

Unit 1—Trees Through the Seasons (FOSS® Trees)

Essential Question: What are some changes we see in trees during the year?

Major Understandings: *Quoted from New York State Performance Indicators*

(Note: Correlation is provided at the level of FOSS “Investigation & Part.” All “Steps” of an investigation must be completed to meet the standard.)

LE 1.1 Describe the characteristics of and variations between living and nonliving things.

1.1b Plants require air, water, nutrients, and light in order to live and thrive.

LE 1.2 Describe the life processes common to all living things.

1.2a Living things grow, take in nutrients, breathe, reproduce, eliminate waste and die.

LE 3.1 Describe how the structures of plants and animals complement the environment of the plant or animal.

3.1b Each plant has different structures that serve different functions in growth, survival and reproduction.

- Roots help support the plant and take in water and nutrients.
- Leaves help plants utilize sunlight to make food for the plant.
- Stems, stalks, trunks and other similar structures provide support for the plant.
- Some plants have flowers.
- Flowers are reproductive structures of plants that produce fruit which contains seeds.
- Seeds contain stored food that aids in germination and the growth of young plants.

3.1c In order to survive in their environment, plants and animals must be adapted to that environment.

- Seeds disperse by a plant’s own mechanism and/or in a variety of ways that can include wind, water, and animals.
- Leaf, flower, stem, and root adaptations may include variations in size, shape, thickness, color, smell, and texture.
- Animal adaptations include coloration for warning or attraction, camouflage, defense mechanisms, movement, hibernation, and migration.

LE 4.2 Describe evidence of growth, repair, and maintenance, such as nails, hair, and bone, and the healing of cuts and bruises.

4.2a Growth is the process by which plants and animals increase in size.

LE 5.1 Describe basic life functions of common living specimens (e.g., guppies, mealworms, gerbils).

5.1a All living things grow, take in nutrients, breathe, reproduce, and eliminate waste.

LE 5.2 Describe some survival behaviors of common living specimens.

5.2a Plants respond to changes in their environment. For example, the leaves of some green plants change position as the direction of light changes; the parts of some plants undergo seasonal changes that enable the plant to grow; seeds germinate, and leaves form and grow.

Long Term Planning for the FOSS® Trees Module:

The Trees module follows trees through the seasons. Investigation 1 focuses on Fall Trees; Investigation 2 focuses on Leaves; Investigation 3 focuses on Trees Through the Seasons. Investigations 1(all Parts), 2 (all Parts), and 3 (Parts 1 through 3) are completed in Unit 1. In winter, three lessons are devoted to winter trees and twigs; in spring, twigs, bark and budding trees are revisited.

When the timing of the next Trees lesson is delayed for any reason, (weather, season, etc.) the FOSS® Wood and Paper module (Unit 2) should be started. Continue with these lessons as the seasons change and weather improves.

*A **note** about studying and collecting leaves, Investigation 2: It is not necessary to wait for leaves to change color and fall from a tree to do this Investigation (although you may need to obtain permission if you pick leaves from a tree). Using green leaves can help students focus on shape and pattern, and leaves will be (re)visited later in Fall when they have changed colors. The onset of Fall leaf color change and leaf drop is dependent on a variety of factors such as rainfall, temperature and day length. In the NYC area the range for Fall Foliage time is usually from the Columbus Day weekend to Election Day, but will vary.*

Follow the link to *The Foliage Network* (http://www.foliagenetwork.com/index.php?option=com_content&view=article&id=180:ne-foliage-report-1-2009&catid=34:northeast-us&Itemid=68) to anticipate the timing of your Fall activities.

In similar fashion you will need to attend to weather and seasonal changes to decide when to return to the Winter (Lessons 25-27) and Spring (Lesson 28-31) activities.

Consult the FOSS® Trees Teacher Guide “Overview” folio:

Science Background, pp. 3-4: Review the perspective of the module, focusing on the strategies that will develop concepts through the study of trees, from the point of view of the learner.

Organizing the Classroom, pp. 10-11: Take note that FOSS “Centers” are guided inquiry experiences under the direction of an adult.

Scheduling the Trees Module, pp. 12-14: This information may be helpful in integrating the lesson pacing below into your daily classroom routine.

Materials, Review “Materials Supplied by the Teacher” (items not included in your kit) and “Preparing a New Kit,” pp. 3-5.

- **View the FOSS Trees Module Introduction and Before You Begin segments of the FOSS Teacher Preparation Video / DVD (also available online at <http://www.fossweb.com/modulesK-2/Trees/index.html> .**

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- **Consider strategies for Investigation 1: Fall Trees, Part 2, A Tree Comes to Class.**

A tree may be obtained a nursery or garden department of a “big box” store. End of season items are often discounted. Inquire as to whether the tree could be donated to your school **or** returned to the nursery if you are not able to plant the tree.

- Think ahead to next year’s tree. Small (6 inch – 1 foot) seedlings sprout in various places in the Spring. Dig the tree up and repot in a 5 gallon container/bucket. Keep the tree outdoors and water weekly if there is not rain. The tree will double or triple it’s size by the start of the next school year. “Weed trees” like Sweetgum Maple (the ‘itchy ball’ tree) and Ailanthus (the “A Tree Grows in Brooklyn” tree) grow rapidly.

- The Saratoga Tree Nursery School Seedling Program <http://www.dec.ny.gov/animals/9393.html> is a source for packets of tree seedlings. Applications are available online. Follow the link to the Lands and Forests Office in Region 2 to contact a local forester. Tree seedlings are shipped April – May. Consider sharing seedlings with other schools if you do not have enough space to plant the seedlings.

- **Preparing a New Kit pp. 4-5**

The entire kit may be prepped in one sitting or you may do the prep prior to the Investigation.

For Investigation 1: Fall Trees, complete Steps 1 – 4.

For Investigation 2: Leaves, complete Steps 5 – 8.

Prepare the Demonstration Thermometer found on pp. 10 – 11 of the “Tools for Observing Weather” folio.

- **Preparing the Kit for the Classroom – Science Notebooks /Journals and Reading Resources**

Consider how you will use science journals for this module.

Consult the Teacher Guide: Investigation 1: Fall Trees, Interdisciplinary Extensions, page 38. Use Science Journals and Student Sheet IDM No. 32.

Download the FOSS Science Notebooks folio found in the “Program Resources” (use the scroll bar) section of the NYC Science. Teacher Resources page http://www.fossweb.com/NYC/teacher_resources/bin-release/index.html?grade=k&module=1# .

Two reading resources, the FOSS Trees Science Stories and “Our Very Own Tree” are included in the kit.

The use of two trade books is supported in the Reading Connections folio of the Trees Teacher Guide:

Red Leaf, Yellow Leaf by Lois Ehlert ISBN # 0152661972, Harcourt Brace, New York, 1991
is read in Investigation 1: Fall Trees, Part 5: Tree Part Cards.

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The Secret Life of Trees by Chiara Chevallier ISBN # 0789447614, DK Publishing, New York, 1999 is read in Investigation 3: Trees Through the Seasons, Part 6: Visiting Adopted Trees in Winter.

Review the supporting materials for the objectives of these selections. Obtain a copy of these books or review additional recommendations listed in the “Resources” folio. You can download a copy of the Resources Database to share with your librarian for assistance in identifying books available in your school.

Review suggestions for fiction and nonfiction student reading in the Resources section of the Trees Teacher Guide.

Download the Material Safety Data Sheet for Trees [*Triethyl Phosphate (liquid used in Thermometer)*]

Follow the link: http://www.delta-education.com/science/foss/foss_msds.aspx

Consider Safety and Allergies:

Leaves and “things that fall from trees” should be stored so they do not grow mold. Paper lunch bags, shoeboxes and other containers make good storage boxes for items you wish to keep them for several months or from year to year.

Edible fruits and nuts in shells are suggested for Investigation 3. Part 2 – Food From Trees.

The focus of this investigation is to provide experience with common and familiar fruit and other edible items from trees that humans and animals eat. Consider providing pictures of items if you cannot bring the real item into your classroom.

Consider Collecting Leaves:

Leaves may be laminated or pressed to save for future use. Search on “pressed fall leaves” for sources such as How to Press Leaves or www.naturespressed.com, where pressed leaves are available for purchase online.

Tools For Observing Weather:

The folio “Tools for Observing Weather” is in the Materials section of the Teacher Guide. Tools are included in the kit to help your class monitor the weather and changes in the weather during the year. You can take advantage of these tools to make connections between the changing weather and changing trees.

The tools may be used in any order to take advantage of the weather conditions. The Weather Calendar can be used to extend the Science Stories used at the end of Investigation 3, Part 3: Visiting Adopted Trees in Fall.

If you wish to prepare vocabulary cards for Investigation 1, see p. 6 of the folio or follow the link to the vocabulary and glossary under “Teacher/Parent Info” on the Trees module page.

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WEEK 1	<p>Lesson 1 (45 min)</p> <p>Objective(s): An <u>informal</u> pre-assessment of student knowledge and attitudes about the study of living things.</p>	<p>Alignment with NYS Core Curriculum: LE 1.1b; 1.2a; 3.1b, c; 4.2a; 5.1a; 5.2a</p>	
	<p>Advanced Planning/ Notes to Teachers</p> <ul style="list-style-type: none"> – Note: Administration of the pre-assessment should be a few days BEFORE the start of the unit. – Teacher Guide, Assessment Folio, pp. 1-4 – Kit preparation: See Teacher Guide, Materials, pp. 1-8 and Teacher Preparation Video or DVD (or view at www.fossweb.com/NYC). – Note: See Teacher Guide, Materials, p. 3 for Materials Supplied by the Teacher. – Gather materials as noted above. – Review the Overview folio of the Teacher Guide taking special note of pp. 3-4: Science Background; pp. 10-11: Organizing the Classroom; p. 15: Safety in the Classroom; p. 18: Module Matrix. 	<p style="text-align: center;">Investigation/Activity</p> <ul style="list-style-type: none"> – End-of-Module Assessment, Assessment Checklist and Narrative Report Assessment Duplication Masters Nos. 1, 2, 3 – Letter to Parents, Teacher Sheet No. 1 <p>Note: The “Letter to Parents” in your Teacher Guide informs parents and caregivers about upcoming experiences for students. Resources found on Fossweb.com will help you connect parents and caregivers to student learning. <i>Log on to www.fossweb.com/nyc.: Go to Grade K, click on Trees. Click on “For Parents and Teachers”: Click on “Home School Connection”. Download the “FOSS® at Home” Folio.</i></p>	<p style="text-align: center;">Homework/Extra Practice</p> <p>Send Home “Letter to Parents.”</p>

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WEEK 1 (continued)	Lesson 2 (45 min) Objective(s): <ul style="list-style-type: none"> • Trees have identifiable structures. • Trees are a resource. • Trees are growing, living organisms. 		Alignment with NYS Core Curriculum: LE 1.2a; 3.1b; 5.1a	
	Advanced Planning/Notes to Teacher <ul style="list-style-type: none"> – Teacher Guide Inv. 1: Fall Trees, pp. 1-6 – Teacher Guide Inv. 1: Fall Trees, Part 1: Looking at Schoolyard Trees, pp. 7-10 – Teacher Guide Inv. 1: Fall Trees, Interdisciplinary Extensions p. 38 Use Science Journals. – Review the Tools for Observing Weather folio to determine which parts you will integrate into Investigation 1. – www.fossweb.com/NYC – Check website for interactive simulations, Audio Stories, to write questions to a scientist, for teaching tips, and other websites to support teaching Trees. 	Investigation/Activity <ul style="list-style-type: none"> – Investigation 1: Fall Trees Part 1: Looking at Schoolyard Trees, pp. 11-14, Steps 1 - 2 – Investigation Duplication Master: Teacher Sheet No. 1 – Investigation Duplication Master: Teacher Sheet No. 2 – Investigation Duplication Master: Teacher Sheet No. 36 (from kit) – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 		Homework/Extra Practice

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WEEK 1 (continued)	Lesson 3 (45 min) Objective(s): <ul style="list-style-type: none"> • Trees have identifiable structures. • Trees are a resource. • Trees are growing, living organisms. 		Alignment with NYS Core Curriculum: LE 1.2a; 3.1b; 5.1a
	Advanced Planning/ Notes to Teachers <ul style="list-style-type: none"> – Teacher Guide Inv. 1: Fall Trees, pp. 1-6 – Teacher Guide Inv. 1: Fall Trees, Part 1: Looking at Schoolyard Trees, Materials and Getting Ready, pp. 7-10 – Teacher Guide Inv. 1: Fall Trees, Interdisciplinary Extensions p. 38 Use Science Journals. 	Investigation/Activity <ul style="list-style-type: none"> – Investigation 1: Fall Trees Part 1: Looking at Schoolyard Trees, pp. 11-14, Steps 3-9 – Investigation Duplication Master: Teacher Sheet No. 1 – Investigation Duplication Master: Teacher Sheet No. 2 – Investigation Duplication Master: Teacher Sheet No. 36 (from kit) – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 	Homework/ Extra Practice

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WEEK 2	Lesson 4 (45 min) Objective(s): <ul style="list-style-type: none"> • Trees have identifiable structures. • Trees are a resource. • Trees are growing, living organisms. 		Alignment with NYS Core Curriculum: LE 1.2a; 3.1b; 5.1a	
	Advanced Planning/ Notes to Teacher <ul style="list-style-type: none"> – Teacher Guide Inv. 1: Fall Trees, pp. 1-6 – Teacher Guide Inv. 1: Fall Trees, Part 1: Looking at Schoolyard Trees, Materials and Getting Ready, pp. 7-10. – Teacher Guide Inv. 1: Fall Trees, Interdisciplinary Extensions, p. 38 Use Science Journals. 	Investigation/Activity <ul style="list-style-type: none"> – Investigation 1: Fall Trees Part 1: Looking at Schoolyard Trees, pp. 11-14, Steps 10-11 – Investigation Duplication Master: Teacher Sheet No. 1 – Investigation Duplication Master: Teacher Sheet No. 2 – Investigation Duplication Master: Teacher Sheet No. 36 (from kit) – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 		Homework/Extra Practice

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WEEK 2 (continued)	Lesson 5 (45 min) Objective(s): <ul style="list-style-type: none"> Trees are growing, living organisms. Trees have basic needs, including water, light, and nutrients from soil. 		Alignment with NYS Core Curriculum: LE 1.1b; 1.2a; 4.2a; 5.1a
	Advanced Planning/ Notes to Teachers <ul style="list-style-type: none"> Teacher Guide Inv. 1: Fall Trees, pp. 1-6 Teacher Guide Inv. 1: Fall Trees, Part 2: A Tree Comes to Class, Materials and Getting Ready, pp. 15-17 Teacher Guide Trees Reading Connections folio, pp. 1-5 Teacher Guide Inv. 1: Fall Trees, Interdisciplinary Extensions, p. 38 Use Science Journals. 	Investigation/Activity <ul style="list-style-type: none"> Investigation 1: Fall Trees Part 2: A Tree Comes to Class, pp. 18-19, Steps 1 - 7 Investigation Duplication Master: Teacher Sheet No. 3 Investigation Duplication Master: Teacher Sheets Nos. 4, 5 Investigation Duplication Master: Student Sheet No. 32 Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 	Homework/Extra Practice
	Lesson 6 (45 min) Objective(s): Trees are identifiable by their shapes.		Alignment with NYS Core Curriculum: LE 3.1b
	Advanced Planning/ Notes to Teachers <ul style="list-style-type: none"> Teacher Guide Inv. 1: Fall Trees, pp. 1-6 Teacher Guide Inv. 1: Fall Trees, Part 3: Tree Puzzles, Materials and Getting Ready pp. 20-21 Teacher Guide Inv. 1: Fall Trees, Interdisciplinary Extensions, p. 38 Use Science Journals. 	Investigation/Activity <ul style="list-style-type: none"> Investigation 1: Fall Trees Part 3: Tree Puzzles, pp. 22, Steps 1-3 Investigation Duplication Master: Teacher Sheet No. 6 Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 	Homework/Extra Practice

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WEEK 3	<p>Lesson 7 (45 min) Objective(s): Trees are identifiable by their shapes.</p>		<p>Alignment with NYS Core Curriculum: LE 3.1b</p>
	<p>Advanced Planning/ Notes to Teachers – Teacher Guide Inv. 1: Fall Trees, pp. 1-6 – Teacher Guide Inv. 1: Fall Trees, Part 4: Tree-Silhouette Cards, Materials and Getting Ready pp. 23-24 – Teacher Guide Inv. 1: Fall Trees, Interdisciplinary Extensions, p. 38 Use Science Journals.</p>	<p>Investigation/Activity – Investigation 1: Fall Trees Part 4: Tree-Silhouette Cards, pp. 24, Steps 1 - 2 – Investigation Duplication Master: Teacher Sheets Nos. 7, 8 – Investigation Duplication Master: Student Sheet No. 32 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist</p>	<p>Homework/Extra Practice Home/School Connection, IDM No. 33</p>
	<p>Lesson 8 (45 min) Objective(s): Trees have identifiable structures.</p>		<p>Alignment with NYS Core Curriculum: LE 3.1b</p>
	<p>Advanced Planning/ Notes to Teachers – Teacher Guide Inv. 1: Fall Trees, pp. 1-6 – Teacher Guide Inv. 1: Fall Trees, Part 5: Tree-Part Cards, Materials and Getting Ready pp. 25-26 – Teacher Guide Trees Reading Connections folio, pp. 6-7 – Teacher Guide Inv. 1: Fall Trees, Interdisciplinary Extensions, p. 38 Use Science Journals.</p>	<p>Investigation/Activity – Investigation 1: Fall Trees Part 5: Tree-Part Cards, pp. 27, Steps 1-4 – Investigation Duplication Master: Teacher Sheet No. 9 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist – Read <i>Red Leaf, Yellow Leaf</i></p>	<p>Homework/Extra Practice</p>

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WEEK 3 (continued)	Lesson 9 (45 min) Objective(s): Trees have identifiable structures.		Alignment with NYS Core Curriculum: LE 3.1b
	Advanced Planning/ Notes to Teachers – Teacher Guide Inv. 1: Fall Trees, pp. 1-6 – Teacher Guide Inv. 1: Fall Trees, Part 6: Tree-Part Booklets, Materials and Getting Ready, pp. 28-29 – Teacher Guide Inv. 1: Fall Trees, Interdisciplinary Extensions, p. 38 Use Science Journals.	Investigation/Activity – Investigation 1: Fall Trees Part 6: Tree-Part Booklets, pp. 29-30, Steps 1-2 – Investigation Duplication Master: Teacher Sheet No. 12 – Investigation Duplication Master: Student Sheets Nos. 10, 11, 32 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist	Homework/Extra Practice
WEEK 4	Lesson 10 (45 min) Objective(s): Trees have identifiable structures.		Alignment with NYS Core Curriculum: LE 3.1b
	Advanced Planning/ Notes to Teachers – Teacher Guide Inv. 1: Fall Trees, pp. 1-6 – Teacher Guide Inv. 1: Fall Trees, Part 6: Tree-Part Booklets, Materials and Getting Ready, pp. 28-29 – Teacher Guide Inv. 1: Fall Trees, Interdisciplinary Extensions, p. 38 Use Science Journals.	Investigation/Activity – Investigation 1: Fall Trees Part 6: Tree-Part Booklets, pp. 29-30, Steps 3-4 – Investigation Duplication Master: Teacher Sheet No. 12 – Investigation Duplication Master: Student Sheets Nos. 10, 11, 32 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist	Homework/Extra Practice

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WEEK 4 (continued)	Lesson 11 (45 min) Objective(s): Individual trees can be described by their properties, including size, shape, and texture.		Alignment with NYS Core Curriculum: LE 1.1b; 3.1b, c; 5.2a
	Advanced Planning/ Notes to Teachers – Teacher Guide Inv. 1: Fall Trees pp. 1-6 – Teacher Guide Inv. 1: Fall Trees, Part 7: Adopt Schoolyard Trees, Materials and Getting Ready, pp. 31-32 – Teacher Guide Inv. 1: Fall Trees, Interdisciplinary Extensions, p. 38 Use Science Journals.	Investigation/Activity – Investigation 1: Fall Trees Part 7: Adopt Schoolyard Trees, pp. 33-34, Steps 1-6 – Investigation Duplication Master: Teacher Sheets Nos. 13, 14 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist	Homework/ Extra Practice
	Lesson 12 (45 min) Objective(s): <ul style="list-style-type: none"> • Trees are growing, living organisms. • Trees have basic needs, including water, light, and nutrients from soil. 		Alignment with NYS Core Curriculum: LE 1.1a; 3.1a, c; 4.1f
	Advanced Planning/ Notes to Teachers – Teacher Guide Inv. 1: Fall Trees pp. 1-6 – Teacher Guide Inv. 1: Fall Trees, Part 8: Plant the Class Tree, Materials and Getting Ready, pp. 35-36 – Teacher Guide Inv. 1: Fall Trees, Interdisciplinary Extensions, p. 38 Use Science Journals.	Investigation/Activity – Investigation 1: Fall Trees Part 8: Plant the Class Tree, pp. 33-34, Steps 1-5 – Investigation Duplication Master: Teacher Sheet No. 3 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist	Homework/ Extra Practice
If you wish to prepare vocabulary cards for Investigation 2, see p. 5 of the folio or follow the link to the vocabulary and glossary under “Teacher/Parent Info” on the Trees module page.			

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	<p>Lesson 13 (45 min)</p> <p>Objective(s):</p> <ul style="list-style-type: none"> • Leaves have identifiable structures. • Leaves grow on the tips and sides of small branches. • Many kinds of trees lose their leaves in the Fall. • Leaves from the same trees have the same shapes. 	<p>Alignment with NYS Core Curriculum:</p> <p>LE 3.1b; 5.2a</p>	
WEEK 5	<p>Advanced Planning/Notes to Teachers</p> <ul style="list-style-type: none"> – Teacher Guide Inv. 2: Leaves pp. 1-5 – Teacher Guide Inv. 2: Leaves, Part 1: Leaf Walk, Materials and Getting Ready, pp. 6-7 – Teacher Guide Inv. 1: Fall Trees, Interdisciplinary Extensions, p. 38 Use Science Journals. – Review the Tools for Observing Weather folio to determine which parts you will integrate into Investigation 2. – www.fossweb.com/NYC – Check website for interactive simulations, Audio Stories, to write questions to a scientist, for teaching tips, and other websites to support teaching Trees. 	<p style="text-align: center;">Investigation/Activity</p> <ul style="list-style-type: none"> – Investigation 2: Leaves Part 1: Leaf Walk, pp. 8-9, Steps 1-9 – Investigation Duplication Master: Teacher Sheet No. 15 – Investigation Duplication Master: Student Sheet No. 32 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 	<p style="text-align: center;">Homework/Extra Practice</p>

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WEEK 5 (continued)	Lesson 14 (45 min) Objective(s): <ul style="list-style-type: none"> • Leaf shapes can be compared to geometric shapes. • Leaves have many properties that can be compared. 	Alignment with NYS Core Curriculum: LE 3.1b, c	
	Advanced Planning/ Notes to Teachers <ul style="list-style-type: none"> – Teacher Guide Inv. 2: Leaves, pp. 1-5 – Teacher Guide Inv. 2: Leaves, Part 2: Leaf Shapes, Materials and Getting Ready pp. 10-12 – Teacher Guide Inv. 1: Fall Trees, Interdisciplinary Extensions, p. 38 Use Science Journals. 	Investigation/Activity <ul style="list-style-type: none"> – Investigation 2: Leaves Part 2: Leaf Shapes, pp. 13-15, Steps 1-9 – Investigation Duplication Master: Teacher Sheets Nos. 17, 18, 19, 47 – Investigation Duplication Master: Student Sheets Nos. 16, 32 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 	Homework/ Extra Practice
	Lesson 15 (45 min) Objective(s): <ul style="list-style-type: none"> • Leaves from the same trees have the same shapes. • Leaves have many properties that can be compared. 	Alignment with NYS Core Curriculum: LE 3.1b, c	
	Advanced Planning/ Notes to Teachers <ul style="list-style-type: none"> – Teacher Guide Inv. 2: Leaves pp. 1-5 – Teacher Guide Inv. 2: Leaves, Part 3: Comparing Leaves, Materials and Getting Ready, pp. 16-17 – Teacher Guide Trees Reading Connections folio, pp. 8-9 – Teacher Guide Inv. 1: Fall Trees, Interdisciplinary Extensions, p. 38 Use Science Journals. 	Investigation/Activity <ul style="list-style-type: none"> – Investigation 2: Leaves Part 3: Comparing Leaves, pp. 18-19, Steps 1-8 – Investigation Duplication Master: Teacher Sheets Nos. 20, 21 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 	Homework/ Extra Practice

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WEEK 6	Lesson 16 (45 min) Objective(s): <ul style="list-style-type: none"> Leaves from the same trees have the same shapes. Leaves have many properties that can be compared. 		Alignment with NYS Core Curriculum: LE 3.1b, c	
	Advanced Planning/ Notes to Teachers <ul style="list-style-type: none"> Teacher Guide Inv. 2: Leaves pp. 1-5 Teacher Guide Inv. 2: Leaves, Part 3: Comparing Leaves, Materials and Getting Ready pp. 16-17 Teacher Guide Trees Reading Connections folio, pp. 8-9 Teacher Guide Inv. 1: Fall Trees, Interdisciplinary Extensions, p. 38 Use Science Journals. 	Investigation/Activity <ul style="list-style-type: none"> Investigation 2: Leaves Part 3: Comparing Leaves, pp. 18-19, Steps 9 Investigation Duplication Master: Teacher Sheets Nos. 20, 21 Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist Read Science Stories: pp. 3-13 <i>Where do Trees Grow?</i> <p>For link to the Trees Science Stories Audio Stories log on to www.fossweb.com/nyc: Go to Grade K, click on Trees. Click on "Media;" Click on Audio Stories.</p>		Homework/Extra Practice
	Lesson 17 (45 min) Objective(s): Leaves can be identified by their shapes and edges.		Alignment with NYS Core Curriculum: LE 3.1b, c	
	Advanced Planning/ Notes to Teachers <ul style="list-style-type: none"> Teacher Guide Inv. 2: Leaves pp. 1-5 Teacher Guide Inv. 2: Leaves, Part 4: Leaf Silhouettes and Outlines, Materials and Getting Ready, pp. 20-21 Teacher Guide Inv. 1: Fall Trees, Interdisciplinary Extensions p. 38 Use Science Journals. 	Investigation/Activity <ul style="list-style-type: none"> Investigation 2: Leaves Part 4: Leaf Silhouettes and Outlines, pp. 22, Steps 1-2 Investigation Duplication Master: Teacher Sheets Nos. 22, 47 Investigation Duplication Master: Teacher Sheets Nos. 42, 43 if needed Investigation Duplication Master: Student Sheet No. 32 Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 		Homework/Extra Practice

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WEEK 6 (continued)	Lesson 18 (45 min) Objective(s): Leaves have many properties that can be compared.		Alignment with NYS Core Curriculum: LE 3.1b, c
	Advanced Planning/ Notes to Teachers – Teacher Guide Inv. 2: Leaves pp. 1-5 – Teacher Guide Inv. 2: Leaves, Part 5: Leaf-Silhouette Games, Materials and Getting Ready pp. 23-24 – Teacher Guide Inv. 1: Fall Trees, Interdisciplinary Extensions p. 38 Use Science Journals.	Investigation/Activity – Investigation 2: Leaves Part 5: Leaf-Silhouette Games, pp. 25, Steps 1-3 – Investigation Duplication Master: Teacher Sheets Nos. 23, 48 – Investigation Duplication Master: Teacher Sheets Nos. 44-46, if needed – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist	Homework/Extra Practice Home School Connection, IDM No. 34
WEEK 7	Lesson 19 (45 min) Objective(s): <ul style="list-style-type: none"> Leaves have many properties that can be compared. Leaves can be identified by their shapes, tips and colors. 		Alignment with NYS Core Curriculum: LE 3.1b, c; (4.2a)
	Advanced Planning/ Notes to Teachers – Teacher Guide Inv. 2: Leaves pp. 1-5 – Teacher Guide Inv. 2: Leaves, Part 6: Leaf Books, Materials and Getting Ready pp. 26-27 – Teacher Guide Trees Reading Connections folio, pp. 10-11 – Teacher Guide Inv. 1: Fall Trees, Interdisciplinary Extensions, p. 38 Use Science Journals.	Investigation/Activity – Investigation 2: Leaves Part 6: Leaf Books, pp. 25, Steps 1 - 3 – Investigation Duplication Master: Teacher Sheet No. 24 – Investigation Duplication Master: Student Sheet No. 32 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist Read: <i>Our Very Own Tree</i> (Big Book, provided in kit)	Homework/Extra Practice

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WEEK 7 (continued)	Lesson 20 (45 min) Objective(s): <ul style="list-style-type: none"> Leaves have many properties that can be compared. Leaves can be identified by their shapes, tips and colors. 		Alignment with NYS Core Curriculum: LE 3.1b, c; (4.2a)
	Advanced Planning/ Notes to Teachers <ul style="list-style-type: none"> Teacher Guide Inv. 2: Leaves pp. 1-5 Teacher Guide Inv. 2: Leaves, Part 6: Leaf Books, Materials and Getting Ready, pp. 26-27 Teacher Guide Trees Reading Connections folio, pp. 10-11 Teacher Guide Inv. 1: Fall Trees, Interdisciplinary Extensions, p. 38 Use Science Journals. 	Investigation/Activity <ul style="list-style-type: none"> Investigation 2: Leaves Part 6: Leaf Books, pp. 25, Step 4 Investigation Duplication Master: Teacher Sheet No. 24 Investigation Duplication Master: Student Sheet No. 32 Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist Read: <i>Our Very Own Tree</i>	Homework/Extra Practice

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If you wish to prepare vocabulary cards for Investigation 3, see p. 9 of the folio or follow the link to the vocabulary and glossary under “Teacher/Parent Info” on the Trees module page.

	<p>Lesson 21 (45 min)</p> <p>Objective(s): Trees are resources. Trees are growing, living organisms.</p>	<p>Alignment with NYS Core Curriculum: LE 1.1b; 1.2a; 5.2a</p>	
<p>WEEK 7 (continued)</p>	<p>Advanced Planning/ Notes to Teachers</p> <ul style="list-style-type: none"> – Teacher Guide Inv. 3: Trees Through the Seasons, pp. 1-9 – Teacher Guide Inv. 3: Trees Through the Seasons, Part 1: What Comes from a Fall Tree?, Materials and Getting Ready, p. 10 – Teacher Guide Inv. 1: Fall Trees, Interdisciplinary Extensions, p. 38 Use Science Journals. – Review the Tools for Observing Weather folio to determine which parts you will integrate into Investigation 3. – www.fossweb.com/NYC – Check website for interactive simulations, Audio Stories, to write questions to a scientist, for teaching tips, and other websites to support teaching Trees. 	<p style="text-align: center;">Investigation/Activity</p> <ul style="list-style-type: none"> – Investigation 3: Trees Through the Seasons Part 1: What Comes from a Fall Tree?, p. 11, Steps 1-5 – Investigation Duplication Master: Teacher Sheet No. 25 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 	<p style="text-align: center;">Homework/Extra Practice</p>

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WEEK 8	Lesson 22 (45 min) Objective(s): <ul style="list-style-type: none"> • Trees are resources. • Fruits and nuts provide protection and food for the seeds. 		Alignment with NYS Core Curriculum: LE 1.1b; 3.1c; 5.2a
	Advanced Planning/ Notes to Teachers <ul style="list-style-type: none"> – Teacher Guide Inv. 3: Trees Through the Seasons, pp. 1-9 – Teacher Guide Inv. 3: Trees Through the Seasons, Part 2: Food From Trees, Materials and Getting Ready, pp. 12-13 – Teacher Guide Inv. 1: Fall Trees, Interdisciplinary Extensions, p. 38 Use Science Journals. 	Investigation/Activity <ul style="list-style-type: none"> – Investigation 3: Trees Through the Seasons Part 2: Food From Trees, p. 14, Steps 1-6 – Investigation Duplication Master: Teacher Sheet No. 26 – Investigation Duplication Master: Student Sheet No. 32 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 	Homework/Extra Practice
	Lesson 23 (45 min) Objective(s): <ul style="list-style-type: none"> • Trees change through the seasons. • Trees are growing, living organisms. 		Alignment with NYS Core Curriculum: LE 1.1b; 1.2a; 3.1c; 5.2a
	Advanced Planning/ Notes to Teachers <ul style="list-style-type: none"> – Teacher Guide Inv. 3: Trees Through the Seasons, pp. 1-9 – Teacher Guide Inv. 3: Trees Through the Seasons, Part 3: Visiting Adopted Trees in Fall, pp. 15-16 – Teacher Guide Trees Reading Connections folio, pp. 12-13 – Teacher Guide Inv. 1: Fall Trees, Interdisciplinary Extensions p. 38 Use Science Journals. 	Investigation/Activity <ul style="list-style-type: none"> – Investigation 3: Trees Through the Seasons Part 3: Visiting Adopted Trees in Fall, p. 17-18, Steps 1-5 – Investigation Duplication Master: Teacher Sheet No. 27 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 	Homework/Extra Practice

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WEEK 8 (continued)	<p>Lesson 24 (45 min)</p> <p>Objective(s):</p> <ul style="list-style-type: none"> • Trees change through the seasons. • Trees are growing, living organisms. 		<p>Alignment with NYS Core Curriculum:</p> <p>LE 1.1b; 1.2a; 3.1c; 5.2a</p>
	<p>Advanced Planning/ Notes to Teachers</p> <ul style="list-style-type: none"> – Teacher Guide Inv. 3: Trees Through the Seasons, pp. 1-9 – Teacher Guide Inv. 3: Trees Through the Seasons, Part 3: Visiting Adopted Trees in Fall, Materials and Getting Ready, pp. 15-16 – Teacher Guide Trees Reading Connections folio, pp. 12-13 – Teacher Guide Inv. 1: Fall Trees, Interdisciplinary Extensions, p. 38 Use Science Journals. 	<p style="text-align: center;">Investigation/Activity</p> <ul style="list-style-type: none"> – Investigation 3: Trees Through the Seasons Part 3: Visiting Adopted Trees in Fall, p. 17-18, Step 6 – Investigation Duplication Master: Teacher Sheet No. 27 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist <p>Read:</p> <p>pp. 14-17, <i>My Apple Tree</i> pp. 18-21, <i>Orange Trees</i> pp. 22-24, <i>Maple Trees</i></p> <p>For link to the Trees Science Stories Audio Stories log on to www.fossweb.com/nyc: Go to Grade K, click on Trees. Click on “Media;” Click on Audio Stories.</p>	<p style="text-align: center;">Homework/ Extra Practice</p> <p>Home School Connection, IDM No. 35</p>

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Plan to complete these lessons during the Winter months.

WEEK 9	<p>Lesson 25 (45 min)</p> <p>Objective(s):</p> <ul style="list-style-type: none"> • Some trees lose their leaves in winter, while others do not. • Evergreen trees can be identified by the properties of their leaves (or needles). 	<p>Alignment with NYS Core Curriculum:</p> <p>LE 3.1b, c; 5.2a</p>	
	<p>Advanced Planning/ Notes to Teachers</p> <ul style="list-style-type: none"> – Teacher Guide Inv. 3: Trees Through the Seasons, pp. 1-9 – Teacher Guide Inv. 3: Trees Through the Seasons, Part 4: Winter Evergreen Hunt, Materials and Getting Ready, pp. 19-20 – Teacher Guide Inv. 1: Fall Trees, Interdisciplinary Extensions p. 38 Use Science Journals. 	<p>Investigation/Activity</p> <ul style="list-style-type: none"> – Investigation 3: Trees Through the Seasons Part 4: Winter Evergreen Hunt, p. 21, Steps 1-5 – Investigation Duplication Master: Teacher Sheet No. 28 – Investigation Duplication Master: Student Sheet No. 32 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 	<p>Homework/ Extra Practice</p>
	<p>Lesson 26 (45 min)</p> <p>Objective(s):</p> <ul style="list-style-type: none"> • Twigs have structures such as leaf scars and buds. • Growth rings in twigs and trunks show how much a tree has grown in a year. 	<p>Alignment with NYS Core Curriculum:</p> <p>LE 1.2a; 3.1b, c; 4.2a; 5.1a; 5.2a</p>	
	<p>Advanced Planning/ Notes to Teachers</p> <ul style="list-style-type: none"> – Teacher Guide Inv. 3: Trees Through the Seasons, pp. 1-9 – Teacher Guide Inv. 3: Trees Through the Seasons, Part 5: Winter Twigs, Materials and Getting Ready, pp. 22-23 – Teacher Guide Inv. 1: Fall Trees, Interdisciplinary Extensions, p. 38 Use Science Journals. 	<p>Investigation/Activity</p> <ul style="list-style-type: none"> – Investigation 3: Trees Through the Seasons Part 5: Winter Twigs, pp. 24-25, Steps 1-5 – Investigation Duplication Master: Teacher Sheet No. 28 – Investigation Duplication Master: Student Sheet No. 32 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 	<p>Homework/ Extra Practice</p>

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WEEK 9 (continued)	Lesson 27 (45 min) Objective(s): <ul style="list-style-type: none"> • Trees change through the seasons. • Trees are growing, living organisms. 		Alignment with NYS Core Curriculum: LE 1.1b; 1.2a; 3.1c; 5.2a
	Advanced Planning/ Notes to Teachers <ul style="list-style-type: none"> – Teacher Guide Inv. 3: Trees Through the Seasons, pp. 1-9 – Teacher Guide Inv. 3: Trees Through the Seasons, Part 6: Visiting Adopted Trees in Winter, Materials and Getting Ready, pp. 26-27 – Teacher Guide Trees Reading Connections folio, pp. 14-15 – Teacher Guide Inv. 1: Fall Trees, Interdisciplinary Extensions p. 38 Use Science Journals. 	Investigation/Activity <ul style="list-style-type: none"> – Investigation 3: Trees Through the Seasons Part 6: Visiting Adopted Trees in Winter, pp. 24-25, Steps 1-5 – Investigation Duplication Master: Teacher Sheet No. 27 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist Read: <i>The Secret Life of Trees by Chiara Chevalier</i> (An online search will result in many sources for this title, including new, used and school/library editions. A similar trade book may be substituted if needed.)	Homework/Extra Practice

Get ready to start the Spring activities. Watch for indoor Spring flowers, pussy willow, and forsythia branches in local shops and supermarkets. “Outdoor Spring” will soon follow.

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WEEK 10	<p>Lesson 28 (45 min)</p> <p>Objective(s):</p> <ul style="list-style-type: none"> • The buds on twigs grow into leaves or flowers. • Trees need warmth and water to grow. 	<p>Alignment with NYS Core Curriculum: LE 1.1b; 1.2a; 3.1b, c; 4.2a; 5.1a; 5.2a</p>	
	<p>Advanced Planning/Notes to Teachers</p> <ul style="list-style-type: none"> – Teacher Guide Inv. 3: Trees Through the Seasons, pp. 1-9 – Teacher Guide Inv. 3: Trees Through the Seasons, Part 7: Forcing Spring Twigs, Materials and Getting Ready, pp. 29-30 – Teacher Guide Inv. 1: Fall Trees, Interdisciplinary Extensions, p. 38 Use Science Journals. 	<p>Investigation/Activity</p> <ul style="list-style-type: none"> – Investigation 3: Trees Through the Seasons Part 7: Forcing Spring Twigs, p. 31, Steps 1-3 – Investigation Duplication Master: Teacher Sheet No. 30 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 	<p>Homework/Extra Practice</p>
	<p>Lesson 29 (45 min)</p> <p>Objective(s): Different kinds of trees can be identified by the properties of the bark.</p>	<p>Alignment with NYS Core Curriculum: LE 3.1b, c</p>	
	<p>Advanced Planning/Notes to Teachers</p> <ul style="list-style-type: none"> – Teacher Guide Inv. 3: Trees Through the Seasons, pp. 1-9 – Teacher Guide Inv. 3: Trees Through the Seasons, Part 8: Spring Bark Hunt, Materials and Getting Ready, pp. 32-33 – Teacher Guide Inv. 1: Fall Trees, Interdisciplinary Extensions, p. 38 Use Science Journals. 	<p>Investigation/Activity</p> <ul style="list-style-type: none"> – Investigation 3: Trees Through the Seasons Part 8: Spring Bark Hunt, p. 31, Steps 1-4 – Investigation Duplication Master: Teacher Sheet No. 31 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 	<p>Homework/Extra Practice</p>

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WEEK 10 (continued)	Lesson 30 (45 min) Objective(s): <ul style="list-style-type: none"> • Trees Change through the seasons. • Trees are growing, living organisms. 		Alignment with NYS Core Curriculum: LE 1.1b; 1.2a; 3.1c; 5.2a
	Advanced Planning/ Notes to Teachers <ul style="list-style-type: none"> – Teacher Guide Inv. 3: Trees Through the Seasons, pp. 1-9 – Teacher Guide Inv. 3: Trees Through the Seasons, Part 9: Visiting Adopted Trees in Spring, Materials and Getting Ready, pp. 35-36 – Teacher Guide Inv. 1: Fall Trees, Interdisciplinary Extensions, p. 38 Use Science Journals. 	Investigation/Activity <ul style="list-style-type: none"> – Investigation 3: Trees Through the Seasons Part 9: Visiting Adopted Trees in Spring, p. 37-38, Steps 1-4 – Investigation Duplication Master: Teacher Sheet No. 27 – Investigation Duplication Master: Student Sheet No. 32 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist 	Homework/Extra Practice

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WEEK 11	Lesson 31 (45 min) Objective(s): <ul style="list-style-type: none"> • Trees Change through the seasons. • Trees are growing, living organisms. 		Alignment with NYS Core Curriculum: LE 1.1b; 1.2a; 3.1c; 5.2a
	Advanced Planning/ Notes to Teachers – Teacher Guide Inv. 3: Trees Through the Seasons, pp. 1-9 – Teacher Guide Inv. 3: Trees Through the Seasons, Part 9: Visiting Adopted Trees in Spring, Materials and Getting Ready, pp. 35-36 – Teacher Guide Trees Reading Connections folio, pp. 10-11 – Teacher Guide Inv. 1: Fall Trees, Interdisciplinary Extensions, p. 38 Use Science Journals.	Investigation/Activity – Investigation 3: Trees Through the Seasons Part 9: Visiting Adopted Trees in Spring, p. 37-38, Steps 5-7 – Investigation Duplication Master: Teacher Sheet No. 27 – Investigation Duplication Master: Student Sheet No. 32 – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist Re-Read: <i>Our Very Own Tree</i>	Homework/Extra Practice
	Lesson 32 (45 min) Objective(s): End of Modules Assessment.		Alignment with NYS Core Curriculum: LE 1.1b; 1.2a; 3.1b, c; 4.2a; 5.1a; 5.2a
	Advanced Planning/ Notes to Teachers Teacher Guide, Assessment Folio, pp. 1-4	Investigation/Activity – Complete the End of Module Assessment – Narrative Report. – Assessment Duplication Masters Nos. 1, 2, 3: Anecdotal Notes and Assessment Checklist	Homework/Extra Practice