“Hoot, Tremolo, Yodel, and Wail” describes the life cycle of our Minnesota state bird, the common loon. Readers learn about the loon’s behaviors (migratory, mating, parenting, and territorial), its unique anatomical characteristics, and environmental challenges loons face.

Summary

Suggested reading levels: third through seventh grades
Total words: 1,373
Materials:
Paper, poster board, pencils, pens, markers, and print resources from your media center as well as Web sites, blank map of North America

Preparation time:
One to two hours, not including extension activities

Estimated instructional time:
Two to three 50-minute class periods (not including extensions)

Minnesota Academic Standards applications:
“Hoot, Tremolo, Yodel, and Wail” 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

Minnesota History and Social Studies
I. U.S. History and III. World History
Grades K–3
   A. Family Life Today and In the Past: The student understand how families live and in earlier recognizing aspects change time while others the same.
II. Minnesota History
Grades 4–8
   A. Pre-Contact to 1650: The student will demonstrate

IV. Historical Skills
Grades K–3
B. Historical Resources: The student will understand that we can learn about the past from different sorts of evidence.

Grades 4–8
B. Historical Resources: The student will begin to use historical resources.

V. Geography
Grades 4–8
B. Map Use: The student will make and use maps to acquire, process, and report on the spatial organization of people and places on Earth.
D. Interconnections: The student will describe how humans influence the environment and in turn are influenced by it.

Science
Grade 3
IV. Life Science
B. Diversity of Organisms
C. Interdependence of Life
**Preview**

Before you read, ask students to survey the article. Examine the photos. Use the KWL strategy (Ogle, 1986) to find out what your students already know (K) about ants, what (W) they would like to learn, and eventually, what they learned (L) while reading the article and related materials, and through participating in extension activities. Display your K and W ideas on poster board or paper (see Vocabulary preview). Add to your L list as you read and discuss the article. See www.teach-nology.com/web_tools/graphic_org/kwl for a KWL generator that will produce individual organizers for your students. KWL also gives you the opportunity to introduce interdisciplinary connections you will make during extension activities. For example, if you plan to use the article during social studies, science, or art, you may ask students to review their KWL for concepts that are specific to those disciplines. The Young Naturalists article “Mirrors of Minnesota,” also by Mary Hoff, provides information on the common loon as Minnesota’s state bird, and may be useful in previewing the current article. See Web resources section below.

**Vocabulary preview**

See the copy-ready vocabulary list included in this guide. You may wish to modify the list based on your knowledge of your students’ needs. Pretesting vocabulary individually, in small groups or with your entire class, can be an effective vocabulary preview strategy. You may then post-test at the conclusion of this activity (see Assessment section below).

Connections to vocabulary in the article may also be made during KWL. If students are not familiar with some of the terms, include them in the W list. Other terms may be added to the W list as they read the article. Eventually they can be moved to the L list. You may write vocabulary from the article in green ink, while other ideas are written in black. Note: Some of the words in the vocabulary list definitions may require further explanation. Also preview the study questions for unfamiliar terms.

You may wish to use the study cards found at the end of this guide. Cut along the horizontal line; fold in the middle and tape or staple. Study cards (see Strategic Tutoring (Hock, Deshler, and Schumaker, 2000), can...
be applied to any subject area. On one side of the card, in large letters, write a key word or phrase that students are expected to know. In smaller letters frame the word or phrase in a question or statement. On the other side of the card, in large letters, write the answer to the question. Finally, in smaller letters, frame the answer in a question or statement. Blanks are provided to allow you or your students to add new words or phrases.

Study questions

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 entire guide with your class before you read the article. You may wish to read the story aloud and complete the study questions in class, in small groups, or as an independent activity. 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). The study questions may be also used as a quiz. Note: Items 1, 2, 4, 5, 6, 7, 12, 13, 15, 17 and the Challenges require varying degrees of analytical thinking.

Adaptations

Read aloud to special needs students. Abbreviate the study questions or highlight priority items to be completed first, for example, items 2, 3, 5, 6, 7, 10, 12, and 15. If time allows, remaining items may be attempted. 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, especially for extension activities.

Assessment

You may use all or part of the study guide, combined with vocabulary, as a quiz. Other assessment ideas: (1) Students may write an essay describing the seasonal changes in the life of the common loon. (2) Students may, on a map of North America, illustrate the loon’s migratory routes. (3) Poster presentations may describe the loon’s life cycle, how mercury and lead are threatening the loon, or how lakeshore development is affecting the loon. (4) Play recordings of loon calls as part of a quiz and ask students to match the meaning to the call.

Extension activities

1. Your class can learn about the work of the Loon Preservation Committee. See www.loon.org for information on monitoring loon population and breeding success. In Minnesota the DNR has conducted a loon monitoring program since 1994 (call 651-259-5120). Your students can also become volunteer loon watchers by contacting Pam Perry at pam.perry@dnr.state.mn.us or at 218-828-2228.
2. Invite a DNR nongame naturalist (www.dnr.state.mn.us/ecological_services/nongame) to your classroom or visit one of Minnesota’s 72 state parks (www.dnr.state.mn.us/state_parks/list.html) for presentations on loons.
3. After reading one or more Native American loon legends or stories...
about loon legends (see References), challenge your students to write their own original loon legends.

4. Students may investigate the threats to loons posed by lead fishing tackle and lead shot. Posters can illustrate the chain of events that introduce lead into the loon’s environment. The same approach can be applied to mercury contamination of lakes and rivers.

5. After listening to recordings of loon calls, ask students to imitate the calls and to explain what each call communicates.

6. Read and discuss Mary Oliver’s poem “The Loon on Oak-Head Pond.” The poem can be found at www.poetrysociety.org/motion/mapsitge/pimpoems/newyork/ny.html. Loons make especially good subjects for haiku poems (see volweb.utk.edu/school/bedford/harrisms/haiku.htm).

Web resources

Native American loon legends
www.zadjik.com/flutes/legends.htm#LOON
www.learner.org/jnorth/tm/loon/Legends.html

General information about loons
en.wikipedia.org/wiki/Loon
www.dnr.state.mn.us/snapshots/birds/commonloon.html
www.ffdp.ca/hww2.asp?cid=7&id=53

Maps/migration
www.umesc.usgs.gov/terrestrial/migratory_birds/loons/migrations.html

Mercury and lead poisoning
www.dnr.state.mn.us/ecological_services/nongame/projects/leadout.html
www.adkscience.org/loons/lead.htm
www.ffdp.ca/hww2.asp?cid=7&id=53

Minnesota Loon Monitoring Program
www.dnr.state.mn.us/ecological_services/nongame/projects/mlmp_state.html

Audio and video of loon calls and behavior
www.birds.cornell.edu/AllAboutBirds/BirdGuide/Common_Loon.html#fig1

Teacher resources
www.umesc.usgs.gov/teachers.html
www.dnr.state.mn.us/education/teachers
Many related *Minnesota Conservation Volunteer* articles are available online at www.dnr.state.mn.us/volunteer/articles, including:

**November–December 2002**

“Farewell to a Young Loon”
www.dnr.state.mn.us/volunteer/novdec02/closeencounters.html

**May–June 2003**

“Tackling Toxic Tackle”
www.dnr.state.mn.us/volunteer/mayjun03/toxictackle.html

**September–October 2003**

“Mirrors of Minnesota” (with study guide)
www.dnr.state.mn.us/young_naturalists/symbols

References


Study Questions

“Hoot, Tremelo, Yodel, and Wail” by Mary Hoff.
Minnesota Conservation Volunteer, July–August 2007
www.dnr.state.mn.us/young_naturalists/loons

Name _________________________________________ Period ________ Date ________________

1. The loon’s cry is described as “haunting.” Why? _____________________________________

2. In the spring in Minnesota what silhouettes might you see in the sky? ___________________

3. Where do loons spend the winter months? ___________________________________________

4. How is a loon similar to a torpedo? _________________________________________________

5. What type of sound does the male loon make to tell other male loons to stay away? _______

6. What advantage does the loon gain from heavy bones? What disadvantage? _____________

7. Explain how a loon’s hoot is different from its wail. ___________________________________

8. Which call is unique to each loon? _________________________________________________

9. Describe two major environmental threats to loons in Minnesota. _______________________

10. Where do loons build their nests? _________________________________________________


Minnesota Conservation Volunteer
12. How do loons catch their food? What do they eat? ________________________________

13. How can anglers help save loons? ____________________________________________

14. How do young loons differ in appearance from their parents? ______________________

15. List three interesting facts you learned about loons in this article. __________________

16. How do loons know when to migrate south and where to go? _______________________

17. Why do you think loons have red eyes? _________________________________________

Challenges: Young loons do not migrate back to Minnesota until they are two and a half years old. Why? ________________________________________________________________

How do you think the loon got its name? __________________________________________

Minnesota Conservation Volunteer
1. The loon’s cry is described as “haunting.” Why? Answers will vary, and depend on knowledge of meaning of haunting. Synonyms include: unforgettable and memorable. Students may describe the loon’s call as scary or disturbing.

2. In the spring in Minnesota what silhouettes might you see in the sky? Answers will vary, and depend on knowledge of the meaning of silhouette. Hundreds of species of birds, including loons, may be seen in the spring skies.

3. Where do loons spend the winter months? Atlantic and gulf coasts

4. How is a loon similar to a torpedo? Answers will vary. Loons are similar in shape and behavior to torpedoes.

5. What type of sound does the male loon make to tell other male loons to stay away? Yodel

6. What advantage does the loon gain from heavy bones? What disadvantage? Heavy bones make it easier for the loon to dive, but harder for it to take flight.

7. Explain how a loon’s hoot is different from its wail. A hoot is soft and short. Loons hoot to let other loons know where they are. A wail is higher and louder than a hoot. Loons wail to communicate with other loons who are far away.

8. Which call is unique to each loon? The yodel. Some people can even recognize loons by their yodel.

9. Describe two major environmental threats to loons in Minnesota. Loons’ nesting is disrupted by shoreline development. Mercury contaminates loons’ prey, which then affects the loons’ ability to reproduce. A third threat is fishing line and lead tackle.

10. Where do loons build their nests? Loons prefer private spots near the shoreline for their nests.

11. Which direction do nesting loons face? Why? When loons sit on their nests they face the water so they can quickly escape predators.

12. How do loons catch their food? What do they eat? They dive and swim under the water, catching fish and leeches in their bills.

13. How can anglers help save loons? Do not throw line into the water. Use nontoxic tackle.

14. How do young loons differ in appearance from their parents? Adults are black and white with iridescent green heads. Babies are a dull brown with white bellies.
15. List three interesting facts you learned about loons in this article. **Answers will vary.**

16. How do loons know when to migrate south and where to go? **Their instinct guides them.**

17. Why do you think loons have red eyes? **Answers may include those in the article: red eyes are signals to mate or competitors, or light filters to help see underwater. Students may add their own theories.**

**Challenges:** Young loons do not migrate back to Minnesota until they are two and a half years old. Why? **Answers will vary. There is no information about this in the article; however, students may conclude that young loons are not ready to mate or to compete with older loons for mates, so why should they migrate?**

How do you think the loon got its name? **Answers will vary. Students may associate the loon’s name with the sounds of its calls.**
Minnesota Comprehensive Assessments Practice Items
“Hoot, Tremelo, Yodel, and Wail” by Mary Hoff.
Minnesota Conservation Volunteer, July–August 2007
www.dnr.state.mn.us/young_naturalists/loons

Name ___________________________________________ Period _______ Date_________________

1. Loons take mercury into their bodies when they
   A. fly south.
   B. have babies.
   C. eat fish.
   D. yodel.

2. Researchers use _________________________ to track migrating loons.
   A. satellites.
   B. radio transmitters.
   C. airplanes.
   D. volunteer observers

3. Loons rid their bodies of excess salt through
   A. glands near their eyes.
   B. their feathers.
   C. airplanes.
   D. their bills.

4. The scientific name for the common loon is
   A. *Luna immer.*
   B. *Gavia immer.*
   C. *Immer luna.*
   D. *Immer gavia.*

5. Loons must incubate their eggs for
   A. six weeks.
   B. two weeks.
   C. three weeks.
   D. four weeks.
1. Loons take mercury into their bodies when they C. eat fish.
2. Researchers use B. radio transmitters to track migrating loons.
3. Loons rid their bodies of excess salt through A. glands near their eyes.
4. The scientific name for the common loon is B. Gavia immer.
5. Loons must incubate their eggs for D. four weeks.
Vocabulary

“Hoot, Tremelo, Yodel, and Wail” by Mary Hoff.
Minnesota Conservation Volunteer, July–August 2007
www.dnr.state.mn.us/young_naturalists/loons

angler  person who fishes with a hook and line
aquatic   living in or near water
down     soft, first feathers of a baby bird
haunting evoking strong emotion, especially sadness; memorable
instinct inborn pattern of behavior, not learned
iridescent brilliant appearance
mercury  poisonous metal released into the air from burning coal
nontoxic not harmful
predators animals that kill and eat other animals
silhouette dark shape or outline against a bright background
soggy    soaked through with moisture
torpedo  cylinder-shaped, self-propelled missile that travels under water
tremolo rapid repetition of two tones
unique      only one of its kind
warbling    trilling or quavering sound
yodel       to sing, changing rapidly between normal and falsetto (high) tones
<table>
<thead>
<tr>
<th>A haunting sound is</th>
<th>A memorable and sad sound is</th>
</tr>
</thead>
<tbody>
<tr>
<td>What is a silhouette?</td>
<td>A dark shape or outline against a bright background is</td>
</tr>
<tr>
<td>A torpedo is</td>
<td>A self-propelled underwater missile is</td>
</tr>
<tr>
<td><strong>The warbling call is also known as its</strong></td>
<td><strong>The loon’s yodel is also known as</strong></td>
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</tbody>
</table>

| **The loon’s tremelo call sounds like**   | **A loon sometimes makes a laughing sound called a** |

| **The loon’s yodel is**                  | **Rapid alternation between normal and high notes is called a** |

| **What is mercury?**                     | **A poisonous metal produced by burning coal is called** |

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_Minnesota Conservation Volunteer_
<table>
<thead>
<tr>
<th>Predators</th>
<th>Animals that kill and eat other animals</th>
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<tr>
<td>are</td>
<td>are called</td>
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</table>

| When baby birds are soggy       | When something is soaked with moisture   |
| they are                       | it is                                   |

| Loons are called aquatic       | Animals that live in or near water       |
| birds because they             | are                                     |

<p>| A baby loon’s down             | A baby bird’s soft, first feathers       |
| is its                         | are called                              |</p>
<table>
<thead>
<tr>
<th><strong>What does iridescent mean?</strong></th>
<th>Brilliantly colored feathers are</th>
<th><strong>A nontoxic substance is</strong></th>
<th>If a substance is not poisonous or harmful it is</th>
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<tr>
<td><strong>When a loon uses instinct to migrate it exhibits</strong></td>
<td><strong>An animal’s inborn, unlearned behavior is called</strong></td>
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<tr>
<td><strong>If something is unique it is</strong></td>
<td><strong>A loon’s yodel is the only one of its kind so it is</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
An **angler**
is a person who

A person who
**fishes with a hook and line**
is an