: none"> <li>Explaining how the properties of living and non-living resources make them suitable for use by humans.</li> </ul> <p><i>PLT Activities;</i> 13. <i>We All Need Trees</i>, 14. <i>Renewable or Not?</i> 15. <i>A Few of My Favorite Things</i> 16. <i>Pass the Plants, Please,</i> 28. <i>Air Plants</i>, 30. <i>Three Cheers for Trees</i>, 32. <i>A Forest of Many Uses</i>, 39. <i>Energy Sleuths</i>, 38. <i>Every Drop Counts</i>, 49. <i>Tropical Treehouse</i>, 50. <i>400-Acre Wood</i>, 63. <i>Tree Factory</i>, 69. <i>Forest for the</i></p>	<p><i>Trees</i>, 82. <i>Resource-Go-Round</i> ,89. <i>Trees for Many Reasons</i></p>

# Project Learning Tree Correlations 2006

## Natural Resources and Agriculture

PreK-4

### Natural Resources and Agriculture

7.16 Students demonstrate an understanding of natural resources and agricultural systems why and how they are managed is\_evident when students:

a. Identify natural and agricultural resources and where they come from (e.g. wildlife, fish, plant, rock, water, soil, minerals, sunlight, and air), and distinguish between natural resources and things made by humans (e.g. sand vs. cement, milk vs. ice cream, wheat vs. bread, sap vs. syrup, wildlife vs. domesticated animals).

**a. PreK-Grade 4,PLT Activity Guide-** 13. We All Need Trees, 15. A Few of My Favorite Things, 16. Pass the Plants, Please, 22. Trees as Habitats, 27. Every Tree For Itself, . 28. Air Plants , 30. Three Cheers For Trees, 31. Plant a Tree, 32. A Forest of Many Uses, 35. Loving It Too Much, 38. Every Drop Counts, 39. Energy Sleuths, 41. How Plants Grow, 42. Sunlight and Shades of Green, 43. Have Seeds, Will Travel, 48. Field, forest, and Stream, 70. Soil Stories, 51. Make Your Own Paper, 79. Tree Life Cycle, 82. Resource-Go-Round,

b. **Identify the:** benefits of agriculture and natural resources (e.g., **public health, public welfare,** recreation, safe food.

**b. PreK-Grade 4 ,PLT Activity Guide-** 13. We All Need Trees, 15. A Few of My Favorite Things, 16. Pass the Plants, Please, 22. Trees as Habitats, 27. Every Tree For Itself, . 28. Air Plants , 30. Three Cheers For Trees, 31. Plant a Tree, 32. A Forest of Many Uses, 38. Every Drop Counts, 39. Energy Sleuths, 41. How Plants Grow, 42. Sunlight and Shades of Green, 43. Have Seeds, Will Travel, 48. Field, Forest, and Stream, 70. Soil Stories, 51. Make Your Own Paper, 69. The Forest For the Trees, 79. Tree Life Cycle, 82. Resource-Go-Round, 87. Earth Manners.

c.÷ Identify actions individuals and families can take to help manage natural resources and agriculture (e.g., walking on established trails, fishing and hunting in season, picking up litter, recycling, purchasing locally grown agricultural products).

**c. PreK-Grade 4, PLT Activity Guide**-4. Sounds Around, 16. Pass the Plants, Please, 22. Trees as Habitats, 27. Every Tree For Itself, . 27. Every Tree for Itself, 28. Air Plants , 30. Three Cheers For Trees, 31. Plant a Tree, 32. A Forest of Many Uses, 34. Who Works in This Forest? 36. Pollution Search, 38. Every Drop Counts, 39. Energy Sleuths, 41. How Plants Grow, 42. Sunlight and Shades of Green, 43. Have Seeds, Will Travel, 44. Water Wonders, 48. Field, Forest, and Stream, 73. Waste Watchers, 77. Trees in Trouble, 81. Living With Fire, 82. Resource-Go-Round,