

Lesson 5: Trees (2 Days)

Getting Started

✿ Questions to Explore

- How are people dependent on plants?



Facts and Definitions

- Evergreen trees do not change colors in the fall and winter.
- **Deciduous** trees are trees that lose all their leaves for part of the year.

⦿ Skills

- Identify and describe the life cycle of living things. (S)
- Observe and measure how the quantities and qualities of nutrients, light, and water in the environment affect plant growth. (S)
- Observe and describe how environmental conditions determine how plants survive and grow in a particular environment. (S)

✂ Materials

- | | |
|------------------------------|-----------------------|
| • colored pencils or crayons | • scissors |
| • construction paper (kit) | • stapler |
| • glue | • tracing paper (kit) |

Introduction

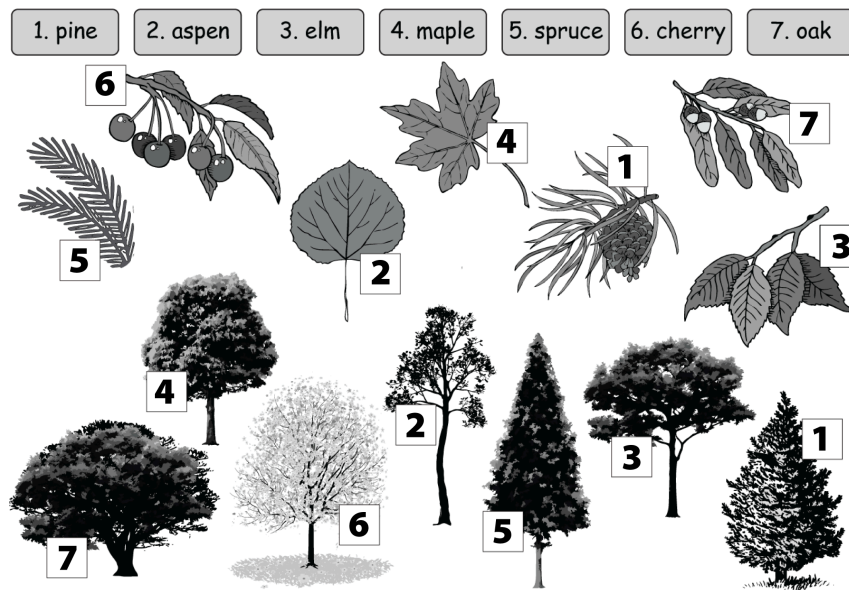
Tell your child that today he is going to learn about trees. Ask him what he knows about trees and how people are dependent on trees.

Activities

Activity 1: Tree Matching

For this activity, your child is going to use the Internet or an encyclopedia to match different types of trees and leaves with their names. Ask him to cut two pieces of construction paper into four strips each. He should then cut out the tree names and the illustrations of trees and leaves from the "Matching Trees" page. Ask him to glue the name of the tree at the top of the strip of construction paper with the corresponding leaf and picture of the tree. When he has finished, he will have strips for seven different trees. On the eighth strip, he can make a cover for a book of trees. The strips will be the pages for a book. He can staple them together on the left side of the strip.

Tree Matching Answer Key



Activity 2: Tree Leaves

Ask your child if he knows why leaves change colors in the fall. Explain that leaves have different colors of pigments at all times. In the summer, chlorophyll (the pigment that makes leaves green) is more abundant than the yellow and orange pigments. However, in the fall the leaves produce less chlorophyll and take a break from photosynthesis. At this time, the other colors appear on the leaves. Since the days are shorter in the fall and winter, the tree is not absorbing as much sunlight, and the colder temperatures prevent the tree from making as much chlorophyll.

Trees that lose all their leaves for part of the year are called **deciduous** trees. Explain to your child that deciduous trees lose their leaves in preparation for winter and ask if he remembers why evergreen trees don't have leaves that change color.

Have your child gather different shapes and sizes of leaves for a leaf rubbing project. He can place a few leaves flat on the table and then place a sheet of tracing paper over the leaf. Using a soft pencil or a crayon, he can gently rub over the tracing paper until the outline of the leaf shows through. Encourage him to use natural colors for the different leaves. Explain to him that the lines on the leaves are veins. Tell your child that these veins carry nutrients and water to the leaf.

Activity 3: Measuring Trees

For this math activity, your child will measure parts of trees and compare his measurements among trees. He will record his findings on the sheet, "Measuring Trees."

Option 1

For this option, your child can make his measurement in inches and feet.

Option 2 (Advanced)

Help your child to measure in the US system (inches and feet) and metric system (centimeters and meters).

Day 2

Activity 4: Evergreens and Deciduous Trees

Explain to your child that an evergreen tree remains green all year long. Look at pictures of evergreen trees on the Internet. If you have an evergreen tree near your house, take your child outside to examine its needles. Ask him to describe the difference between evergreen needles and leaves. Tell your child that evergreens can be found in arctic and desert regions, as well as in the forest. Because the leaves (needles) are narrow, snow falls right off them. The leaves also have a waxy coating that keeps the tree from freezing in the winter. This is why evergreen trees do not change colors in the winter.

Ask the following questions as your child is observing the evergreen tree.

- How are the leaves (needles) grouped on the branch?
- Are the needles rounded or sharp at the tip?
- Find the veins in the leaves. Why do leaves have veins? (Veins transfer nutrients and water to the leaves.)

On the sheet, "Evergreens and Deciduous Trees," let your child draw the bough of an evergreen tree in the first box. Then ask him to write three sentences to describe the bough he illustrated. In the second box, let him draw a picture of a limb from a deciduous tree in his yard or neighborhood. Next, let him write three descriptive sentences for the limb. In the box between the pictures, he can write two ways they are similar and two ways they are different.

Activity 5: Tree Graph

Help your child identify at least five or six types of trees that can be found on your street. (This activity could also be done at a local park). Next, encourage him to record the trees' names on the chart provided on the sheet, "Tree Graph." Ask him to make a tally for each time he finds the different types of trees. When he finishes, he can create a bar graph at the bottom, showing the different types of trees on the street.

Encourage him to think about how to label the x and y axes (types of trees on the x axis and number of trees on the y axis). Then ask him to decide what his intervals should be on the graph, based on the tally marks he recorded for the different types of trees. The intervals on the graph should reflect the number of types of trees your child observed.

Activity 6: Tree Life Cycle

Trees follow the same life cycle as other plants. Since trees are woody plants, they do not die every year; they can live for hundreds of years.

On the first page of "Tree Life Cycle," your child will find a picture of a tree at different stages in its life cycle. Let your child paste the pictures in order on the life cycle wheel found on the second page and name each phase using the descriptions provided.

Wrapping Up

Ask your child how deciduous trees are different from evergreen trees. Then ask him why deciduous trees lose their leaves for part of the year.

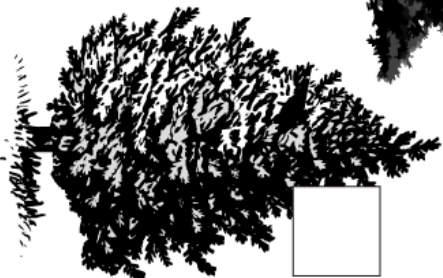
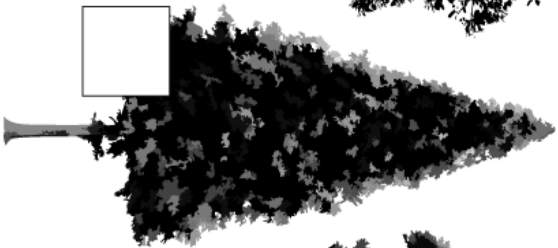
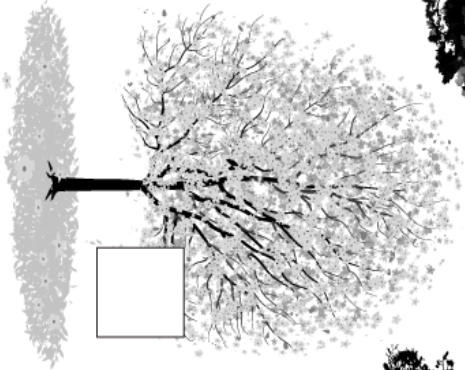
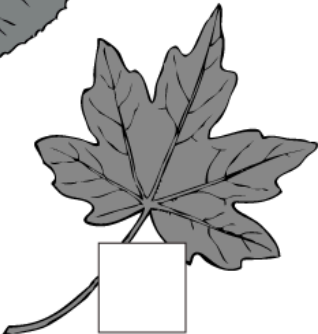
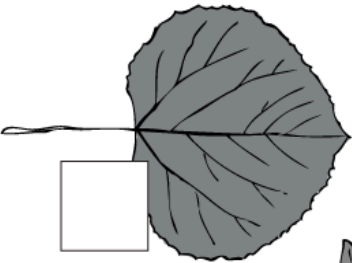
Life Application

Encourage your child to observe and examine trees near your home.

Matching Trees

Directions: Use the Internet or encyclopedia to match the different types of trees and leaves with their names. Write the corresponding number of the different names in the boxes provided.

1. pine
2. aspen
3. elm
4. maple
5. spruce
6. cherry
7. oak



Measuring Trees

Directions: Complete the following measurements of trees and parts of trees. Do not forget your labels.

1. Measure the circumference of the trunk of an evergreen tree and of a deciduous tree.	evergreen deciduous
2. Measure the length of a needle on an evergreen tree and that of a leaf of a deciduous tree.	evergreen deciduous
3. Find the largest leaf you can find. Is it longer or shorter than your hand? How much longer/shorter?	
4. Estimate the height of the tallest tree you can find outside. How many of you would have to stand on top of each other to be as tall as the tree?	
5. Find a tree stump and count the lines on the stump. This will tell you the age of the tree.	

Measuring Trees

Directions: Complete the following measurements of trees and parts of trees. Do not forget your labels.

	Standard Measurement		Metric
	evergreen	deciduous	
1. Measure the circumference of the trunk of an evergreen tree and of a deciduous tree.			
2. Measure the length of a needle on an evergreen tree and that of a leaf of a deciduous tree.	evergreen		
	deciduous		
3. Find the largest leaf you can find. Is it longer or shorter than your hand? How much longer/shorter?			
4. Estimate the height of the tallest tree you can find outside. How many of you would have to stand on top of each other to be as tall as the tree?			
5. Find a tree stump and count the lines on the stump. This will tell you the age of the tree.			

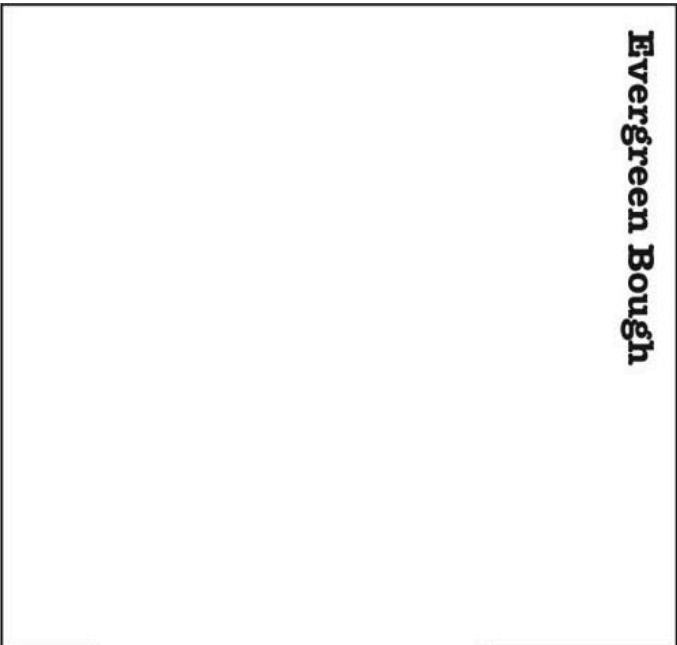
Evergreens and Deciduous Trees

Directions: Observe a bough from an evergreen tree and a limb from a deciduous tree. Draw each and write three sentences below each drawing. Then list two similarities and two differences.

Similarities

1. _____
2. _____

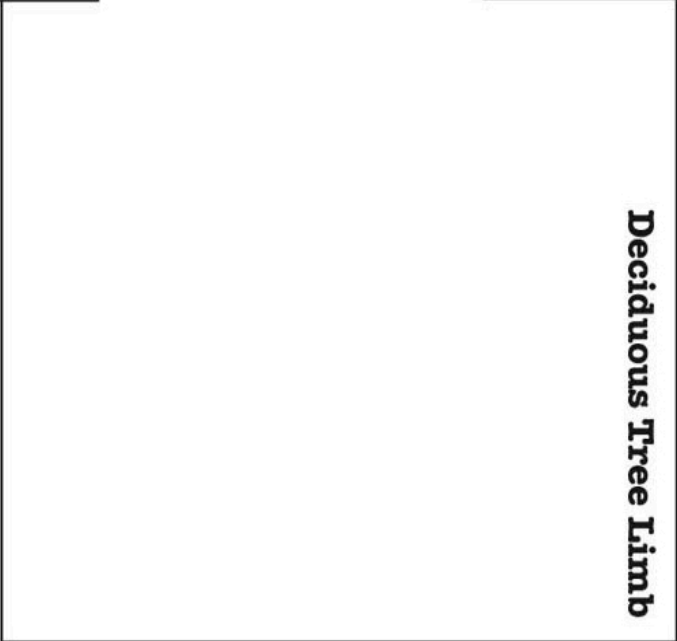
Evergreen Bough



Differences

1. _____
2. _____

Deciduous Tree Limb



1. _____
2. _____
3. _____

1. _____
2. _____
3. _____

Tree Graph

Trees

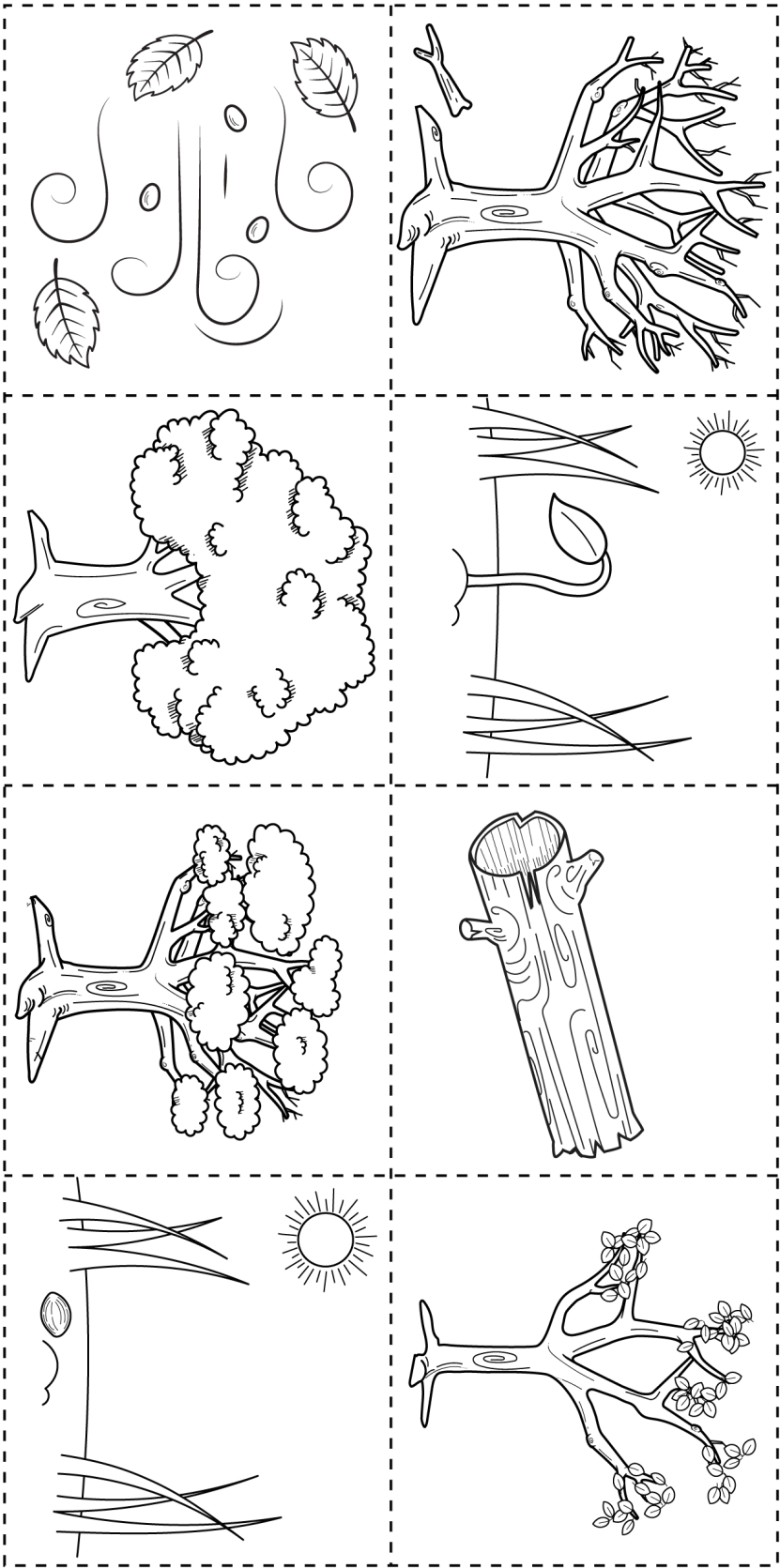
Directions: Identify five or six types of trees and record their names on the chart. Make a tally of each time you see each type. Then create a bar graph of different types of trees you saw.

Tally

1.	
2.	
3.	
4.	
5.	
6.	

Tree Life Cycle

Directions: Cut out the pictures and put them in the order of the tree life cycle. Glue them on the following page and write the appropriate stage (listed in the gray box) beneath each picture.



Seed blowing in the wind
Seed lying on the ground

A mature tree
A rotting tree

A small tree
A germinating seed

A thin sapling
A dying tree

