

Forests of the World

OVERVIEW & OBJECTIVES	GRADES
<p>Students will learn about the forests of the world and the characteristics of coniferous and deciduous trees. They will answer questions and make a map through a small group activity. This lesson is designed for readers, but may be adapted to other grades.</p> <p><i>Students will be able to...</i></p> <ul style="list-style-type: none"> • Identify characteristics of coniferous and deciduous trees • Identify the global locations of coniferous and deciduous trees • Recognize the benefits of forests 	4 th
	TIME
	1 class period
	REQUIRED MATERIALS
	<ul style="list-style-type: none"> ✓ Blank world map with U.S. states outlined ✓ Student atlases ✓ Colored pencils ✓ Handouts: “Forests of the World”; “Expert Cards”

MINNESOTA SOCIAL STUDIES STANDARDS & BENCHMARKS

Standard 1. People use geographic representations and geospatial technologies to acquire, process and report information within a spatial context.

4.3.1.1.1 Create and use various kinds of maps, including overlaying thematic maps, of places in the United States, and also Canada or Mexico; incorporate the “TODALS” map basics, as well as points, lines and colored areas to display spatial information.

Standard 3. Places have physical characteristics (such as climate, topography vegetation) and human characteristics (such as culture, population, political and economic systems).

4.3.2.3.1. Locate and identify the physical and human characteristics of places in the United States, and also Canada or Mexico.

Standard 4. People construct regions to identify, organize and interpret areas of the Earth’s surface, which simplifies the earth’s complexity.

4.3.2.4.2 Name and locate countries neighboring the United States and their major cities.

Standard 9. The environment influences human actions; and humans both adapt to and change, the environment.

4.3.4.9.1 Explain how humans adapt to and/or modify the physical environment and how they are in turn affected by these adaptations and modifications.

SUGGESTED PROCEDURE

Suggested Procedure

Students will learn about forests by contributing to a worksheet while working in small groups with twelve Expert Cards. Students will be placed in small groups with the handout, “Forests of

the World”, a world map with the U.S. states outlined, and the twelve Expert Cards. The Expert Cards will be distributed based on the number of students in each group; for example, if students are in a group of 4 they will each have 3 Expert Cards. Students take turns reading the Expert Cards aloud while the handout is completed. Each student completes the worksheet and colors the map according to the directions. Students will then add TODALSS to their map to make it complete.

Discuss as a class the forests and their locations explaining that climate is a factor in their location and the variety of trees and animals that would be found. Also, explain that the type of climate is related to latitude and the coastal areas. (Climates tend to be warmer and wetter near the Equator and coastal areas tend to moderate the climate.) Ask students for examples of how forests help the environment and how forests are being harmed, relating this to the concept of human-environment interaction.

Extension

Students find pictures of a coniferous or a deciduous forest for a poster. After pasting the pictures on a large sheet of paper, students add pictures or drawings of some of the animals found there and then label the parts of the forest. Students present their poster explaining where and why the forest may be located and then identify some of the animals included on their poster. Students explain what they would see or hear if they walked through the forest.

Assessment

“Forests of the World” handout

“Forests of the World” map

Forests of the World

1. How much of the Earth's surface is covered by forests? _____
How much rain does a forest need to grow? _____
2. What are the 4 different layers of a forest? _____

3. Define evergreen (or coniferous) trees. _____

4. Define broadleaf (or deciduous) trees. _____

5. What kind of climates do deciduous forests need? _____
Color France, Germany, Poland, India, northeastern China, and the eastern United States (excluding Florida and the coastline up to North Carolina) one color and label in your legend that it stands for Temperate Deciduous forests.
6. What are some tree species and animals found in deciduous forests? _____

7. What kind of climates do temperate coniferous forests need? _____
Color Portugal and western Spain, southeastern China, Florida and the southeastern United States coast not colored, and New Zealand a second color and put it in the legend as Temperate Coniferous forests.
8. What are some tree species and animals found in temperate coniferous forests? _____

9. What kind of climates do boreal coniferous forests need? _____
Color Canada, Finland, Norway, and a strip of Russia running from about 50 degrees north to 75 degrees north all the way across Russia a third color and add Boreal Coniferous to your legend.

10. What are some tree species and animals found in boreal coniferous forests? _____

11. What are 3 ways forests help the environment?

a. _____

b. _____

c. _____

12. What 2 harmful things are happening in forests?

a. _____

b. _____

EXPERT CARD #1

Forests need 30 inches of rain a year. They cover 30% of the Earth's surface.

EXPERT CARD #2

Deciduous forests are in North America, western Europe, and eastern Asia. They have temperate climates of warm summers and cold winters.

EXPERT #3

Animals found in boreal or cold weather coniferous forests include rabbits, deer, wolves, and moose with many insects in the summer. Most trees are spruce, larch, and fir. They make up more than a third of all forests.

EXPERT #4

A forest has layers of foliage or plant life: The canopy is the top of the tallest trees. The understory is smaller trees and immature canopy trees. Next is a layer made up of ferns, moss, wildflowers, and soft stem plants. The floor is the soil and insects, worms, and organisms, which decompose the debris.

EXPERT #5

Deciduous or broadleaf trees have wide, flat leaves and no cones. They lose leaves for a season of the year.

EXPERT #6

Some species of deciduous trees are maple, beech, ash, oak, elm, aspen, and birch. Animals include birds, bats, squirrels, raccoons, bears, and deer.

EXPERT #7

Temperate coniferous/evergreen forests are found along coasts with mild winters and heavy rainfall.

EXPERT #8

Forests help the environment by recycling the planet's oxygen, cooling areas with their canopies, and anchoring topsoil with their roots. The roots of trees hold water so it becomes groundwater and fills our lakes.

EXPERT #9

Boreal or cold weather coniferous forests are found in the far northern areas of Europe, Asia, and North America. There are fewer layers of the forest as the winters are cold and the summers are short and cool.

EXPERT #10

Coniferous trees have needles and are often cone bearing. They keep most leaves year round.

EXPERT #11

Trees in temperate forests are protected by laws from overcutting, but they are being polluted by acid rain and other pollution. Burning trees causes increased carbon dioxide in the atmosphere, which causes more heat from the Earth to be absorbed and may change the world's climates.

EXPERT #12

Temperate coniferous forests have pine trees. Frogs, snails, and other animals that live near water live here.