INTRODUCTION

The Trees and Weather kit contains

- Teacher Toolkit: Trees and Weather
  1 Investigations Guide: Trees and Weather
  1 Teacher Resources: Trees and Weather
  1 FOSS Science Resources: Trees and Weather
- FOSS Science Resources: Trees and Weather
  (1 big book and class set of student books)
- Permanent equipment for one class of 32 students
- Consumable equipment for three classes of 32 students

A new kit contains enough consumable items for at least three classroom uses before you need to resupply. Some of the FOSS early-childhood investigations take place at a science center for groups of six to ten students at a time. For whole-class activities, use a materials station for the class materials.

Individual photos of each piece of FOSS equipment are available online for printing. For updates to information on materials used in this module and access to the Safety Data Sheets (SDS), go to www.FOSSweb.com. Links to replacement-part lists and customer service are also available on FOSSweb.

NOTE
To see how all of the materials in the module are set up and used, view the teacher preparation video on FOSSweb.

NOTE
Delta Education Customer Service can be reached at 1-800-258-1302.
# TREES AND WEATHER — Materials

## KIT INVENTORY List

### Drawer 1 of 1

<table>
<thead>
<tr>
<th>Equipment Condition</th>
<th>Print Materials</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Teacher Toolkit: Trees and Weather (1 Investigations Guide, 1 Teacher Resources, and 1 FOSS Science Resources: Trees and Weather *)</td>
</tr>
<tr>
<td></td>
<td>1 FOSS Science Resources: Trees and Weather, big book</td>
</tr>
<tr>
<td></td>
<td>1 Poster, Red Oak, with library pocket and 1 set of labels</td>
</tr>
<tr>
<td></td>
<td>1 Poster, White Pine, with library pocket and 1 set of labels</td>
</tr>
<tr>
<td></td>
<td>1 Poster set, Conservation, 4/set</td>
</tr>
<tr>
<td></td>
<td>1 Poster set, A Tree Comes to Class, 4/set</td>
</tr>
<tr>
<td></td>
<td>2 Posters, FOSS Science Safety and FOSS Outdoor Safety</td>
</tr>
</tbody>
</table>

### Shared Materials

|                     | 1 Book, Our Very Own Tree |
|                     | 1 Book, Trees |
|                     | 1 Hole punch |
|                     | 1 Thermometer, FOSS demonstration |
|                     | 1 Thermometer, garden |
|                     | 2 Tree-trunk rounds (different trees) |

### Items for Investigation 1

|                     | 2 Card sets, Landforms, 24 cards/set |
|                     | 8 Card sets, Tree Parts, 15 cards/set |
|                     | 10 Fasteners, round hook-and-loop, extras for replacement |
|                     | 2 Poster labels, sets, extras for replacement, 5/set |
|                     | 1 Puzzle, apple tree, 6 pieces, with reference sheet |
|                     | 1 Puzzle, cottonwood tree, 6 pieces, with reference sheet |
|                     | 1 Puzzle, cottonwood tree, 9 pieces, with reference sheet |
|                     | 1 Puzzle, fir tree, 6 pieces, with reference sheet |
|                     | 1 Puzzle, maple tree, 6 pieces, with reference sheet |
|                     | 1 Puzzle, oak tree, 6 pieces, with reference sheet |
|                     | 1 Puzzle, palm tree, 6 pieces, with reference sheet |
|                     | 1 Puzzle, pine tree, 6 pieces, with reference sheet |
|                     | 1 Puzzle, pine tree, 9 pieces, with reference sheet |
|                     | 1 Puzzle, poplar tree, 6 pieces, with reference sheet |
|                     | 10 Puzzle frames, plastic, clear |

* The student books, if included in your purchase, are shipped separately.

**NOTE**
The teacher toolkit is shipped separately. However, there is space in drawer 1 to store your toolkit.
**Items for Investigation 2**

<p>| | |</p>
<table>
<thead>
<tr>
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<tbody>
<tr>
<td>1</td>
<td>Book, <em>How Do We Learn?</em></td>
</tr>
<tr>
<td>2</td>
<td>Geometric shapes sets, yellow felt, 6/set</td>
</tr>
<tr>
<td>5</td>
<td>Leaf silhouettes sets, big and little, 6 cards and 1 strip/set</td>
</tr>
<tr>
<td>4</td>
<td>Leaf silhouettes sets, green felt, 9/set</td>
</tr>
<tr>
<td>5</td>
<td>Leaf silhouettes sets, same size, 6 cards and 1 strip/set</td>
</tr>
<tr>
<td>5</td>
<td>Leaf silhouettes and outlines sets, 12/set</td>
</tr>
</tbody>
</table>

**Items for Investigation 3**

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<tbody>
<tr>
<td>3</td>
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</table>

**Items for Investigation 4**

<p>| |</p>
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<tbody>
<tr>
<td>2</td>
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</table>

**Consumable Items**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
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<tbody>
<tr>
<td>3</td>
<td>Crepe paper, rolls, blue, 4.4 cm × 24.6 m (1.75&quot; × 81')</td>
</tr>
<tr>
<td>2</td>
<td>Self-stick notes, pads, 100/pad</td>
</tr>
<tr>
<td>1</td>
<td>String, ball, 30 m (100')</td>
</tr>
<tr>
<td>1</td>
<td>Yarn skein, yellow, 55 m (60 yd.)</td>
</tr>
<tr>
<td>200</td>
<td>Zip bags, 1 L (1 qt.)</td>
</tr>
</tbody>
</table>

### Equipment Condition

**NOTE**

This module includes access to FOSSweb, which includes the streaming videos and online activities used in the module.
MATERIALS Supplied by the Teacher

Each part of each investigation has a Materials section that describes the materials required for that part. It lists materials needed for each student or group of students and for the class.

Be aware that you must supply some items. Each of these items is indicated in the materials list for each part of the investigation with an asterisk (*). Here is a summary list of those items by investigation.

For most investigations
1. Camera
   • Chart paper and marking pen
   • Drawing utensils (crayons, pencils, colored pencils, marking pens)
   • Glue sticks
   • Glue, white
   • Paper, white
   1. Pen, marking, permanent, black
   • Science notebooks (composition books)
   1. Scissors
   • Tape, transparent

For outdoor investigations
   • Collecting bags for carrying materials
   • Clipboards (optional)

Investigation 1: Observing Trees
2. Cardboard pieces, 31 \times 46 \text{ cm} (12.25" \times 18.25")
1. Clipboard
20. Paper, construction, pieces, different colors
   \(30 \times 45 \text{ cm} (12" \times 18")\)
   • Paper, contact
   • Catalogs or heavy books
   • Planting tools (shovel, hose, bucket)
1. Tree in a container
   • Water
   • Yarn, cord, or ribbon

NOTE
Throughout the Investigations Guide, we refer to materials not provided in the kit as “teacher-supplied.” These materials are generally common or consumable items that schools and/or classrooms already have, such as rulers, paper towels, and computers. If your school/classroom does not have these items, they can be provided by teachers, schools, districts, or materials centers (if applicable). You can also borrow the items from other departments or classrooms, or request these items as community donations.
Investigation 2: Observing Leaves
2–3 Basins or boxes for leaves
   1 Cardboard box, small, or shopping bag
   1 Felt board
   • Leaves from trees
16 Paper, white, pieces
   5 Sheet protectors, clear-plastic (optional)

Investigation 3: Observing Weather
   • A variety of craft materials
   2 Basins
5–6 Cups or envelopes
   • Paper, construction, fadeless: orange, yellow, green, blue, purple
   • Paper, construction, pieces, 10 × 23 cm (4” × 9”)
   1 Pen, dry-erase
   • Tape, masking
   1 Ruler or stick
   • Water, warm and cold

Investigation 4: Trees through the Seasons
32 Bark photos
   • Bottles, soft-drink, 2 L
   • Evergreen leaves, needles, and scales
   • Fruits, edible
   • Gravel or pebbles
   1 Knife, sharp
   1 Laminator (optional)
8 Paper, drawing, pieces, 11 × 14 cm (4.25” × 5.5”)
   • Paper towels
   1 Bag for seeds, plastic, 1 L
   1 Pruning shears (optional)
   • Twigs
   • Water
PREPARING a New Kit

If you choose to prepare the materials all at once with a group of volunteers, you can use the following guidelines for organization.

1. **Prepare the center instruction sheets**
   Each investigation part that involves a group of students at a center has a center instruction sheet written for a parent or other adult helper working with students. The sheet summarizes the information provided to the teacher in the *Investigations Guide*. Use the teacher masters to print or make a copy of each of the center instructions, and either laminate the sheet or put them in clear-plastic sheet protectors. Take time to orient your adult volunteers or aides to the overall purposes of the activities and encourage them to facilitate but not direct student learning at the center. Below are the teacher master numbers for the center instruction sheets.

   - No. 4 Center Instructions—Tree-Part Cards
   - No. 6 Center Instructions—Tree Puzzles
   - No. 7 Center Instructions—Tree-Silhouette Cards
   - No. 14 Center Instructions—Leaf Shapes
   - No. 19 Center Instructions—Matching Leaf Silhouettes A
   - No. 20 Center Instructions—Matching Leaf Silhouettes B
   - No. 25 Center Instructions—Wind Direction
   - No. 27 Center Instructions—Food from Trees
   - No. 28 Center Instructions—Winter Twigs
   - No. 29 Center Instructions—Forcing Twigs

2. **Prepare tree-silhouette cards**
   Use teacher master 8 to print or make copies of the Tree-Silhouette cards. Each student will need one set of the eight cards. Cut all the cards apart on the dotted lines. Store each set in a zip bag.
3. **Prepare the demonstration thermometer**

The demonstration thermometer has both Celsius and Fahrenheit scales. Decide which scale you want to use.

Set up the demonstration thermometer with five color-coded temperature ranges. Students will use the colored areas on the thermometer to help them associate temperatures with how the air feels.

Use fadeless art paper or construction paper to code the temperature ranges listed below. Write the words in black permanent marker. You may want to cover the paper code with clear contact paper. Be careful not to cover the red and white strip that moves up and down in order to change the temperature reading.

Code 30°C–50°C (80°F–120°F) orange. Label it “Hot.”
Code 10°C–20°C (50°F–65°F) green. Label it “Cool.”
Code 0°C–10°C (32°F–50°F) blue. Label it “Cold.”
Code the area below 0°C (32°F) purple. Label it “Freezing.”
PREPARING the Kit for Your Classroom

Some preparation is required each time you use the kit. Doing these things before beginning the module will make daily setup quicker and easier.

1. **Inventory materials**
   Before using a kit, conduct a quick inventory of all items in the kit. You can use the Kit Inventory List provided in this chapter to keep track of any items that are missing or in need of replacement. Information on ordering replacement items can be found at the end of this chapter. The kit contains enough consumables for at least three classes of 32 students.

2. **Use masters to replace labels and cards**
   *Teacher Resources* includes masters for replacing labels and cards that are provided in the kit as equipment. If you find that any of the labels for posters, tree-part cards, or silhouette outlines or cards are missing, you can make your own replacements using these masters.
   - No. 30 Labels for Tree Posters
   - No. 31 Tree-Part Card Masters A
   - No. 32 Tree-Part Card Masters B
   - No. 33 Silhouette Replacements
   - No. 34 Outlines Replacements
   - No. 35 Big and Little Silhouette Replacements A
   - No. 36 Big and Little Silhouette Replacements B
   - No. 37 Same-Size Silhouette Replacements

3. **Get to know your trees**
   All the tree silhouettes and leaves used in this module are representations of real trees. The tree puzzles and tree-silhouette cards have the names of the trees written on them. To learn the names of the leaves, refer to teacher master 17, *Key to Leaf Names A*, and teacher master 21, *Key to Leaf Names B*.

4. **Plan for a class tree**
   Plan ahead for the class tree. Read Investigation 1, Part 6, “A Tree Comes to Class,” and teacher master 12, *Selecting and Caring for a Tree*, thoroughly. Then consult your principal and custodian for guidelines. Look to parents and the community for support. The Arbor Foundation offers good information about tree plantings (http://www.arborday.org/).
5. **Plan for a learning center and class scrapbook**
   Students will be collecting bits and pieces of trees during the investigation of the schoolyard trees. Provide opportunities for students to observe these materials informally at a learning center (see Science Extensions at the end of Investigation 1). Two loupes/magnifying lenses are provided in the kit for students to use at the center.

   A class scrapbook with pictures of the class tree and the adopted trees and mementos of other activities can also be at the learning center. See Step 6 of Getting Ready for Investigation 1, Part 5, for instructions about how to construct a scrapbook.

6. **Plan for science notebooks**
   See Step 8 of Getting Ready for Investigation 1, Part 1, for ways to organize the science notebooks for this module.

7. **Plan for the word wall and pocket chart**
   As the module progresses, you will add new vocabulary words to a word wall or pocket chart and model writing and responding to focus questions. See Step 7 of Getting Ready for Investigation 1, Part 1, for suggestions about how to do this in your classroom.

8. **Plan for focus-question charts**
   Each part of each investigation has a focus question that students are asked before and after the activity session. You’ll find these questions on teacher masters 2–3, Focus Questions A and B. Students will glue each focus question on a page in their science notebooks and respond to it with words or drawings. At the beginning of the module, you will need to scaffold the use of notebooks. Use a chart to model how to respond to the focus question in writing or drawings. See Step 7 of Getting Ready for Investigation 1, Part 1, for suggestions on how to do this in your classroom.

9. **Plan for letter home and home/school connections**
   Teacher master 1, Letter to Family, is a letter you can use to inform families about this module. The letter states the goals of the module and suggests some home experiences that can contribute to students’ learning.

   There is a home/school connection for most investigations. Check the last page of each investigation for details, and plan when to print or make copies and send them home with students.
10. Review safety issues indoors and outdoors

Early-childhood students should be allowed to demonstrate that they can act responsibly with materials, but they must be given guidelines for safe and appropriate use of materials. Work with students to develop those guidelines so they can participate in making behavioral rules and understand the rationale for the rules. Emphasize that materials do not go in mouths, ears, noses, or eyes. Encourage responsible actions toward other students.

Two safety posters are included in the kit to post in the room—Science Safety and Outdoor Safety. The Getting Ready for Investigation 1, Part 1, will offer suggestions for this discussion.

Also be aware of any allergies that students in your class might have. In Investigation 4, Part 2, students explore fruit from trees and have the opportunity to taste the fruit. Be sure to use fruits that are safe for all your students.

Use the four Conservation posters to discuss the importance of conserving natural resources.

11. Gather books from library

Check your local library for books related to this module. Visit FOSSweb for a list of appropriate trade books that relate to this module.

12. Check FOSSweb for resources

Go to FOSSweb to review the print and digital resources available for this module, including the eGuide, eBook, Resources by Investigation, and Teacher Resources, including the grade-level Planning Guide.
CARE, Reuse, and Recycling

When you finish teaching the module, inventory the kit carefully. Note the items that were used up, lost, or broken, and immediately arrange to replace the items. Use a photocopy of the Kit Inventory List in this chapter, and put your marks in the “Equipment Condition” column. Refill packages and replacement parts are available for FOSS by calling Delta Education at 1-800-258-1302 or by using the online replacement-part catalog (www.DeltaEducation.com).

Standard refill packages of consumable items are available from Delta Education. A refill package for a module includes sufficient quantities of all consumable materials (except those provided by the teacher) to use the kit with three classes of 32 students.

Here are a few tips on storing the equipment after use.

- Make sure items are clean and dry before storing them.
- Make sure the posters and print materials are flat on the bottom of the box.
- Inventory and bag up the cards, felt leaves and shapes, and poster labels.

The items in the kit have been selected for their ease of use and durability. Small items should be inventoried (a good job for students under your supervision) and put into zip bags for storage. Any items that are no longer useful for science should be properly recycled.