



LIFE IN THE

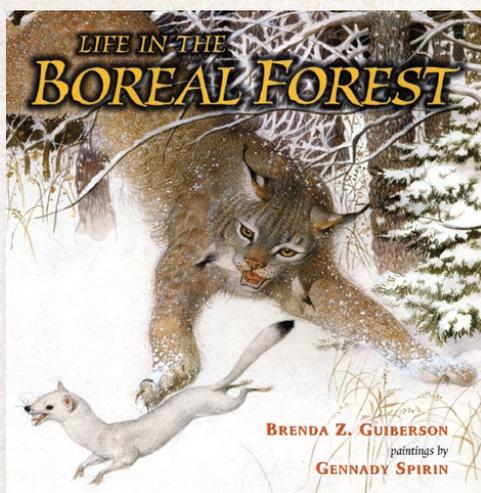


Teacher's and Discussion Guide

OVERVIEW

The great northern forest—the boreal forest—is home to a unique ecosystem of animals and plants. It covers one-third of the Earth's total forest area and is home to so many birds that it is known as North America's bird nursery. In this vast northern area, hares scrounge for a meal, beavers build their dams to keep themselves warm and safe under the ice, and evergreen trees spread their needle-covered branches.

The forest is a treasure trove of riches, but it's threatened by increased human development and climate changes. This gorgeous book teaches readers about the boreal forest and reminds them that it's up to us to make sure the beauty and bounty survive.



PRE-READING ACTIVITY

You will read about many animals in *Life in the Boreal Forest*. Some of them are listed below. Complete the chart with the scientific name of the boreal forest animals and note the source of your information. A few are completed for you.

ANIMAL COMMON NAME	ANIMAL SCIENTIFIC NAME	SOURCE
Tennessee warbler		
budworm		
loon		
minnow		
leech		
white pelican		
whooping crane		
beaver	<i>Castor canadensis</i>	
snowshoe hare		
moose	<i>Alces alces</i>	
bear		
lynx	<i>Felis lynx</i>	
crossbill		
wolf		
vole		
raven		
red fox		
horned owl		
ermine		
ptarmigan		
caribou		
mosquito		
fly		
ant		
grasshopper		
frog		

DISCUSSION QUESTIONS AND ACTIVITIES

- 1 A biome is an area on the Earth's surface that has a certain set of characteristics. Locate a map showing biomes and identify the boreal forests.
- 2 Why is the boreal forest important?
- 3 What's green and growing in the boreal forest?
- 4 How does the boreal forest affect people?
- 5 How do people affect the boreal forest?
- 6 Compile a list of animal names from the book. Using these names, make a food chain for the boreal forest. Identify each animal as a primary, secondary, or tertiary consumer.
- 7 Locate and print an article on the boreal forest that has been in the news in the past year.



8 Some animals are able to survive winter by growing winter coats, but their coats are not the kind that people wear. Animals' coats are the result of growing thicker fur. How do the winter coats of the arctic fox, wolf, and caribou protect them?



9 The animals in the boreal forest are specially adapted to live in extremely harsh winters and moderate summers. Some animals have structural adaptations that help them survive in the boreal forest. How do the lynx, wolf, and bear adapt?

10 The ways that different human societies view the boreal forest and exploit it varies enormously from one part of the forest to another. How do Americans and Canadians regard the boreal forest? How do their views compare to those of the Russians and Swedes?

11 Why are conifers the dominant trees of the taiga? What are some common diseases of the conifer? Which ones can be prevented? Which ones can be deadly?

12 “Beavers haul branches underwater to eat when thick ice traps them for months in their frozen lodge and pond.” What do the beavers eat from the logs? How do their bodies process this nutrient?

13 What is the future of the boreal forest?

Post-Reading Activities

Use your school library to learn about industrial activities within the boreal such as mining, peat extraction, forestry, non-timber forest products, petroleum, tourism, hydroelectricity generation, and agriculture. Discuss how these activities are affecting the boreal forest.

Produce an original piece of art in Gennady Spirin's style of one of the animals in the boreal forest.

About the Author

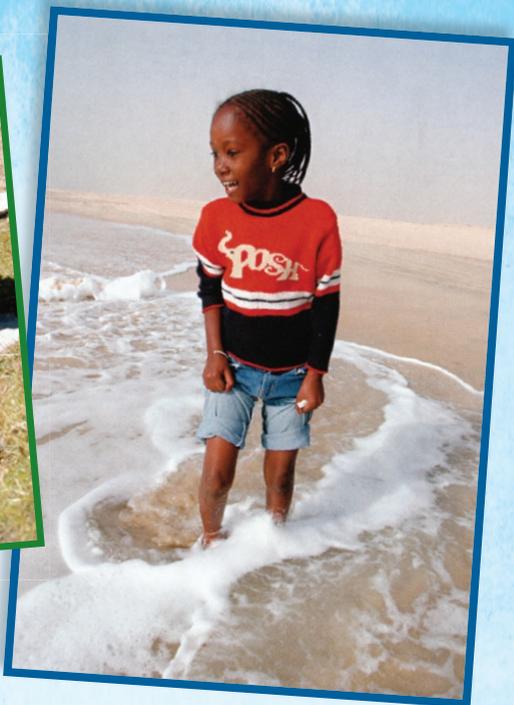
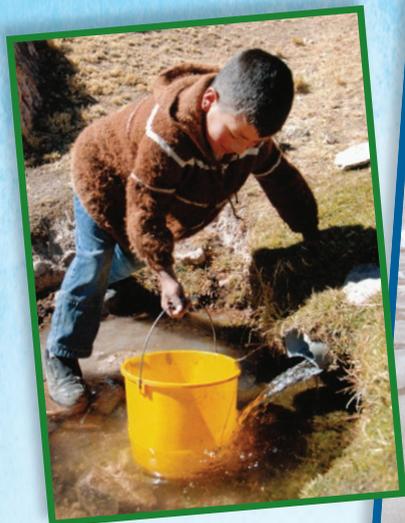
Brenda Z. Guiberson has enjoyed walks through boreal trees and bogs, which inspired her to write about this incredible forest. She is the author of many books for children, including the bestselling titles *Cactus Hotel* and *Spoonbill Swamp*. She lives near Seattle, Washington.

GENNADY SPIRIN has been awarded five gold medals from the Society of Illustrators, the first prize in both the Bologna and Barcelona international book fairs, and has been chosen four times for the *New York Times* Best Illustrated Books list. He lives in Princeton, New Jersey.

{ For a complete *Life in the Boreal Forest* lesson plan, visit us.macmillan.com/lifeintheborealforest. }

This guide was prepared by Terry Young, media specialist, New Orleans, Louisiana.

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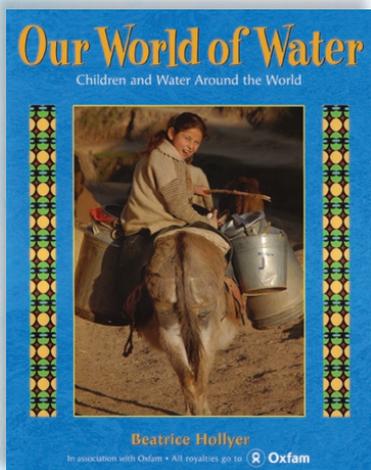
Our World of Water

Teacher's and Discussion Guide

OVERVIEW

The world's water crisis has many faces. A boy in Ethiopia walks many miles to fetch water from a distant well. A girl in Mauritania uses water sparingly because it hardly ever rains and water is precious. Farmers on the lower reaches of the Colorado River struggle because water has been diverted to cities like Las Vegas and Los Angeles.

Water constitutes about three-fourths of the Earth's surface, but less than 1 percent can be used by its inhabitants—about 97 percent is saltwater oceans and 2 percent is contained in glaciers. With every country seeking to satisfy its ever increasing water needs from shrinking and limited water resources, there could be a future of conflict.



PRE-READING ACTIVITY

To begin thinking about the importance of water and its uses, choose a partner, then ask each other the following questions:

- Why is water so important?
- When do you use water?
- Is it a need or want?

Share your responses with the class. Discuss the different ways people need water as you read *Our World of Water*.

DISCUSSION QUESTIONS AND ACTIVITIES

- 1 Use the Internet to research the water cycle. Draw a picture of it, then explain your picture to the group.
- 2 What do you think is the future of Earth's water supply?
- 3 "Water, water everywhere, nor any drop to drink." This quote is from *The Rime of the Ancient Mariner* by the English Romantic poet Samuel Taylor Coleridge. What do you think it means? How does it relate to the stories in *Our World of Water*?
- 4 Many people drink bottled water. Do you think it is necessary? Research different brands of bottled water online or at the grocery store, then make a chart of the prices. Determine the cost per ounce of the water. In addition to money, what are the other costs that go into producing bottled water?
- 5 Lack of clean drinking water and basic sanitation is a big obstacle to progress and development. Water is also a crisis for women and children, because they bear the burden of collecting water. In some places, women and girls have to walk nearly twenty miles to reach a water source. Girls drop out of school either because they have to help fetch water or because there aren't adequate sanitary facilities in their school toilets. Millions of school days are lost as a result, which prevents them from pursuing an education and earning a living wage or doing something more productive. Is this fair? How does that situation affect those places?
- 6 Answer the following questions:
 - Why is it necessary to have water?
 - Do you unnecessarily waste water?
 - What are five measures you could take in order to conserve water?
 - What can you do in order to conserve water in your community?
- 7 (a) Using this list of the most common uses of water and the typical number of gallons used for each use, estimate how much water you use in twenty-four hours:
 - Washing face or hands: 1 gallon
 - Taking a shower (standard showerhead): 50 gallons
 - Taking a bath: 40 gallons
 - Brushing teeth (with water running): 2 gallons
 - Flushing the toilet (standard-flow toilet): 5 gallons
 - Drinking a glass of water: $\frac{1}{16}$ gallon
 - Washing dishes by hand: 10 gallons
 - Washing dishes in a dishwasher: 15 gallons
 - Doing a load of laundry: 30 gallons
 - Watering lawn: 300 gallons
 - Washing car: 50 gallons

(b) Keep a journal of your water use for a week. Look at everyone's responses, discuss how you can all reduce water consumption.

(c) Make a list of the ways water is used in the book and compare it to your responses.
- 8 Research water use in various countries, then create a graph of the results.

- 9 Use library resources to find pictures of the nouns in the glossary of the book.
- 10 Select a country and imagine you live there. Write a story of how you would obtain water for you and your family for daily living.

POST-READING ACTIVITY

Copy and complete the table shown below.

	Lucas Riquelme	Khadija Sow	Dahlys Ang	Mohammed Golan Sadik Saran	Gamachu Boru	Barfimoh Rajabova
Country						
Continent						
Biome						
Age						
Source of Water						
Breakfast Meal						
Lunch Meal						
Dinner Meal						
Hobby						
Who lives at home with them?						
In what ways do they conserve						
Do they attend school?						

Compare your life to the lives of the children in *Our World of Water* and discuss how the availability of water affects them and you.

ABOUT THE AUTHOR

BEATRICE HOLLYER has been a writer and traveler all her life. As a television reporter and newscaster, she covered conflicts in the Gulf, the Middle East, South Africa, and the former Yugoslavia, and reported from Europe and the United States. She was born in South Africa and has lived in London for the past twenty years.

{ For a complete *Our World of Water* lesson plan, visit us.macmillan.com/ourworldofwater. }

This guide was prepared by Terry Young, media specialist, New Orleans, Louisiana.



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