

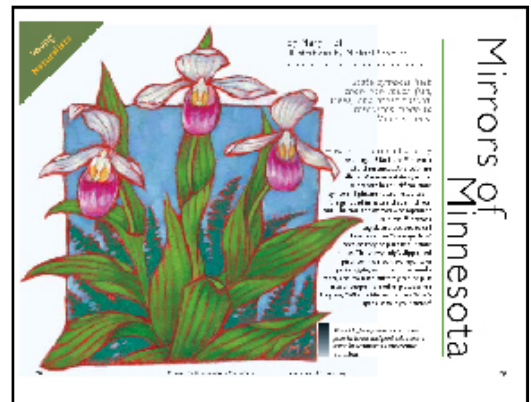
# Teachers Guide

Prepared by  
Jack Judkins,  
Department  
of Education,  
Bemidji State  
University.

## “Mirrors of Minnesota” Multidisciplinary Classroom Activities

Teachers guide for the Young Naturalists article “Mirrors of Minnesota,” by Mary Hoff. Illustrations by Michael Schmidt. Published in the September–October 2003 *Minnesota Conservation Volunteer*, or visit [www.dnr.state.mn.us/young\\_naturalists/symbols](http://www.dnr.state.mn.us/young_naturalists/symbols).

Young Naturalists teachers guides are provided free of charge to classroom teachers, parents, and students. Each guide contains a brief summary of the article, suggested independent reading levels, word count, materials list, estimates of preparation and instructional time, academic standards applications, preview strategies and study questions overview, adaptations for special needs students, assessment options, extension activities, Web resources (including related Conservation Volunteer articles), copy-ready study questions with answer key, and a copy-ready vocabulary sheet. There is also a practice quiz in Minnesota Comprehensive Assessments format. Users are encouraged to provide feedback through an online survey at [www.dnr.state.mn.us/education/teachers/activities/ynstudyguides/survey.html](http://www.dnr.state.mn.us/education/teachers/activities/ynstudyguides/survey.html). **Note: This guide is intended for use with the PDF version of this article.**



### Summary

The Minnesota Legislature has designated 14 official state symbols. “Mirrors of Minnesota” takes the reader on a tour of the eight state symbols (showy lady’s-slipper, red pine, common loon, walleye, morel mushroom, monarch butterfly, wild rice, and Lake Superior agate) that are part of our natural world.

**Suggested  
independent  
reading levels:**

Upper elementary through junior high

**Total words:**

1,873

## “Mirrors of Minnesota”—Teachers Guide

**Materials:** Poster board, old magazines, scissors, glue, construction paper, resources from your media center that may apply to any of the state symbols and to Native American culture, and ingredients for wild rice dishes.

**Preparation time:** About one hour, not including extension activities

**Estimated instructional time:** Two 50-minute class periods

**Minnesota Academic Standards applications:** “Mirrors of Minnesota” may be applied to the following Minnesota Department of Education Academic Standards:

### Language Arts

#### I. Reading and Literature

- A. Word Recognition, Analysis and Fluency
- B. Vocabulary Expansion
- C. Comprehension

#### II. Writing

- A. Types of Writing
- B. Elements of Composition
- C. Spelling
- D. Research
- E. Handwriting and Word Processing

#### III. Speaking, Listening and Viewing

- A. Speaking and Listening
- B. Media Literacy

### Arts

**Artistic expression**—visual arts

### Science

#### Earth and Space Science Grade 4

Earth Structure and Processes

#### Life Science Grade 7

Interdependence of Life

#### Earth and Space Science Grade 8

Earth Structure and Processes

### Social Studies

#### Minnesota History Grades 4–8

Pre-contact to 1650

Contact and Fur Trade 1600–1810

Early Settlement and Statehood 1810–1860

#### Geography Grades 4–8

Concepts of Location

Interconnections

Complete Minnesota Academic Standards are available at [www.education.state.mn.us](http://www.education.state.mn.us). Teachers who find other connections to Minnesota Academic Standards are encouraged to contact the *Conservation Volunteer*.

**Preview** First, ask your students to skim the article. Have them note how it is organized. Why do they think so many official Minnesota symbols are related to the natural environment? Discuss the concept of symbols. Use your school mascot as an example. Why do students like clothing with prominently displayed brand names or logos? In small groups or as a class brainstorm a list of familiar symbols. Why are symbols valuable communication tools? Display your list of symbols and add to the list as you work on the article.

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### Vocabulary preview

A transparency-ready vocabulary list is provided. To keep your preview time brief, you may wish to simply alert students to watch for the words on the list as they read. Suggest they apply comprehension strategies to unfamiliar words, such as looking at the word in relation to the sentence, looking up the word in the dictionary, looking for other key words in the sentence, referring to a picture or illustration, and thinking, “What makes sense?” Spending too much time previewing or giving a long list of vocabulary words will intimidate many readers and dampen their interest in the article (Allen, 1995).

### Study questions overview

Study questions parallel the story (the answer to the first question appears first in the article, followed by the second, and so on). Preview the questions with your class before you read the article. Explain how the questions parallel the story. You may wish to read the story aloud and complete the study questions in class or in small groups. The questions may be assigned as homework, depending on the reading ability of your students. Inclusion teachers may provide more direct support to special needs students (see Adaptations section, below). The study questions may also be used as a quiz. Add items to your symbols list as you work on the study questions.

### Adaptations

Read aloud to special needs students. Abbreviate the study questions or highlight priority items to be completed first. If time allows, remaining items may be attempted. For example, items 1, 3, 5, 8, 9, 11, 13, and 15 will give students some information about each symbol. Peer helpers, paraprofessionals, or adult volunteers may lend a hand with the study questions. With close teacher supervision, cooperative groups can also offer effective support to special needs students.

### Assessment

You may use all or some of the study questions, combined with vocabulary, as a quiz. Other assessment ideas: (1) Ask students to pick a state symbol, such as wild rice, and develop a portfolio of researched facts, artwork, and writing. For example, students could write a descriptive paragraph of at least five sentences with an accompanying drawing of traditional rice harvesting. (2) Ask individuals or groups to make oral and/or written presentations. A group could prepare and serve a wild rice dish. (3) Require a brief essay on a symbol, to include a description of a state symbol, why it was chosen, and what it communicates.

### Extension activities

1. “Mirrors of Minnesota” is excellent background for a study of Native American culture as it relates to wild rice. To learn more about traditional rice harvesting, see *The Sacred Harvest: Ojibway Wild Rice Gathering* by Gordon Regguinti (1992).
2. Make pumpkin-wild rice soup or another wild rice recipe.
3. Did you know that there are many unofficial state symbols? See: [www.state.mn.us/leg/unsym.asp](http://www.state.mn.us/leg/unsym.asp).

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4. Students can make posters of each state symbol and display them in the room.
5. Try making a symbols collage with cuttings from magazines and newspapers. Each collage should have a theme.
6. Trademarks are the symbolic representations of businesses and organizations. Students may propose candidates for official state symbols in categories such as state mammal or state amphibian. Students can research their choices, run campaigns, and elect winners. The state butterfly was suggested by an elementary school class from Mahtomedi. See Web resources (below) for two excellent sites.

### Web resources

#### Minnesota State Legislature

[www.leg.state.mn.us/leg/unsym.asp](http://www.leg.state.mn.us/leg/unsym.asp)

[www.leg.state.mn.us/leg/symbols.asp](http://www.leg.state.mn.us/leg/symbols.asp)

#### Trademarks

[www.corporate.com/trademarksearch.jsp](http://www.corporate.com/trademarksearch.jsp)

[www.nameit.com](http://www.nameit.com)

#### Wild rice/Ojibwe Indians

[www.indianharvest.com](http://www.indianharvest.com)

[www.turtle-island.com/customs.html](http://www.turtle-island.com/customs.html)

[www.dnr.state.mn.us/snapshots/plants/wildrice.html](http://www.dnr.state.mn.us/snapshots/plants/wildrice.html)

[www.dnr.state.mn.us/aquatic\\_plants/emergent\\_plants/wildrice.html](http://www.dnr.state.mn.us/aquatic_plants/emergent_plants/wildrice.html)

Here’s a sample of some of the related *Conservation Volunteer* articles available online at [www.dnr.state.mn.us/volunteer/articles](http://www.dnr.state.mn.us/volunteer/articles):

#### July–August 2004

“Wild About Ricing”

[www.dnr.state.mn.us/volunteer/julaug04/ricing.html](http://www.dnr.state.mn.us/volunteer/julaug04/ricing.html)

#### May–June 2003

“Tackling Toxic Tackle”

#### May–June 2002

Minnesota Profile: Walleye

[www.dnr.state.mn.us/volunteer/mayjun02/walleye.html](http://www.dnr.state.mn.us/volunteer/mayjun02/walleye.html)

#### March–April 1999

“Tremendously Marvelous Trees”

[www.dnr.state.mn.us/young\\_naturalists/trees](http://www.dnr.state.mn.us/young_naturalists/trees)

#### September–October 1995

“Minnesota’s Rocky Roots”

[www.dnr.state.mn.us/young\\_naturalists/rockyroots](http://www.dnr.state.mn.us/young_naturalists/rockyroots)

#### July–August 1994

“Flying Flowers”

[www.dnr.state.mn.us/young\\_naturalists/butterflies](http://www.dnr.state.mn.us/young_naturalists/butterflies)

### References

1. Allen, Jane. 1995. *It’s Never Too Late: Leading Adolescents to Lifelong Literacy*. Portsmouth, N.H: Heinemann.
2. Regguinti, Gordon. 1992. *The Sacred Harvest*. Minneapolis, Minn: Lerner.

# “Mirrors of Minnesota”—Teachers Guide

## Study Questions

“Mirrors of Minnesota,” by Mary Hoff. Illustrations by Michael Schmidt

Minnesota Conservation Volunteer, September–October 2003

[www.dnr.state.mn.us/young\\_naturalists/symbols](http://www.dnr.state.mn.us/young_naturalists/symbols)

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Name \_\_\_\_\_ Period \_\_\_\_\_ Date \_\_\_\_\_

1. If you were looking for a showy lady’s-slipper, where would you look? \_\_\_\_\_

2. If a showy lady’s-slipper is blooming, it has probably been growing for at least \_\_\_\_\_ years.

3. The red pine is also known as the \_\_\_\_\_ pine.

4. Why is it important that red pine cones do not fall to the ground right after they ripen? \_\_\_\_\_

5. What do some people believe is the origin of the loon’s name? \_\_\_\_\_

6. Where do Minnesota loons winter? \_\_\_\_\_

7. Why is the walleye our most popular game fish? \_\_\_\_\_

8. To which fish family does the walleye belong? \_\_\_\_\_

For a bonus point, can you name another member of this family? \_\_\_\_\_

9. Why do you think morels are also called “sponge” or “honeycomb” mushrooms? \_\_\_\_\_

10. If you have never gathered wild mushrooms before, why should you be careful? \_\_\_\_\_

11. Monarch butterflies are very particular about where they lay their eggs. Why? \_\_\_\_\_

12. The monarch migrates to \_\_\_\_\_ for the winter, where it clings to \_\_\_\_\_ trees until spring.

13. Which state symbol is also known by the name “manomin”? \_\_\_\_\_

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14. Describe the traditional method of harvesting wild rice. \_\_\_\_\_

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15. How were Lake Superior agates formed? \_\_\_\_\_

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16. Where might you find an agate? \_\_\_\_\_

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17. Which state symbol do you think best represents Minnesota? Why? \_\_\_\_\_

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18. If you were asked to add a new state symbol, what would you suggest and why? \_\_\_\_\_

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## Study Questions Answer Key

“Mirrors of Minnesota,” by Mary Hoff. Illustrations by Michael Schmidt

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1. If you were looking for a showy lady’s-slipper, where would you look? **In swamps and bogs in the northeastern two thirds of Minnesota.**
2. If a showy lady’s-slipper is blooming, it has probably been growing for at least **14** years.
3. The red pine is also known as the **Norway** pine.
4. Why is it important that red pine cones do not fall to the ground right after they ripen? **The red pine’s seeds are spread by the wind. If the cones fell right away, the wind couldn’t carry the seeds away.**
5. What do some people believe is the origin of the loon’s name? **They believe the name came from the Old Norse word *lomr*, which means a moaning sound.**
6. Where do Minnesota loons winter? **They migrate to the southeastern coast of the United States for the winter.**
7. Why is the walleye our most popular game fish? **It is challenging to catch and tastes delicious.**
8. To which fish family does the walleye belong? **Perch.** Can you name another member of this family? **Yellow perch (answers may vary).**
9. Why do you think morels are also called “sponge” or “honeycomb” mushrooms? **Because they resemble sponges, honeycombed with holes.**
10. If you have never gathered wild mushrooms before, why should you be careful? **Some wild mushrooms are extremely poisonous.**
11. Monarch butterflies are very particular about where they lay their eggs. Why? **The milkweed makes the larvae taste bad, which protects them against predators.**
12. The monarch migrates to **Mexico** for the winter, where it clings to **fir** trees until spring.
13. Which state symbol is also known by the name “manomin?” **Wild rice.**
14. Describe the traditional method of harvesting wild rice. **Harvesters canoe through the rice, bending stalks over the canoe and tapping the seeds off with special sticks.**
15. How were Lake Superior agates formed? **Gas bubbles left spherical holes in hardened lava. Water seeped into the holes and, over many years, deposited layers of quartz.**
16. Where might you find an agate? **You might find agates in gravel pits or on beaches across Minnesota.**
17. Which state symbol do you think best represents Minnesota? Why? **Answers will vary.**
18. If you were asked to add a new state symbol, what would you suggest and why? **Answers will vary.**

## Minnesota Comprehensive Assessments Practice Items

“Mirrors of Minnesota,” by Mary Hoff. Illustrations by Michael Schmidt

Minnesota Conservation Volunteer, September–October 2003

[www.dnr.state.mn.us/young\\_naturalists/symbols](http://www.dnr.state.mn.us/young_naturalists/symbols)

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Name \_\_\_\_\_ Period \_\_\_\_\_ Date \_\_\_\_\_

1. Minnesota currently has \_\_\_\_ official state symbols
  - A. 4
  - B. 24
  - C. 14
  - D. no
2. State symbols help \_\_\_\_\_.
  - A. people who are unfamiliar with our state understand what Minnesota is like.
  - B. attract tourists.
  - C. A and B.
  - D. people find their way around the state.
3. The red pine is also known as the \_\_\_\_\_.
  - A. jack pine.
  - B. white spruce.
  - C. Norway pine.
  - D. larch.
4. \_\_\_\_\_, also known as \_\_\_\_\_, was an important food for Ojibwe people before Europeans arrived in Minnesota.
  - A. red potatoes, manomin.
  - B. wild rice, manomin.
  - C. wild rice, Itasca.
  - D. wild berries, Bemidji.
5. Which creature is also a state symbol for six other states?
  - A. common loon.
  - B. walleye.
  - C. white-tailed deer.
  - D. monarch butterfly.



## Minnesota Comprehensive Assessments Practice Items Answer Key

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1. Minnesota currently has **C. 14** official state symbols.
2. State symbols help **C. A and B people who are unfamiliar with our state understand what Minnesota is like and attract tourists.**
3. The red pine is also known as the **C. Norway pine.**
4. **B. Wild rice**, also known as **manomin**, was an important food for Ojibwe people before Europeans arrived in Minnesota.
5. Which creature is also a state symbol for six other states? **D. monarch butterfly**

## Vocabulary

“Mirrors of Minnesota,” by Mary Hoff. Illustrations by Michael Schmidt

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**angler** person who fishes with a hook

**chalcedony** pale blue or gray translucent quartz, with a waxlike luster

**chrysalis** pupal stage of butterflies, enclosed in a case

**majestic** great, grand, large, stately

**Ojibwe** Native American people of the Lake Superior region

**orchid** large family of perennial plants with unusually showy, three-petal flowers

**plumage** feathers of a bird

**spherical** ball-shaped

**symbol** something that stands for something else

**tremolo** rapid repetition of alternating tones, similar to the vibrato of a plucked string