

FOSS TREES AND WEATHER MODULE—LOW-TECH

No technology needed for activities Investigations 1–4

Hello Teachers and Families,

Attached are the low-technology activities for families to do at home with young children. This packet for the Trees and Weather Module includes having a guardian and child go outside a number of times. Together they will make observations of two trees near their home. Comparing two similar items, instead of just one, helps you to better understand and more carefully observe both of the objects. We suggest that you make a scrap book, but this need not be a fancy thing. Simply stapling some paper together will do. Use the scrap book as a way to capture your observations and artifacts.

You will also go outside to observe the weather. We hope these brief outings provide welcomed opportunities to refresh in the outdoors. Only do these outdoor activities if it is safe to walk outside, and you are practicing social distancing of at least 6 feet from people who do not live in your home. If it is unsafe to go outside, do what you can by looking out a window, ideally an open window, or by sitting on a porch or front steps.

We hope that these activities bring some curiosity and wonder for you and your child during this challenging time.

Best to you,

The FOSS Project staff at the Lawrence Hall of Science

HOME/SCHOOL CONNECTION

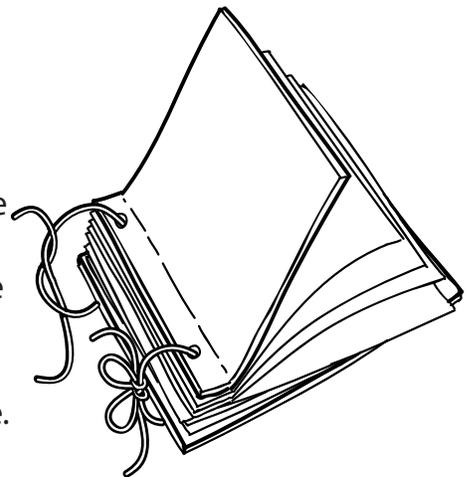
Investigation 1: Observing Trees, Investigation 2: Observing Leaves

Review

If your child was learning in school they might have begun this module observing schoolyard trees. They would have learned about the parts of a tree—the roots, the trunk, the branches, the leaves, flowers, and possibly even seen the fruits of trees (depending on the season). They would have “adopted” a schoolyard tree to observe and care for. The best way for students to learn about and to gain an appreciation for trees is by touching them, observing them, and wondering about them.

Long-term Exploration of Two Trees

Over the next month you will go outside to “adopt” two trees near your home and observe them over time. You will visit both trees at least once a week. Each outdoor visit will have a different focus and there will be different questions to ask. We recommend that you make a notebook or simple scrapbook of some sort to keep track of your observations, you could use a file folder with some blank pages inserted, or construction paper for the front and back with some blank pages inside. Punch holes and tie the book together or just staple one edge. You can collect leaves and other artifacts from the tree to include in your scrapbook.



Before you go out, ask your child if they have seen any trees? If so, where are they? On page one of your scrapbook, draw a picture of a tree. Explain to your child that trees are the biggest plants in the world. Label this picture “tree.”

First outing: Go outside and look at the trees near your home. How many do you see? Can you count them? Are the trees all the same? Talk to your child about which trees seem interesting to them. Explain that you will be learning about trees and really get to know two of them by visiting them at least once a week.

Select two trees that are relatively close together, perhaps ones you could sit near. Once you have selected the two trees, have your child draw each of them, each on a separate sheet of paper. If you know the name of the trees you can name them, if you do not, you can make up a name, “Giant tree with heart-shaped leaves” or whatever suits you.

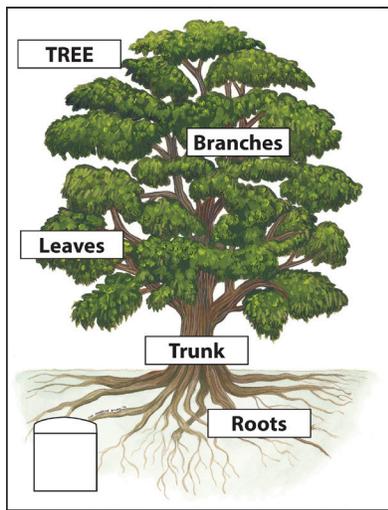
Ask your child what they notice about the trees? How are they alike? How are they different? What colors do they see? How do the trees smell? Do you think the trees are living things? Are the trees old or young?

Add the tree drawings to the scrap book. Write some of your child’s observations as well. Ask your child what questions they have about trees. Record some of their questions.

(Continued on the next page)

HOME/SCHOOL CONNECTION (Continued)

Investigation 1: Observing Trees, Investigation 2: Observing Leaves



Second outing: Revisit your outdoor trees. Start by sitting quietly near the trees and observing. Look up through the leaves or branches, is the sunlight shining through? Any changes since last week? Any new observations? This time—touch the parts of the tree as you name them with your child. Can you see the roots? What do the trunks look like? Can you see the leaves? Can you reach the branches? Look at these structures on both trees.

Then consider, when you step back and look at the tree, what is the overall shape of it? When you are back inside, label your first drawings of your trees. Label the: roots, trunk, leaves, and branches. Do this for both trees. Does your child want to add any parts to the drawings?

Third outing: This time you will study the leaves from the two trees. Take a few samples from each tree. What are the shapes of the leaves? What are the colors? What do you notice about the leaves when you look really close? Are both sides of each leaf the same? How are the leaves from the two different trees alike? How are they different?

Collect one sample of a leaf from each tree to add to your scrap book. Later, you can help your child write in the scrap book (or you can write for them): “The leaf is _____.”

You might also want to make a leaf rubbings, by placing the leaf, bumpy side up on a table, and then rubbing the long side of a stripped crayon over the leaf.

Before heading inside, consider if there are other parts of the tree that you could collect or photograph: flowers, seeds, bark, twigs, cones, etc.

Fourth outing: For this visit to the tree, bring a crayon. Observe the bark on the tree trunk. What color is it? What is the texture? Is anything living on the bark? Is the bark on the branches the same as the bark on the trunk? Do a bark rubbing with the crayon, the same way you did the leaves. Put the paper on the bark and rub the flat/long side of crayon over the bark.

After observing the bark, take some time to sit and look at the tree. Are any animals living in or on the tree? Do animals visit it?

Take some time to think about how the animals on or near the tree might be changing the surroundings, such as a squirrel burying a seed or a woodpecker drilling a hole in the tree. Also, consider if there is any evidence about how your trees might be changing their surroundings. Perhaps by providing shade to the plants living below or by the roots breaking up through concrete at the base of the tree. Record any of these changes in your notebook.

HOME/SCHOOL CONNECTION

Investigation 3: Observing Weather

Overview

If your child was learning in the classroom, they would be studying the weather. In this exploration at home, you will do daily weather observations. This can be built into your daily routine, perhaps done when eating breakfast or lunch. You do not have to go outside to do this, but we recommend doing so, because it will be easier to feel the wind and air temperature.

Exploration

To kick off the daily weather observations, go outside and ask your child the following questions,

- Where do we find weather?
- How does the air feel? Can you feel moving air?
- Do you see clouds in the sky? Are the clouds moving?
- What kind of weather do you see and feel? Does the air feel cool, warm, or hot?

Explain that when people talk about the conditions of the air outdoors, they are usually talking about the weather.

Show your child the **Weather Pictures** and together, read the word on each picture. (Find the Weather Pictures and Weather Record masters on the next pages.)

- Sunny weather is when it is bright and clear with few or no clouds.
- Partly cloudy weather is when it's sunny but there are lots of clouds in the sky.
- Overcast weather is when the sky is gray and cloudy but it is not snowing or raining.
- Rainy weather is when it's cloudy and raining or drizzling outdoors.
- Snowy weather is when it's cloudy and snow is falling.

Cut out the weather pictures and put them in an envelope.

Display the **Weather Record** (calendar) that they will use to keep track of the weather each day of the week over a month. You will tape or glue the appropriate weather picture on each date.

The focus question is: *What is the weather today?*

Record the answer here with pictures and words:

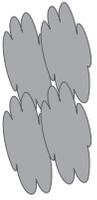
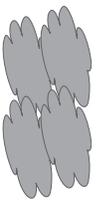
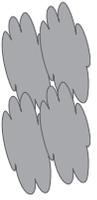
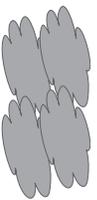
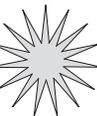
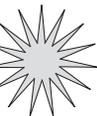
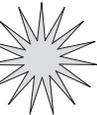
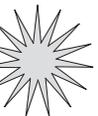
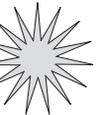
Today the weather is _____.

Follow up activities

- Think about the temperature each day. Make statements such as "It was cooler yesterday and it is warmer today." Or "In the shade of my tree, it is ____ than in the sun."
- Can you design a device that will help you think about which way the wind is blowing and how strong the wind is? Perhaps using a stick and a piece of string?

WEATHER PICTURES

Cut pictures apart. Place them in cups or envelopes for daily use with class calendar.

 OVERCAST	 OVERCAST	 RAINY	 RAINY	 SNOWY	 SUNNY	 SUNNY	 PARTLY CLOUDY
 OVERCAST	 OVERCAST	 RAINY	 RAINY	 SNOWY	 SUNNY	 SUNNY	 PARTLY CLOUDY
 OVERCAST	 OVERCAST	 RAINY	 RAINY	 SNOWY	 SUNNY	 SUNNY	 PARTLY CLOUDY
 OVERCAST	 OVERCAST	 RAINY	 RAINY	 SNOWY	 SUNNY	 SUNNY	 PARTLY CLOUDY
 OVERCAST	 OVERCAST	 RAINY	 RAINY	 SNOWY	 SUNNY	 SUNNY	 PARTLY CLOUDY

WEATHER RECORD



From _____ To _____

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday

HOME/SCHOOL CONNECTION

Investigation 4: Trees through the Seasons

Review

When teaching this module at school, students would be observing their adopted trees, and looking for changes through the seasons. We hope you and your child can continue your observations of your adopted trees for months to come. Perhaps, in the heat of the summer, you could bring some water to the trees or even seek some shade under the branches of them. Is one better than the other at keeping you cool? Throughout these observations, perhaps you have helped your child start a budding relationship with trees near your home. Here's what you might do next spring.

Overview for Spring

The focus question for this part is: **What do spring trees look like?**

Revisit your adopted trees and make a close observation of each. Sit for as long as you are able observing each. Make sure to touch the bark, touch the branches if you can reach them. Look carefully at those branches—what is happening on them?

Think about the following questions, one at a time:

- Are there any new signs of spring?
- Do either of your adopted trees have buds, flowers, seeds, buds, or cones on them? If so, what are they like on the inside? Could you take a sample to add to your scrapbook?

Take some time to look for animals on or in the tree—on the leaves, on the bark, and way up in the branches. Do you think any animals make a home in these trees? Are there ants crawling up the trunks? Where are they going? Where are they coming from?

In the spring, trees will bud, flower, develop fruit, and scatter their seeds. With some trees, this can happen with a burst, filling the air with floating seeds. When the trees begin to let go of their seeds, it's time for a seed-collecting walk. Some seeds, like maple seeds, fall to the ground by twirling as they fall. A fun way to gather seeds is to challenge students to catch the leaves before they hit the ground.

