

# Forests

## Teacher's Guide Middle School



Editors:

Brian A. Jerome, Ph.D.  
Stephanie Zak Jerome

Assistant Editors:

Heidi Berry  
Anneliese Brown

**Visual Learning Company**  
**Brandon, Vermont**  
**1-800-453-8481**  
**[www.visuallearningco.com](http://www.visuallearningco.com)**



# Use and Copyright:

The purchase of this video program entitles the user the right to reproduce or duplicate, in whole or in part, this teacher's guide and the blackline master handouts for the purpose of teaching in conjunction with this video, *Forests*. The right is restricted only for use with this video program. Any reproduction or duplication, in whole or in part, of this guide and student masters for any purpose other than for use with this video program is prohibited.

The video and this teacher's guide are the exclusive property of the copyright holder. Copying, transmitting or reproducing in any form, or by any means, without prior written permission from the copyright holder is prohibited (Title 17, U.S. Code Sections 501 and 506).



# Table of Contents

	<u>Page</u>
A Message From Our Company	5
National Standards Correlations	6
Student Learning Objectives	7
Assessment	8
Introducing the Video	9
Video Viewing Suggestions	9
Video Script	11
Answers to Student Assessments	17
Answers to Student Activities	18
Assessment and Student Activities Masters	19



# Viewing Clearances

The video and accompanying teacher's guide are for instructional use only. In showing these programs, no admission charges are to be incurred. The programs are to be utilized in face-to-face classroom instructional settings, library settings, or similar instructional settings.

**Duplication rights** are available, but must be negotiated with the *Visual Learning Company*.

**Television, cable or satellite rights** are also available, but must be negotiated with the *Visual Learning Company*.

**Closed circuit rights** are available, and are defined as the use of the program beyond a single classroom but within a single campus. Institutions wishing to utilize the program in multiple campuses must purchase the multiple campus version of the program, available at a slightly higher fee.

**Discounts** may be granted to institutions interested in purchasing programs in large quantities. These discounts may be negotiated with the *Visual Learning Company*.



---

# A Message from our Company ...

Dear Educator:

Thank you for your interest in the educational videos produced by the *Visual Learning Company*. We are a Vermont-based, family owned and operated business specializing in the production of quality educational science videos and materials.

We have a long family tradition of education. Our grandmothers graduated from normal school in the 1920's to become teachers. Brian's mother was an elementary teacher and guidance counselor, and his father was a high school teacher and superintendent. This family tradition inspired Brian to become a science teacher, and to earn a Ph.D. in education, and lead Stephanie to work on science educational programs at NASA.

In developing this video, accompanying teacher's guide, and student activities, our goal is to provide educators with the highest quality materials, thus enabling students to be successful. In this era of more demanding standards and assessment requirements, supplementary materials need to be curricular and standards based - this is what we do!

Our videos and accompanying materials focus on the key concepts and vocabulary required by national and state standards and goals. It is our mission to help students meet these goals and standards, while experiencing the joy and thrill of science.

Sincerely,

Brian and Stephanie Jerome



---

# Standards Correlations

## National Science Education Standards

(Content Standards: 5-8, National Academy of Sciences, c. 1996)

Science as Inquiry - Content Standard A:

As a result of activities in grades 5-8, all students should develop:

- Abilities necessary to do scientific inquiry.
- Understandings about scientific inquiry.

Life Science- Content Standard C:

As a result of their activities in grades 5-8, all students should develop an understanding that:

- The number of organisms an ecosystem can support depends on the resources available and abiotic factors, such as quantity of light and water, range of temperatures, and soil composition. Lack of resources and other factors, such as predation and climate, limit the growth of populations in specific niches in the ecosystem.
- Species acquire many of their unique characteristics through biological adaptation, which involves the selection of naturally occurring variations in populations. Biological adaptations include changes in structures, behaviors, or physiology that enhance survival and reproductive success in a particular environment.

## Benchmarks for Science Literacy

(Project 2061 - AAAS, c. 1993)

The Living Environment - Interdependence of Life (5D)

By the end of the 8th grade, students should know that:

- In all environments - freshwater, marine, forest, desert, grassland, mountain, and others - organisms with similar needs may compete with one another for resources, including food, space, water, air, and shelter. In any particular environment, the growth and survival of organisms depends on their physical conditions.



# Student Learning Objectives

Upon viewing the video and completing the enclosed student activities, students should be able to do the following:

- Define the term *forest biome* as a large geographic region dominated by trees;
- Differentiate between the three major forest types: coniferous, temperate, and tropical;
- Explain that the different forest types are separated by degrees of latitude and describe the general location of each;
- Describe the climate of each forest biome and explain how it determines the plants and animals that live within the biome;
- Differentiate between coniferous trees and deciduous trees;
- Provide examples of some of the animals found in northern coniferous forests, deciduous forests, and tropical forests;
- Explain why the rainforest is important to everyday life; and
- Describe some of the general characteristics of subtropical forests.



# Assessment

## Preliminary Test:

The Preliminary Test, provided in the Student Masters section, is an assessment tool designed to gain an understanding of student preexisting knowledge. It can also be used as a benchmark upon which to assess student progress based on the objectives stated on the previous pages.

## Video Review:

The Video Review, provided in the Student Masters section, can be used as an assessment tool or as a student activity. There are two main parts. The first part contains questions titled “You Decide” that can be answered during the video. The second series of ten questions consists of a video quiz to be answered at the conclusion of the video.

## Post-Test:

The Post-Test, provided in the Student Masters section, can be utilized as an assessment tool following student completion of the video and student activities. The results of the Post-Test can be compared against the results of the Preliminary Test to assess student progress.



# Introducing the Video

Before showing the video, take your class on a mini-field trip to the nearest forest. Divide the class into small groups and assign each group to a particular section of the forest. Tell the groups to carefully examine the trees in the area and to record their observations. Ask them to collect objects that have fallen from the trees, such as leaves, needles, and pine cones. Also ask them to make a list of all of the insects and animals that are found in their part of the forest. Upon returning to the classroom, have the groups present their observations and discuss any similarities and differences between their findings. Next, ask the students how their observations would differ if they were able to travel to a rainforest. Tell them to pay close attention to the video to learn more about some of the different forest biomes of the world.

## Video Viewing Suggestions

The Student Master “Video Review” is provided for distribution to students. You may choose to have your students complete this Master while viewing the program or to do so upon its conclusion.

The program is approximately 20-minutes in length and includes a ten-question video quiz. Answers are not provided to the Video Quiz on the video, but are included in this teacher’s guide. You may choose to grade student quizzes as an assessment tool or to review the answers in class.

The video is content-rich with numerous vocabulary words. For this reason you may want to periodically stop the video to review and discuss new terminology and concepts.



# **Student Assessments And Activities**

## **Assessment Masters:**

- Preliminary Test
- Video Review
- Post-Test

## **Student Activity Masters:**

- Identifying Forest Products
- Classifying Rainforests
- Local Leaves
- Vocabulary of *Forests*



---

# Video Script: *Forests*

1. What do the following things have in common - the chocolate in this candy bar,...
2. ...this medicine used to treat illnesses,...
3. ...the maple syrup poured on these pancakes,...
4. ...the rubber in this car tire,...
5. ...and the wood in this pencil?
6. All these things are products that come from forests.
7. Forests are very important biomes that provide us with...
8. ...materials we use everyday.
9. Forests also provide places for us to recreate.
10. And forests provide a place for many different kinds of plants and animals to live.
11. During the next few minutes, we're going to explore some of the characteristics of forest biomes...
12. ...by taking a look at the climate, as well as the plants and animals of forests.
13. We'll also learn about some of the different types of forest biomes found throughout the world.
14. **Graphic Transition- What is a forest?**
15. Perhaps you live near a forest,...
16. ...or maybe you have visited a forest.
17. What's the first thing that comes to mind when you think of a forest?
18. Most people think of trees.
19. Forest biomes are large geographic regions dominated by trees.
20. There are three major forest biomes: coniferous forests, temperate forests and tropical forests.
21. These forest types are separated by differences in latitude.
22. Generally speaking, northern coniferous forests are found between 50 and 60 degrees latitude.
23. Temperate forests are found below 50 degrees latitude....
24. ...and tropical forests are found near the equator.
25. Each of these forests has a unique climate, which influences the types of plants and animals that live there.
26. Let's take a closer look at each of these different forest types.
27. **Graphic Transition- Northern Coniferous Forests**
28. **You Decide!** What are coniferous trees?
29. Coniferous trees are trees that have cones which contain seeds.
30. Most conifers have needles instead of broad leaves,...
31. ... and they are also green throughout the year. We often refer to coniferous trees as evergreens.



---

# Script (cont.)

32. The northern coniferous forest, one of the largest biomes in the world, consists primarily of two common evergreens - spruce and fir trees.
33. This forest begins just below the tundra. The term “taiga” is often used to describe this biome, which stretches across Canada, northern Europe and Asia
34. Different variations of the northern coniferous forest may extend further south.
35. While it is cold here a good portion of the year, it’s warmer than the tundra.
36. It is warm enough to support large expanses of forest.
37. Summers are warm enough for the ground to thaw and there are approximately 120 growing days.
38. Pines, spruce and fir trees are the dominant trees.
39. Willows, birches, and alders are also found here.
40. Many different lichens blanket the ground, as do mosses.
41. The moose is one of the largest vertebrate animals.
42. Bears are also large mammals that live in the coniferous forests.
43. There are many ponds, which support fish,...
44. ...as well as swampy areas called bogs,...
45. ...which support a wide variety of plant species.
46. Let’s now move a little farther south to visit a different type of forest.
47. **Graphic Transition - Temperate Deciduous Forest**
48. Many of you probably live on or near the temperate deciduous forest biome.
49. Deciduous trees dominate this biome.
50. **You Decide!** What are deciduous trees?
51. Deciduous trees are broad-leaved trees that drop their leaves in late fall...
52. ...and grow new leaves in the spring.
53. Temperate deciduous forests cover most of eastern North America below 50 degrees north latitude.
54. The temperate deciduous forest in eastern North America was once a huge biome. It is said that a squirrel could jump from tree to tree all the way from the Atlantic Ocean to the Mississippi River.
55. This region is dominated by four different seasons - spring,...
56. ...summer,...
57. ...fall,...
58. ...and winter.
59. Spring is a season marked by the budding of leaves on trees and shrubs...
60. ...and the emergence of ferns and flowers on the forest floor.
61. During the summer months, plants grow and produce flowers and seeds.
62. In the fall, tree leaves turn radiant colors and eventually fall to the ground.



---

# Script (cont.)

63. During the winter, trees and other plants lie dormant as snow blankets the ground, and many animals hibernate.
64. Precipitation in the temperate deciduous forest ranges from 75 to 150 centimeters...
65. ...and is distributed relatively evenly throughout the year.
66. Soil type varies. Rich soils prompted early settlers to clear the land for agriculture, which continues to thrive today,...
67. ...whereas in other areas, clay or rocky soils discouraged agriculture.
68. There are many different variations of the temperate deciduous forest. These variations are due primarily to differences in climate.
69. For example, oak-hickory forests tend to exist in warmer areas,...
70. ...while beech-maple forests thrive in slightly cooler climates.
71. **Graphic Transition - Plants and Animals of the Temperate Deciduous Forest**
72. The temperate deciduous forest is home to hundreds of species of plants and animals.
73. Some of the trees commonly associated with the temperate deciduous forest include maple trees,...
74. ...oak trees,...
75. ... and beech trees,...
76. ...but there are dozens of other species.
77. Although the temperate deciduous forest is dominated by trees, there is also a wide variety of herbaceous plants.
78. Herbaceous plants are plants that do not possess woody tissue.
79. These include many different kinds of ferns...
80. ...and flowering plants, such as these trilliums.
81. **You Decide!**
82. What is the name of this bird?
83. This is a black-capped chickadee, a bird that commonly visits bird feeders.
84. There are hundreds of species of birds in the temperate deciduous forest,...
85. ...including several different kinds of owls,...
86. ...as well as many different species of woodpeckers.
87. Common mammals include the white-tailed deer,...
88. ...red squirrel,...
89. ...and red fox,...
90. ...as well as many different kinds of reptiles, including snakes...
91. ...and many species of amphibians, such as salamanders.
92. These are just some of the common plants and animals you may see when visiting the temperate deciduous forest.
93. **Graphic Transition - Tropical Forests**
94. One of the most fascinating types of forests are tropical forests.
95. Located near the equator,...



# Script (cont.)

96. ...tropical forests are warm, wet forests.
97. Tropical forests are often called tropical rainforests because they receive so much rain.
98. **You Decide!**
99. How much rain do these forests receive?
100. Tropical rainforests receive at least 200 centimeters of rain a year. Some years it may rain every day for months.
101. Temperatures are quite warm with only slight variations, causing it to feel like summer 12 months a year.
102. This climate allows trees to reach great heights of 30 to 50 meters, forming a dense green roof called the canopy.
103. Below the canopy on the forest floor live other layers of plants. These are generally referred to as understory plants.
104. Tens of thousands of plants thrive in the rainforest - more than any other biome on the earth.
105. We eat many things derived from rainforest plants, including chocolate...
106. ...and vanilla used to flavor ice cream.
107. Dozens of different kinds of valuable medicines are also derived from rainforest plants.
108. The tropical rainforest is also home to a wider variety of animals than any other biome.
109. In fact, we don't know how many different animal species inhabit the rainforest because new ones are frequently being discovered.
110. The sloth is one of many fascinating animals found in the tropical rainforest. This animal eats vegetation in the forest canopy...
111. ...and moves so slowly that algae grows in its fur.
112. Unfortunately, the existence of the rainforest is in great danger. The rainforest is being cut down at an alarming rate.
113. If the rainforest continues to be cut, it will disappear within your lifetime.
114. **Graphic Transition - Subtropical Forests**
115. While the tropical forest may seem very far away,...
116. ...a small amount of the subtropical forest exists in the United States.
117. **You Decide!** Where in the United States is the subtropical forest located?
118. The subtropical forest is located in southern Florida, mostly in the...
119. ...Everglades on small raised areas referred to as hammocks.
120. The subtropical forest is an intermediate forest between temperate forests and tropical forests.



---

# Script (cont.)

121. Plants grow year round, but may be inhibited by cooler temperatures and lower precipitation during the winter months.
122. Vines are common to subtropical forests, ...
123. ... as are epiphytes. Epiphytes are plants that grow on other plants.
124. These ferns growing on this tree are examples of epiphytes.
125. Different types of palm trees are common in the subtropical forest,...
126. ...as are gumbo limbo trees.
127. The Florida strangler fig is one of the most picturesque trees,...
128. ...beginning its life as a vine that wraps around the trunk of an existing tree.
129. As the strangler fig grows, it gradually prevents the tree from growing by strangling the tree.
130. When the original tree dies, the strangler fig tree remains in its place.
131. The sharp-leaved saw palmetto is a common understory plant.
132. Many different kinds of ferns are examples of herbaceous plants.
133. One of the most noticeable organisms are mosquitoes, which engulf visitors in thick biting clouds.
134. Hundreds of different species of birds spend all or part of the year in this relatively warm forest,...
135. ...as do many different kinds of amphibians and reptiles, including alligators which linger on the edges of the forest hammocks.
136. Rare tree snails, found slowly crawling along tree limbs, feed on lichens and algae.
137. These are just a few examples of the plants and animals that live in the subtropical forest of eastern North America.
138. **Graphic Transition - Summing Up**
139. During the past few minutes, we've seen that forest biomes are dominated by trees.
140. And we saw that there are three major types of forest biomes – coniferous forests,...
141. ...which are dominated by conifer trees,...
142. ...deciduous forests, dominated by broad-leaved trees,...
143. ...and tropical forests, which experience warm temperatures and large amounts of rain, enabling leaves to remain on the trees throughout the year.
144. We also saw some of the many species of plants and animals that live in the different types of forests.
145. So the next time you walk in the forest,...
146. ...use a pencil,...
147. ...or eat something that comes from a forest,...
148. ...think about the different ways forests affect our lives.
149. You might just look at forests a little differently.

## 150. Video Quiz



# Script (cont).

151. Fill in the correct word when you hear this tone. Good luck and let's get started.

1. Forests are dominated by \_\_\_\_\_.
2. We often refer to coniferous trees as \_\_\_\_\_
3. Conifers have \_\_\_\_\_ instead of leaves.
4. There are about \_\_\_\_\_growing days in the northern coniferous forest.
5. The \_\_\_\_\_ is a coniferous forest located just below the tundra.
6. \_\_\_\_\_ are plants that grow on other plants.
7. Ferns are examples of \_\_\_\_\_ plants.
8. Temperate forests have \_\_\_\_\_ distinct seasons.
9. \_\_\_\_\_ plants live on the forest floor below the canopy.
10. Rainfall exceeds \_\_\_\_\_ centimeters per year in tropical rainforests.



---

# Answers to Student Assessments

## Preliminary Test

1. temperate
2. fir
3. trees
4. climate
5. latitude
6. evergreen
7. deciduous
8. herbaceous
9. equator
10. animals
11. false
12. true
13. true
14. true
15. false
16. false
17. false
18. true
19. true
20. true

## Video Review

### **You Decide:**

- A. Coniferous trees are trees that have cones which contain seeds.
- B. Deciduous trees are broad-leaved trees that drop their leaves in late fall and grow new leaves in the spring.
- C. The bird is a black-capped chickadee.
- D. Tropical rainforests receive at least 200 centimeters of rain a year.
- E. The subtropical forest is located in southern Florida.

## **Video Quiz:**

1. trees
2. evergreens
3. needles
4. 120
5. taiga
6. epiphytes
7. herbaceous
8. four
9. understory
10. 200

## Post Test

1. true
2. false
3. false
4. true
5. true
6. true
7. true
8. false
9. true
10. false
11. herbaceous
12. animals
13. latitude
14. temperate
15. trees
16. equator
17. climate
18. evergreen
19. fir
20. deciduous



# Answers to Student Activities

## Identifying Forest Products

Answers will vary.

## Classifying Rainforests

Olympic National Forest - temperate

Everglades National Forest - subtropical

Darien National Park - tropical

Redwood National Park - temperate

1. Species diversity is higher in tropical rainforests than in temperate rainforests.

This difference is due to differences in climate.

2. Temperate rainforests are generally found at higher latitudes. Tropical rainforests are generally found near the equator.

3. Answers will vary.

4. Temperate rainforests tend to be cooler than tropical rainforests, but the amount of precipitation each type receives is relatively equal.

## Local Leaves

Answers and drawings will vary.

## Vocabulary

1. canopy, b

2. evergreens, d

3. sloth, h

4. rainforests, g

5. tropical forest, j

6. understory plants, i

7. deciduous, f

8. forest biomes, e

9. taiga, a

10. temperate deciduous forest, c

# Assessment and Student Activity Masters





# Preliminary Test

**Directions:** Fill in the blank with the correct word. A list of possible answers is provided at the bottom of the page.

1. \_\_\_\_\_ forests tend to have moderately warm summers and cool winters.
2. Spruce and \_\_\_\_\_ trees are the two dominant trees in the northern coniferous forest.
3. Forest biomes consist of large areas of \_\_\_\_\_.
4. The type of animals found in each forest biome depends on the \_\_\_\_\_ of the area.
5. Major forest types are separated by differences in \_\_\_\_\_.
6. Coniferous trees are often called \_\_\_\_\_ trees.
7. \_\_\_\_\_ trees are broad-leaved trees that lose their leaves in the fall and then grow them back in the spring.
8. A fern is a type of \_\_\_\_\_ plant, meaning that it does not possess woody tissue.
9. Tropical forests are located near the \_\_\_\_\_.
10. The tropical rainforest is home to the widest variety of plants and \_\_\_\_\_ in the world.

evergreen

fir

climate

pine

herbaceous

animals

temperate

trees

deciduous

grass

equator

latitude



# Preliminary Test

**Directions:** Decide whether the answer is True (T) or False (F).

- |  |   |   |
|--|---|---|
| 11. The three major forest biomes are the coniferous forest, oak forest, and tropical forest.        | T | F |
| 12. The taiga refers to a large region of coniferous forests found below the tundra.                 | T | F |
| 13. Temperate deciduous forests cover most of eastern North America below 50 degrees north latitude. | T | F |
| 14. A subtropical forest exists in the United States.  | T | F |
| 15. The northern coniferous forest is the smallest biome in the world.                               | T | F |
| 16. Coniferous trees have broad leaves, which help them survive in a cold, harsh environment.        | T | F |
| 17. The subtropical forest is an intermediate forest between tropical and coniferous forests.        | T | F |
| 18. Epiphytes are plants that grow on other plants.  | T | F |
| 19. The forest canopy is formed by treetops.   | T | F |
| 20. The trees in the temperate deciduous forest lose their leaves in the fall.                       | T | F |



# Video Review

**Directions:** During the course of the program, answer the “You Decide” questions as they are presented in the video. Answer the Video Quiz questions at the end of the video.

## You Decide:

- A. What are coniferous trees? Answer \_\_\_\_\_
- B. What are deciduous trees? Answer \_\_\_\_\_
- C. What is the name of this bird? Answer \_\_\_\_\_
- D. How much rain do these forests receive? Answer \_\_\_\_\_
- E. Where in the United States is the subtropical forest located? Answer \_\_\_\_\_

## Video Quiz:

1. Forests are dominated by \_\_\_\_\_.
2. We often refer to coniferous trees as \_\_\_\_\_.
3. Conifers have \_\_\_\_\_ instead of leaves.
4. There are about \_\_\_\_\_ growing days in the northern coniferous forest.
5. The \_\_\_\_\_ is a coniferous forest located just below the tundra.
6. \_\_\_\_\_ are plants that grow on other plants.
7. Ferns are examples of \_\_\_\_\_ plants.
8. Temperate forests have \_\_\_\_\_ distinct seasons.
9. \_\_\_\_\_ plants live on the forest floor below the canopy.
10. Rainfall exceeds \_\_\_\_\_ centimeters per year in tropical rainforests.



# Post Test

**Directions:** Decide whether the answer is True (T) or False (F).

1. Epiphytes are plants that grow on other plants. T F
2. The northern coniferous forest is the smallest biome in the world. T F
3. The three major forest biomes are the coniferous forest, oak forest, and tropical forest. T F
4. The forest canopy is formed by treetops. T F
5. Temperate deciduous forests cover most of eastern North America below 50 degrees north latitude. T F
6. The trees in the temperate deciduous forest lose their leaves in the fall. T F
7. The taiga refers to a region of coniferous forests found below the tundra. T F
8. Coniferous trees have broad leaves, which help them survive in a cold, harsh environment. T F
9. A subtropical forest exists in the United States. T F
10. The subtropical forest is an intermediate forest between tropical and coniferous forests. T F



# Post Test

**Directions:** Fill in the blank with the correct word. Choose from the list of possible answers at the bottom of the page.

11. A fern is a type of \_\_\_\_\_ plant, meaning that it does not possess woody tissue.
12. The tropical rainforest is home to the widest variety of plants and \_\_\_\_\_ in the world.
13. Major forest types are separated by differences in \_\_\_\_\_.
14. \_\_\_\_\_ forests tend to have moderately warm summers and cool winters.
15. Forest biomes consist of large areas of \_\_\_\_\_.
16. Tropical forests are located near the \_\_\_\_\_.
17. The type of animals found in each forest biome depends on the \_\_\_\_\_ of the area.
18. Coniferous trees are often called \_\_\_\_\_ trees.
19. Spruce and \_\_\_\_\_ trees are the two dominant trees in the northern coniferous forest.
20. \_\_\_\_\_ trees are broad-leaved trees that lose their leaves in the fall and grow them back in the spring.

evergreen	fir
climate	pine
herbaceous	animals
temperate	trees
deciduous	grass
equator	latitude



# Identifying Forest Products

**Background:** The forests around the world play a vital role in people’s lives. Aside from providing us with the oxygen we breathe, forests provide us with many products that we use everyday, such as the furniture in our homes. However, not all forests produce trees that are suitable for furniture construction. Most products are made from particular trees, depending on the properties of the tree. For example, furniture is often made from oak because it is a strong and heavy wood.

**Directions:**

As an out-of-class assignment, find ten objects in your home that are made of wood. Identify the type of tree from which the wood came. Record this information in the table below. In the third column, identify the type of forest from which the tree most likely came. You may need to use resources in your classroom or library.

Object	Tree Type	Forest Type
1. bed	oak tree	temperate deciduous
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		



# Classifying Rainforests

**Objective:** In this activity, students will learn about the similarities of and differences between tropical and temperate rainforests.

**Background:**

The term *rainforest* is most commonly associated with areas near the equator. These forests are called **tropical rainforests**. They are wet and warm forests that contain a wide variety of plant and animal species. In fact, there are estimated to be thousands of unknown species living in tropical rainforests. The trees tend to be broad-leaved, with large trunks that tower above the ground. The trees act as a habitat for all kinds of animals, insects and plants. Snakes, monkeys, ants, beetles and poisonous plants are just a few examples of the species that coexist among the branches of tropical rainforest trees.

Contrary to popular belief, not all rainforests exist in hot climates.

**Temperate rainforests** are forests in cooler climates that also receive large amounts of rain. Like tropical rainforests, temperate rainforests also have lush vegetation, but they do not contain the same types of animals and plants that tropical forests do. The trees in temperate rainforests are mainly coniferous trees, having needles and cones rather than leaves. The moderate climate and abundance of moisture creates an ideal setting for a diverse group of fungi, animal and plant species.

**Directions:** On the following page you will find a table listing four areas where rainforests exist. Using references from your classroom or library, research the areas to complete the table. After completing the first four rows, locate and research a fifth rainforest area to complete the last row. Finally, use this information to answer the questions below the chart.



# Classifying Rainforests (cont.)

Location	Average Temp.	Average Precipitation	Tree Types	Animal Life	Temperate or Tropical
Olympic National Forest, WA			1. 2. 3. 4.	1. 2. 3. 4.	
Everglades National Park, FL			1. 2. 3. 4.	1. 2. 3. 4.	
Darien National Park, Panama			1. 2. 3. 4.	1. 2. 3. 4.	
Redwood National Park, CA			1. 2. 3. 4.	1. 2. 3. 4.	
			1. 2. 3. 4.	1. 2. 3. 4.	

1. How does the animal life in a tropical rainforest differ from that in a temperate rainforest? What is responsible for these differences?
2. Where are temperate rainforests generally found? Where are tropical rainforests generally found?
3. What type of rainforest is located nearest your home?
4. How do the average temperature and levels of precipitation of each rainforest type compare?



# Local Leaves

**Objective:** In this activity, students will gather and identify different types of leaves from their surrounding area.

**Background:** There are three major forest biomes found throughout the world: coniferous forests, temperate forests and tropical forests. A forest is categorized by its latitude, or distance from the equator, along with the type of trees and animals that live within its environment.

The **Northern Coniferous** forest biome is generally located between 50 and 60 degrees latitude. Coniferous trees have cones which produce seeds. Coniferous trees have needles rather than leaves and therefore keep their green color throughout the year. The dominant coniferous trees are spruce and fir trees.

**Temperate** forests are located between the northern coniferous forest and tropical forests. The temperate deciduous forest consists of broad-leaved trees that go through an annual process in which their leaves fall off in late fall and are replaced by new leaves in the early spring. Temperate deciduous forests cover most of eastern North America below 50 degrees latitude. Temperate forests tend to experience all four seasons.

**Tropical** forests are located near the equator where warm, wet weather dominates. The trees found in these forests tend to be quite large due to their ideal setting. The forests benefit from an abundance of rain, as well as a year long growing season. Like the temperate forests, broad-leaved deciduous trees are the dominant trees in tropical forests.

**Procedure:** Collect six different leaves from around your school or home. Draw each one in the boxes provided for you in the table on the following page. Using a field guide, identify the type of leaf and the tree from which it fell. Depending on the type of leaves found in your area, conclude which type of forest area your community is located in: coniferous, temperate, or tropical. Next, use a resource book to find leaf diagrams of six trees located in another type of forest biome. Draw these and compare them to the types of trees located near your home.



# Local Leaves (cont).

<p>1.</p>          <p>Name _____</p>	<p>2.</p>          <p>Name _____</p>
<p>3.</p>          <p>Name _____</p>	<p>4.</p>          <p>Name _____</p>
<p>5.</p>          <p>Name _____</p>	<p>6.</p>          <p>Name _____</p>



# Vocabulary of: Forests

- |   |  |
|---|--|
| <p>_____ 1. pyonac</p> <p>_____ 2. evrngeeres</p> <p>_____ 3. hstol</p> <p>_____ 4. riasfsrnteo</p> <p>_____ 5. ptrciola srfteo</p> <p>_____ 6. tdnruyoser ptnasl</p> <p>_____ 7. dciueosu</p> <p>_____ 8. efstor mboeis</p> <p>_____ 9. agtai</p> <p>_____ 10. mtrpeaet suedicdou<br/>ortsef</p> | <p>a. forests found in northern areas of the world; dominated by spruce and fir trees</p> <p>b. green roof formed by forest treetops</p> <p>c. type of forest that is found in the majority of the eastern United States</p> <p>d. another name for coniferous trees due to the fact that they keep their needles throughout the year</p> <p>e. biomes dominated by trees</p> <p>f. broad-leaved trees that lose and regrow their leaves annually</p> <p>g. name given to certain tropical forests that receive large amounts of rainfall</p> <p>h. slow moving animal found in tropical forests</p> <p>i. plants that grow beneath the forest canopy</p> <p>j. type of forest located in areas near the equator</p> |
|---|--|