GOALS

The giant sequoia is the most massive living organism on Earth. It is a tree, magnificent in dimension and awe inspiring in its longevity and durability. To stand in the company of such giants is to experience the scale of life.

To a kindergartner the oak on the corner, the pines at the park, and the mulberry trees at school are giants. Systematic investigation of trees will bring students to a better understanding of trees’ place at school and in the community, and will provide some solid experiences on the way to understanding all plants.

FOSS EXPECTS STUDENTS TO

• Develop a growing curiosity and interest in the living things that make up their world.
• Observe and describe the properties of trees and leaves in the schoolyard.
• Compare the similarities and differences of the trees and leaves observed on mini-field trips.
• Help plant and care for a tree temporarily in the classroom, then permanently in the schoolyard.
• Observe trees throughout the school year for changes that come with the different seasons.
• Compare the shapes of leaves to geometric shapes.
• Compare the size and edges of leaves, using a reference card.
• Use pictorial experiences to heighten their awareness of the diversity and variety of trees and leaves.
• Acquire the vocabulary associated with the properties and structures of trees and leaves.
• Use drawings and oral language to describe observations.
## TREES MODULE MATRIX

<table>
<thead>
<tr>
<th>SYNOPSIS</th>
<th>SCIENCE CONTENT</th>
<th>THINKING PROCESSES</th>
</tr>
</thead>
</table>
| **1. FALL TREES** | Students begin their study of trees by going on a walk looking at the variety and structure of trees in the schoolyard. A living tree becomes part of the classroom for 2 weeks, and students work with representational materials to look more closely at the shapes of trees and their parts. Students adopt trees to observe changes throughout the year, and complete the activity by planting their class tree on the school grounds. | ✓ Trees have identifiable structures.  
✓ Trees are a resource to people and other animals.  
✓ Trees are growing, living organisms.  
✓ Trees have basic needs, including water, light, and nutrients from soil.  
✓ Trees are identifiable by their shapes.  
✓ Observe trees in the schoolyard.  
✓ Compare trees for similarities and differences.  
✓ Communicate observations of trees. |
| **2. LEAVES** | Students begin with a schoolyard walk, focusing on the leaves of trees. They match leaves with geometric shapes, go on a leaf hunt to make comparisons of leaves, work at centers with representational materials, and make a leaf book. This investigation concludes with a story, *Our Very Own Tree.* | ✓ Leaves have identifiable structures.  
✓ Leaf shapes can be compared to geometric shapes.  
✓ Leaves can be identified by their shapes.  
✓ Leaves have many properties that can be compared.  
✓ Observe size, shape, texture, and color of tree leaves.  
✓ Compare the shapes of leaves to common geometric shapes.  
✓ Compare the size and edges of leaves.  
✓ Communicate observed similarities and differences. |
| **3. TREES THROUGH THE SEASONS** | Students extend their understanding of trees as a growing, changing, living part of their world. During each season, the schoolyard trees are visited and their twigs, leaves, flowers, and seeds are observed and compared to those from a previous season. | ✓ Trees have identifiable structures that serve different functions.  
✓ Trees change through the seasons.  
✓ Trees are a resource. They are useful to people and other animals.  
✓ Observe seasonal changes in the life of schoolyard trees.  
✓ Observe the structures of twigs, flowers, fruits, seeds, and bark of trees.  
✓ Compare changes in parts of trees through the seasons.  
✓ Communicate observations and comparisons of schoolyard trees. |
### INTERDISCIPLINARY EXTENSIONS

- Use science journals.
- Make a tree-observation class book.
- Review parts of a tree.
- Make more puzzles.
- Hang up the trunk-circumference strings.
- Measure the circumference strings.
- Plan a discovery center.
- Collect prunings.
- Pass the scrapbook on.

### READING CONNECTIONS

- A Tree Comes to Class
- *Red Leaf, Yellow Leaf* by Lois Ehlert

### HOME/SCHOOL CONNECTION

- Students survey family members to see how many trees each estimates to be in their yard, block, or local park. When all guesses are in, they take a walk to make an actual count.

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<th>READING CONNECTIONS</th>
<th>HOME/SCHOOL CONNECTION</th>
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<tbody>
<tr>
<td>Use science journals.</td>
<td><em>FOSS Science Stories: Trees, “Where Do Trees Grow?”</em></td>
<td>Students and families play What’s My Leaf? Eight fallen leaves are collected from the same tree. Each player chooses a leaf and studies it well. All the leaves are returned to a bag, mixed up, and spread out on a table. Each player tries to identify his or her leaf.</td>
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<tr>
<td>Make invitations for back-to-school night or open house.</td>
<td><em>Our Very Own Tree</em> by Lawrence F. Lowery</td>
<td></td>
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<tr>
<td>Make a leaf-shape bar graph.</td>
<td><em>FOSS Science Stories: Trees, “My Apple Tree”</em></td>
<td>Students watch for changes to a tree in their neighborhood throughout the seasons. They look for signs of life in trees, and watch for the emergence of leaves, fruit, and seeds.</td>
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<tr>
<td>Try spatter painting.</td>
<td><em>The Secret Life of Trees</em> by Chiara Chevallier</td>
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<td>Make photo frames.</td>
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<td>Make sunprints.</td>
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<td>Use a two-handed feely box.</td>
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<td>Find your leaf.</td>
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<td>Play What Matches?</td>
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<tr>
<td>Add to the discovery center.</td>
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<tr>
<td>Add to the scrapbook.</td>
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- Students watch for changes to a tree in their neighborhood throughout the seasons. They look for signs of life in trees, and watch for the emergence of leaves, fruit, and seeds.
FOSS AND NATIONAL STANDARDS

The Trees Module emphasizes the development of observation and descriptive communication and building explanations based on experience. This module supports the following National Science Education Standards.

SCIENCE AS INQUIRY

Develop students’ abilities to do and understand scientific inquiry.

- Ask and answer questions.
- Plan and conduct simple investigations.
- Communicate investigations and explanations.

CONTENT: LIFE SCIENCE

Develop students’ beginning awareness of the characteristics of organisms.

- All organisms have basic needs. Trees need water, nutrients in the soil, light, and air.
- Organisms have different structures that serve different functions in growth, survival, and reproduction.

Develop students’ beginning awareness of life cycles of organisms.

- Trees have life cycles that include growth from seed, developing into mature trees, and formation of new seeds.

Develop students’ beginning awareness of organisms and their environments.

- All animals depend on plants. Many animals depend on trees for food or shelter.
- Organisms cause changes to their environment.

SCIENCE IN PERSONAL AND SOCIAL PERSPECTIVES

Develop students’ beginning awareness of types of resources.

- Resources are things we get from living and nonliving things to meet our needs.