

## **FOSS® TREES TEACHER PREPARATION VIDEO TRANSCRIPT**

### ***<Larry Lowery Introduction to FOSS Program>***

Lowery: Hello. Welcome to the Full Option Science System. This program was funded by the National Science Foundation. Its goal was to develop materials that would involve youngsters with both the processes and the content of science.

The program is developed with the Lawrence Hall of Science, with scientists, science educators and teachers working together as a team to develop the materials. The materials are tested in the hands of teachers and children in classrooms. It takes about two years to turn out a module.

Each module begins with firsthand experiences. This is done because it has been found that firsthand experiences are the best way for youngsters to learn about the concepts of science. As the module progresses, children are introduced to abstractions and reading materials. The sequence from firsthand experiences through reading materials is deliberate because it has been found that youngsters, when they have some experience before they read, learn and understand more from the reading. Authors of reading materials can then take youngsters to greater abstractions.

Trust the materials that you are getting acquainted with. They have been well-tested. We found that they work extremely well in the hands of all teachers and are effective for youngsters in learning about science.

### ***<Leigh Agler Introduction to Module>***

Narrator/Leigh Agler: Hi, I'm Leigh Agler. And I'm here to help you get started with the Trees module. In the Trees module students observe and compare trees in and near their schoolyard. They welcome a tree into their classroom, use pictorial materials to observe closely the structures of trees and the details of leaves, and go on many, many field trips as they follow their adopted trees through the seasons.

Most of the equipment that you'll need for this module comes packaged in this one box. There are enough consumable supplies for two classes of 32 students. Be sure to read the inventory sheet which comes in the kit so that you'll know which materials are considered consumable and which are permanent.

Here is the all important Teacher Guide. Take some time to read the Overview folio before starting this module. It's full of helpful suggestions, including correlations to national standards, background information, classroom management tips, and ideas for scheduling the module, whether you teach a full day, half day or combination kindergarten class. The overview matrix summarizes the investigations and will help you plan the entire course of the module.

In the Materials folio you'll find an inventory list for the kit, materials that you'll need to supply

for the investigations, directions for preparing the materials and information on ordering any replacements.

The next three folios are the investigation folios. These are the heart of the program which will be described in this video. In the next section are the duplication masters. Here you'll find all the student sheets used in the investigations.

You'll find duplication masters for the Center Instruction Cards. These are designed to be used by parents or other adult helpers to guide the students through the activities. You can make copies of these and then laminate them or put them in plastic sheet protectors to become permanent equipment in your kit. There are also masters for the Home/School Connections for each investigation.

In the kit you'll find two class big books and a set of eight student books, the FOSS Science Stories for Trees and "Our Very Own Tree." These are designed to be read periodically throughout the module after students have had firsthand experiences with the materials.

The Reading Connections folio in the Teacher Guide provides background information on incorporating these books and others during the module. Check out the Resources folio located in the back of the Teacher Guide. In it you'll find fiction and non-fiction books for students and useful teacher resources.

One of the things to think about before beginning a module is that most of the activities take place with small groups at learning centers with an adult guiding the activities. If you're the only adult in the classroom, you'll find suggestions in the Overview folio on how to run the centers on your own or how to turn them into whole-class experiences. In any case, you should plan on introducing only one activity part on any given day.

There are some preparations to be done before beginning this module. Before beginning, you'll need to make two charts. The Word Bank is for new vocabulary learned as the module progresses. The Content Chart is for reporting students' suggestions about what they have learned or any new questions they have.

To keep track of student progress, you'll need to make a copy of the two assessment checklists found in the Teacher Guide. Because many of these objectives can be assessed throughout the module, a good strategy is to focus on just a few students at a time during any given part.

Another important thing to think about is planting a tree. In the first activity students observe a live tree in their classroom for two weeks and then plant it on the school grounds. A nursery can help you choose a tree and give you good advice for planting in your region. You'll need to speak with the school custodian or principal to get approval.

Finally, you'll want to take a walk around your school grounds and get acquainted with the trees there. Look for as many different trees you can find and see if there are any evergreens your class could visit in the winter.

### **<Investigation 1, 1 Part 1>**

Narrator: In Activity 1, students take a close-up look at the structures of trees. In Part 1, the

students go on a walk to get to know the trees in and around their schoolyard. This is the equipment you'll need from the kit: You'll need the tree posters, the tree rounds, the poster labels for parts of the tree, the library pockets and the Velcro dots. You'll need to supply crayons, 12 by 18 inch construction paper for each student, pencils and pens, phone books and Post-its or scratch paper and tape and the Center Instruction Card for Looking At Schoolyard Trees.

To get ready, you'll need to fold a sheet of 12 by 18 construction paper for each student. On the front the students' first draw of a tree will serve as a pre-assessment. Each season they'll draw their tree again providing them with a seasonal record of their tree and you with a way to assess their learning.

If you're the first user of this kit, you'll need to prepare the tree posters. Attach the library pocket to the bottom corner of each poster. Then cut the labels. And on the back of each label, place the pile side of the Velcro dot. On the matching area on the poster place, the hooked side of the Velcro dot. The labels can be stored in the pocket.

Take a look around your schoolyard and decide on the route you'll take with your class when they get to know their trees. Before you begin the activity, make copies of the Letter To Parents and send these home with the students. The letter tells the parents what their children will be doing in the coming months and asks them to help their children gather leaves to bring to school for a leaf collection.

After the letter to parents goes out, the students will begin to bring in leaves for Activity 2. Gather a collection of phone books or catalogs for pressing the leaves. You can use scratch paper or Post-Its to identify each students' collection of leaves.

Students begin by discussing what they know about trees and drawing a tree. Their drawings include close-up pictures of a leaf and thoughts about the trees they have dictated to you. Then the whole class or a small group at a time follows you outside to visit trees.

Teacher: What do we have here? What are these?

Student: Roots.

Teacher: What?

Student: Roots.

Teacher: What are they?

Student: Roots.

Teacher: What is this part?

Class: Trunk.

Teacher: What are these called?

Student: Branches.

Narrator: The tree posters are introduced while you are sitting under a tree.

Teacher: Can we sign the tree? What do I have? A tree. Can we start with the parts of the tree?

Student: Yeah.

Teacher: Yes? We have what? What do we have here?

Student: Roots.

Teacher: Roots. And this part?

Student: Trunk.

Teacher: Trunk. Okay. And then we have these --

Student: Branches.

Teacher: And what would the smaller ones be called?

Student: Twigs.

Teacher: What would these be called?

Student: Twigs.

Student: Here is a twig.

Teacher: Branches or twigs? What are these?

Class: Twigs.

Teacher: Now, before we go onto this one, oh, we have leaves. What do we have?

Class: Leaves.

Teacher: What does this say?

Class: Leaves.

Student: There are some bumblebees out here.

Teacher: Who would like to put the leaves on?

Sharon, where do the leaves belong on here? Where are the leaves on the tree?

Student: Here.

Teacher: Okay. Perfect. Then we have branches. Can you say that, branches?

Class: Branches.

Teacher: Again.

Class: Branches.

Narrator: To see what the tree looks like inside, the tree rounds are passed around. And students enjoy sitting under a tree and looking for animal life and discussing how trees are important to animals and to people.

**<Investigation 1, Part 2>**

Narrator: In Part 2, a tree comes to live in your class. From the duplication masters, you'll need *Selecting and Caring for a Tree* and the two-page story called "A Tree Comes To Class" or a book that you've selected such as "Red Leaf Yellow Leaf" by Lois Ehlert. You'll need to supply two pieces of cardboard, either contact paper or decorative paper, 20 to 24 pieces of large construction paper of different colors, yarn, hole punch, camera and film, and a tree.

To make a scrapbook you'll need to cover the cardboard with the paper, score the front to make a hinge, punch your holes through the cardboard and the paper and tie them together. Then each section will be marked with different colored paper.

This part begins by reading a story about a tree coming to class. At the end, the teacher brings out the class's very own tree. The students discuss what it will need, how it can be handled and where it will live in their classroom. The first addition to the scrapbook is a picture of the class with their tree.

**<Investigation 1, Part 3>**

Narrator: In Part 3, students put together puzzles of different kinds of trees. You'll need this equipment from the kit: You'll need the ten tree puzzles, the puzzle frames like these and the tree posters. You'll need to supply the Center Instruction Card for Tree Puzzles.

Student: See, it's easy. Just go like this.

Narrator: Students begin by comparing the shapes of the oak and pine trees from the tree posters. They are then shown the tree puzzles of a variety of trees. Because the puzzle pieces are the same shape and size, the students are challenged to focus on the shape of a tree in order to complete the puzzles.

Student: Oh, I'll trade you.

Student: I'll trade.

Student: I think that one goes up here and that one goes down there.

Student: Yeah.

**<Investigation 1, Part 4>**

Narrator: In Part 4, the students continue to practice distinguishing the shapes of trees. From the Teacher Guide you'll need the duplication master for the tree silhouette cards and you'll need to make a copy of the Center Instruction Card for Tree-Silhouette Cards.

If you're the first teacher to use the kit, you'll need to prepare the tree silhouette cards. You'll need to make copies of the duplication master onto heavy card stock. Cut them up and, if possible, laminate them to make them permanent equipment in the kit.

Each pair of students will need two sets of the eight cards. Each set can be stored in its separate plastic bag to be kept in the kit. The students begin this part by discussing how each of the trees in the silhouette cards is shaped differently. Each pair of students then gets two sets of cards, mixes them up and plays Concentration using the cards. The students very quickly learn to tell the trees apart by subtle differences.

Student: Yea!

Student: Yeah, I got them right, too.

**<Investigation 1, Part 5>**

Narrator: In Part 5, students learn more about the parts of the tree. From the kit you'll need the tree part cards and the tree posters. And you'll need to make a copy of the Center Instruction Card for Tree-Part Cards.

If you're the first teacher to use the kit, you'll need to cut up the laminated sheets to make the card sets. Each tree part has three cards in the set. There's a reference card that has the picture and the word, a picture card and a word card. In all each set has 15 cards. These are stored together in one zip bag.

If you need to replace any lost cards, you can use the duplication master found in the Teacher Guide. To begin this part, the teacher uses the tree posters to review the different parts of the tree.

Student: That goes down there.

Teacher: Then do this one. It's the tree trunk. Now, you do this one. The branches. They go there. And then this is the leaves.

Narrator: Each student or pair of students is then given a set of cards. First they put out the larger reference set on the table and practice matching the pictures and words with the reference set. When they feel confident, they can try matching the words and pictures on their own. Then they can check their work using the reference cards.

**<Investigation 1, Part 6>**

Narrator: In Part 6, students make their own book that's describing the parts of the tree. From the Teacher Guide you'll need duplication master from Tree Part Labels and the tree parts. You'll need to supply scissors, stapler, glue and a copy of the Center Instruction Card for the Tree-Part Booklet.

To get ready each student will need one copy of the tree pictures and one set of the tree part labels. After the students have had plenty of opportunity to work with the tree part cards, they will be ready to make a booklet. Each student gets one sheet of tree part pictures and a set of labels. They cut out the tree part pictures and labels. They glue the labels to the appropriate card and students can color them if they want to. The four cards are then stapled together with a blank cover. Students glue the tree label on the front and draw a picture.

**<Investigation 1, Part 7>**

Narrator: In Part 7, the class adopts trees in the schoolyard. The students make observations of them now and throughout the year. This activity brings together the concepts the students have been working on in class and begins a year-long study of trees.

This is the equipment you'll need from the kit: You'll need the ball of string and the duplication master for Tree Observations. You'll need to supply paper, a pair of scissors, permanent marker, crayons, a camera with film and a copy of the Center Instruction Card Adopting Schoolyard Trees. To get ready for the activity you'll need to make enough copies of the Tree Observations sheet so that you can make an observation for each child. You'll also need to choose a different tree for each group of students.

Look for trees that look very different from one another or trees that stand alone so you can see their entire shape. The class or a small group of students begin by going on a mini field trip around the school.

Teacher: Do you think this belongs to this tree?

Student: That?

Student: No.

Teacher: How about this leaf; do you think it belongs to the tree?

Class: Yes.

Narrator: Asking questions helps to guide their observations. Some questions might be: How many trees do we have in the yard? Are they all the same kind? How do you know? What can you tell me about this tree? Does this tree have any scars?

When the group arrives at a tree they have chosen to adopt, students make some observations. They reach around the tree and feel the bark. They make bark rubbings. Students measure the circumference of the tree. When they do, you'll want to mark the exact circumference with a permanent marker so the same spot can be compared in the spring. Before returning to class, a group picture is taken and samples from the tree are collected for the scrapbook.

**<Investigation 1, Part 8>**

Narrator: In Part 8, the students plant the tree. From the Teacher Guide you'll need the duplication master called Selecting and Caring for a Tree. You'll need to supply the tools for planting. And you already have the tree in your classroom.

To get ready, you'll need to refer to the duplication master *Selecting and Caring for a Tree*. You can also consult your local nursery. You'll also want to plan for a ceremony. You may want to send out invitations to families and school personnel.

A librarian may help you find good short poems to recite about trees. Your students might have good ideas of songs to sing or what each student could say about their tree.

On the momentous day, all of the participants gather around the planting site. Everyone can have a hand at adding or removing soil or contributing something to the special day. And don't forget to take pictures for the scrapbook.

Any new or important vocabulary that came up in the investigation is added to the Word Bank and students discoveries are added to the Content Chart.

### *<Investigation 2, Part 1>*

Narrator: In this activity, students make close observations and comparisons of leaves. In Part 1, they observe the similarities and differences of leaves on trees and make a collection of leaves to press. The only equipment you'll need from the kit are the plastic zip bags. You'll need to supply the phone books and scratch paper and tape or Post-Its and a copy of the Center Instruction Card called Leaf Walk.

To get ready, you'll need to plan the route your students will take to find leaves. Try to have the students visit a wide variety of trees, including those with needles. This part begins with groups of students going for a walk to look for leaves. They look for where leaves are placed on the tree or branches, their colors, their shapes and the sizes.

They are asked to think about what happens to the leaves at night or when the wind blows or the rain falls. Next they go on a scavenger hunt. Each student gets a bag and goes off to find leaves from six different trees.

Student: Who has six?

Student: One more and I have six.

Teacher: Oh, what did you find?

Student: I found six leaves.

Teacher: The purple one?

Student: I found eight.

Teacher: You found eight? Oh, my goodness.

Student: I found seven.

Teacher: You guys, I thought six would be hard.

Narrator: Back inside students pair up to compare leaves.

Teacher: Show the different shapes. Wow.

Student: I had eight.

Teacher: What's the shape that you see the most of? Do you all have one like this?

Narrator: They look for ones that match in color, shape, size or smell. The leaves are saved by placing them in a phonebook in the same way as the leaf collection is from home.

### **<Investigation 2, Part 2>**

Narrator: In Part 2, students match leaf shapes to geometric shapes. This is the equipment you'll need from the kit: You'll need the two sets of felt leaves, the set of felt geometric shapes, six zip bags, the duplication master for Leaf Shapes and for Geometric Shapes 1 and 2. You'll need to supply a cardboard box, an assortment of leaves, containers for distributing leaves, glue and a copy of the Center Instruction Card called Leaf Shapes.

To get ready, you'll need to make a collection of three or four different leaf shapes. You'll need to collect enough leaves so that each student gets one of each leaf shape.

Next make a copy of the Geometric Shapes 1 and 2 and cut out the shapes that match the leaves that you've collected. Tape these shapes onto the blank Leaf Shapes master and make enough copies for each student to have one.

If you're the first teacher to use the kit, you'll need to prepare the felt leaves and geometric shapes. Use scissors to separate the shapes from the sheets. Each set is packaged in a plastic bag, and there are enough sets for two classes to use the materials at the same time. The kit includes four sets of felt leaves and two sets of geometric shapes.

This part begins by showing the students one set of felt leaves and discussing their differences. The second set is taken out and students take turns finding the leaves that match.

Teacher: Match it. Put it right on top. Oh, good job.  
Now, Jessica, would you choose a person to be next?

Student: Marcie.

Student: You can't just choose your friends.

Teacher: That's right, Alex. We want to be sure to choose everybody, huh?

Nice. Good matching. Okay. Marcie?

Narrator: Once they are familiar with the leaf shapes, students are introduced to each of the geometric shapes and find a leaf with a similar shape.

Teacher: I have yellow shapes. And I want you to look at the shape very carefully and raise your hand if you can tell me what shape that is?

Jessica?

Student: Triangle?

Teacher: A triangle. Now, look with your eyes. Joey, look with your eyes at the leaves you matched. Can you find a leaf that looks like it has a triangle shape?

Christopher? On the triangle. Find the leaf that has a triangle shape and put it on the triangle.

All right.

Did he do a good job?

Class: Yeah.

Teacher: All right. Have you ever thought about leaves being the shape of a triangle, a heart, a - what shape is that?

Student: A line.

Teacher: A long rectangle. An oval. And then this is an oval that is pointing at each end. Terrific.

Student: It looks like an eye.

Narrator: At a center they match real leaves to shapes on the sheets you have copied.

Teacher: That looks wonderful, Vanessa. You can put that one there.

Student: This one looks like this one.

Teacher: Like that. Okay. And a heart? Let's see. That might be harder.

Student: Oh . . .

Teacher: Let's see. Can you find one that looks like a heart?

Student: Here; here. This looks like one.

Teacher: Does that look like a heart?

Narrator: When they are satisfied with their choices, they can glue them on their sheet.

Teacher: You can use Anthony's. He'll share. He'll share with you. Do you want me to work on it?

### **<Investigation 2, Part 3>**

Narrator: In Part 3, students go outside for a leaf hunt. From the Teacher Guide you'll need the duplication master for Comparing Leaves. You'll need to supply a copy of the Center Instruction

Card called Comparing Leaves.

To get ready, copy and cut out the cards for Comparing Leaves. You'll need to make enough cards so that each student in the small group can have one card. This part begins by explaining to the group that they will go on a leaf hunt.

Teacher: I'm going to give you each, all of you, one of these. It's a pretend leaf. What I would like you to do is to go out in the courtyard and find a leaf --

Student: Like that?

Teacher: That's larger than this. We're going to find a leaf that's larger than this. Okay?

Okay. Okay. Good.

Student: I found one.

Teacher: Good. Now, what are all these leaves -- do you see anything that's similar about these leaves? Are they shiny? They are kind of shiny.

Student: Sort of. But that one is not.

Teacher: No. But also can you crunch them up.

Student: Yeah, it's easy to crunch up.

Narrator: At each round of the game, a different attribute is called for. Students enjoy hunting down leaves that are shorter, fatter, smaller, skinnier, have smooth edges or serrated edges.

### **<Investigation 2, Part 4-5>**

Narrator: In Parts 4 and 5, students use representational materials to develop their skills of observing and comparing leaves. This is the equipment you'll need from the kit: You'll need four each of the Leaf Silhouettes and Outlines 1 and 2, Leaf Silhouettes-Big and Little, Leaf Silhouettes-Same Size and 16 plastic bags. All of these leaves refer to real leaves. To find names of these leaves you can look in the Teacher Guide for the key to leaf names.

You'll supply a copy of the Center Instruction Card for Leaf Silhouettes and Outlines and one for Leaf Silhouette-Games. If you're the first teacher to use the kit, you'll need to prepare the sets of cards. For leaf silhouettes and outlines, one laminated sheet and one transparency constitute a set.

Cut these out. And these are stored in their own plastic bags. To make the cards for Leaf Silhouette-Same Size and Leaf Silhouettes-Big and Little, you cut the top strips to become the reference strips. The lower strips are cut up to become the card sets. For clarity, this strip has become this strip. The lower strip has become the cards.

In Part 4 students work in pairs as they match up the silhouettes and their outlines.

Teacher: Chris and Shadia are partners. Jeff and Mark are partners. Now, let's look at Joey and Marcie here. Joey has a picture of the whole leaf.

Student: I'm with Jeff.

Teacher: And Marcie has the outline. And what they are going to try to do is to spread out their pictures. Joey and Marcie are going to try to match the outline with the leaf and put it right on top.

Work together, sweetheart.

Student: I don't have one of these.

Teacher: Put your leaves where you can see them. And you and Chris see if you can match up your pairs. And Jeff and Mark, see how you can match up your pairs. You've got the leaf.

Student: How about this kind?

Student: Make that.

Teacher: Now, okay. What's the next step? You found the two that matched. Now what are you going to do with the outline it goes on?

Student: Top.

Teacher: Turn it so it will go on top.

Student: This goes with this.

Teacher: Put it on top.

Marcie, what can you do to this to make sure they fit so they fit exactly? Can you flip it over? Try it. See if that works. All right. Now put it right up where you can see it and it won't get wiggled.

Student: There.

Narrator: In Part 5, students are introduced to two games. In both they begin by setting up the reference strip and laying out the cards randomly. In the game called What Matches, students take turns matching the cards to the strip.

Teacher: Did he match? Got it all right? Good job you guys.

Narrator: In the game called What's Missing, one student closes his or her eyes while the other student removes a card and mixes up the remaining cards. The first student then is challenged to point to the leaf that's missing on the strip.

Teacher: That's right.

Student: This one here. This one here?

Student: You choose this one.

Student: Okay.

**<Investigation 2, Part 6>**

Narrator: In Part 6, students make a book of leaves to take home. You'll need to supply the glue, crayons, stapler, pencils, the leaf collections that your students have started and about five half sheets of paper for each student. You'll also need a copy of the Center Instruction Card for Leaf Books.

In this part students look at their collections of pressed leaves and choose four to six different leaves that will fit on the half sheets of paper.

Teacher: Do you see a leaf that you would like for your leaf book? Let me know and then you can glue it in your book. Okay.

Student: Oh . . .

Teacher: Anthony, choose a leaf. Be ready to tell me about it. Describe it.

Student: Well, this looks like an ice cream holder.

Teacher: It sure does. Now, boys and girls, I have my pen ready and I want you to tell me about your leaf. And Anthony, you just told me something really neat.

Student: That one looks like an ice cream cone if you turn it this way.

Teacher: All right. Let's just write that. This looks like an ice cream cone.  
Boy, it sure does Anthony. That's perfect. Doesn't that look like an ice cream cone?

Student: Yeah, I want to eat it.

Student: Or it looks like a banana.

Narrator: This book "Our Very Own Tree" is read to the class. The book is part of the kit and for bilingual classes it can be purchased in Spanish. Students in the class will relate their experiences to those of the girls in the book.

Teacher: The smallest ones farther from the trunk were little twigs.

Narrator: They'll recall feeling a trunk, looking at branches, twigs and roots, smelling and touching leaves, drawing pictures and making a scrapbook of trees.

Teacher: What is the largest part?

Student: The trunk.

Teacher: The trunk. Good. Excellent.

**<Investigation 3, Parts 1-9>**

Narrator: In Activity 3, students extend their understanding of trees as living, changing parts of their world. They look for seasonal changes and take a close look at the structures of the twigs, fruits, flowers, seeds and bark. This activity is a potpourri of a group of nine small group activities that are arranged seasonally. You may choose to do all or some of the suggested parts throughout the year. Your location, the kinds of trees on and around your school and your own interests will determine which parts you'll need to do with your students.

Like trees themselves, what you do with the trees module will grow and change yearly and as you get to know the trees in your area. This video will take you through the preparations required for selection of the activities. However, the Teacher Guide describes each of these many activities in detail and lists the materials you will need to provide.

Throughout the seasons, keep a camera handy to document the students' experiences and the changes that take place on their trees. These can be stored in a scrapbook to revisit at the year's end.

**<Fall investigations>**

Narrator: In Part 1 students search under trees to find things that might have come from the tree. At the center, they sort their collections and discuss what they found out.

Teacher: Twigs, leaves, seeds, other, not from a tree. Good.

Student: Is this branch other?

Teacher: Do we have branches here?

Student: Yeah.

Teacher: Do we have branches written down here or do we just have twigs?

Student: Twigs.

Student: Twigs.

Teacher: Okay. This is other. I know it's difficult to read upside down. Twigs, leaves, seeds, other, not from a tree. What you need to do is empty your bags in front of you.

Student: This is dirty.

Teacher: That's fine.

Student: Pour it out?

Teacher: Pour it out.

Student: My seeds fell off.

Teacher: Take one thing and put it in your hand. Okay. What do you think -- what is it?

Student: A pine cone.

Teacher: Do you think it belongs to a tree? Good. Is it a twig? Is it a leaf? Seeds? Other? Okay. Put it under other, please. Okay.

Student: Seeds.

Student: Is this bark?

Teacher: Is that bark? What does it feel like?

Student: Wood.

Teacher: So would that be bark? Where would it go?

Narrator: In Part 2, Food From Trees, students look for the seeds hidden in a variety of fruits and nuts that came from trees.

In Part 3, Adopted Trees in the Fall, students visit their trees, mark a twig and look for seeds on their tree.

Teacher: We want to double knot it. Let's just leave it like that.

Student: It's not double knotted.

Student: Let me see.

### **<Winter investigations>**

Narrator: Parts 4, 5 and 6 are suggested for the winter. Students hunt for evergreen trees, learn about the structures of twigs and revisit their adopted trees. There are also wonderful winter books and poems to be read.

In Part 4, students observe needles and scales or leaves from different evergreen trees around their school. These can be laminated like these to become permanent additions to the kit or they can be placed in plastic bags. The students go on an evergreen hunt using the samples to find the matching trees.

In Part 5, students look closely at the structures of twigs finding buds, growth rings and scores. They then get an inside view of the twig from once that you've cut or split.

In Part 6, students revisit their adopted trees looking closely at the twigs.

### **<Spring investigations>**

Narrator: In Part 7, students observe spring twigs. Each student gets a twig to observe and

compare with a winter twig that was kept in the scrapbook. Each different kind of twig is placed into a vase of water to watch for the appearance of leaves and blossoms. One of the twigs is left on the outside for comparison. Good twigs to try are willows and apples and cherries.

In Part 8, students go on a bark hunt. Each child gets a photo of a tree bark. First students compare their photo with their schoolmates to find one that matches. Next the group goes from tree to tree looking for the real tree that matches their photos.

Teacher: Now we're going to try and identify three trees. That's all. Only three. Okay? So would you please stand? Come on over here? Okay. Over here.

Student: That goes to this.

Teacher: It does?

Student: Yeah. This part is white. And this part is white. And it's got green and this has green.

Teacher: Okay. Tim, does your picture or photograph look like that? It doesn't? Are you sure?

Student: Yes.

Teacher: Robin, does your photograph look like the trunk of this year or bark of this tree?

Student: No.

Teacher: Okay. Let's go onto the next one.

Student: I think this is the one. This is mine.

Teacher: Where is your photograph?

Narrator: During each season the students visit their adopted trees. In the fall they mark a twig with string to identify it in the future and they look for seeds. In the winter they look for growth rings and scars and buds on the twig that they marked. In the spring, they search for blossoms and any new developments on their tree. Each time a photographic record is made and the students draw their own record of their observations.

In the Trees module students have many real world experiences with the variation among trees. They come to see trees as living, changing parts of their world. As their skills of observing details develop, they begin to appreciate the great diversity in nature. The more closely they look, the more questions they'll have. And their own questions will guide them to find out more about the world around them.

Teacher: Thank you.