“Two Eastern Screech-Owls” Multidisciplinary Classroom Activities

Teachers guide for the Young Naturalists article “Two Eastern Screech-Owls” by Laura Erickson with illustrations by Betsy Bowen. Published in the November-December 2011 Minnesota Conservation Volunteer, or visit www.mndnr.gov/young_naturalists/screech_owls.

Young Naturalists teachers guides are provided free of charge to classroom teachers, parents, and students. This 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 and vocabulary study cards. There is also a practice quiz (with answer key) in Minnesota Comprehensive Assessments format. Materials may be reproduced and/or modified to suit user needs. Users are encouraged to provide feedback through an online survey at www.mndnr.gov/education/teachers/activities/ynstudyguides/survey.html. If you are downloading articles from the website, please note that only Young Naturalists articles are available in PDF.

Summary

In this story the reader gets an early-spring glimpse of a nesting pair of eastern screech-owls. Students will learn about nesting and hunting behavior patterns, as well as about how these interesting birds raise their young.

Suggested reading levels: Intermediate through middle/junior high school grades

Total words: 1,272

Materials: Paper, poster board, colored pencils, crayons, pens, markers, as well as print and online resources your media specialist may provide

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

Estimated instructional time: One or two 50-minute class periods (not including extensions)

www.mndnr.gov/young_naturalists/screech_owls
“Two Eastern Screech-Owls”—Teachers Guide

“Two Eastern Screech-Owls” may be applied to the following Minnesota Department of Education standards:

**Language Arts**

**Reading Benchmarks**
- **Informational Text K–5; 6–12**
  - Key Ideas and Details
  - Craft and Structure
  - Integration of Knowledge and Ideas
  - Range of Reading and Level of Text Complexity

**Writing Benchmarks: Literacy in History/Social Studies, Science and Technical Subjects 6–12**
- Text Types and Purposes
- Writing Process: Production and Distribution of Writing
- Research to Build and Present Knowledge
- Range of Writing

**Foundational Skills K–5**
- Phonics and Word Recognition
- Fluency

**Science**

**Grade 3**
- 3.4.1.1.1: Structure and Function in Living Systems
- 3.4.3.2.2: Evolution in Living Systems

**Grade 5**
- 5.4.1.1.1: Structure and Function in Living Systems
- 5.4.2.1.2: Interdependence Among Living Systems

**Grade 7**
- 7.4.2.1.1; 7.4.2.1.2; 7.4.2.1.3; 7.4.2.2.1; 7.4.2.2.2; 7.4.2.2.3: Interdependence Among Living Systems
- 7.4.3.2.3: Evolution in Living Systems

**Arts**

**Grades K–12**
- 1. Artistic Foundations: Visual Arts
- 2. Artistic Process: Create or Make: Visual Arts
- 3. Artistic Process: Perform or Present: Visual Arts
- 4. Artistic Process: Respond or Critique: Visual Arts

Language Arts standards were undergoing a major revision at the time this article was published. Format and content will change significantly. Minnesota Academic Standards are available at www.education.state.mn.us. Teachers who find other connections to standards are encouraged to contact Minnesota Conservation Volunteer.
Preview

Before students survey the article, display photos of screech owls, a mounted specimen, or, if possible, a live owl (see Web Resources). Follow with the KWL strategy (Ogle, 1986) to find out what your students already know (K) about owls, what they would like to learn (W); and eventually what they learned (L) while reading the article and related materials and through participating in extension activities. You might begin by asking small groups to brainstorm their ideas. Then combine the groups' data to make a class list. 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, which may also be used to record answers to W questions. KWL gives you the opportunity to introduce interdisciplinary connections you will make during extension activities. If you use the article in science or art class, you may wish to focus your prereading discussion on academic standards that apply for that class.

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 or the subject you are teaching. 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).

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 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 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 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, 3, 8, 10, 12 and the Challenge require varying degrees of critical thinking.

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. 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 include: (1) Students may write an essay describing one or more of the main ideas in the article. For example, essays could focus on mating and reproduction, nesting, hunting, interactions with other birds, or physical/behavioral
Extension activities

1. Invite a DNR nongame biologist to visit your classroom to present information about eastern screech owls. See www.dnr.state.mn.us/eco/nongame/index.html. Organizations listed in Web Resources below do presentations with live raptors.

2. The Volunteer has published several articles about owls you may wish to bundle with this article. See Related Articles.

3. Challenge students to learn more about owl adaptations. See Web Resources. Adaptations can be related to climate change as owls extend their range to find food or favorable weather.


5. Use this article in your life science unit on evolution to explore how plants and animals adapt to environmental conditions.

6. Dissect owl pellets and catalog the contents. See Web resources. This works well as a partners activity. Glue pellet contents to top half of black paper with inventory sheet attached to bottom for an effective classroom display.

7. There are several species of birds mentioned in the article. Challenge students to draw scenes from the story that feature one or more species. See poster presentations in Assessment section above.

Web resources

Minnesota DNR
www.dnr.state.mn.us/eco/nongame/index.html
www.dnr.state.mn.us/snas/index.html
www.dnr.state.mn.us/nature_viewing/index.html

Owl Adaptations
www.worldofowls.com/whatareowls.htm
www.seaworld.org/animal-info/info-books/raptors/adaptations.htm

Owl Pellets
www.biologycorner.com/worksheets/owlpellet.html
www.hometrainingtools.com/owl-pellet-dissection-project/a/1244/
www.hawkquest.org/TA/XL/Pellet.pdf

Owls of Minnesota
www.dnr.state.mn.us/birds/index.html
www.raptor.cvm.umn.edu/EducateandLearn/AboutRaptors/home.html
Web resources continued

Live Owls in Your Classroom
www.hscbemidji.org/
www.audubon-center.org/
www.raptor.cvm.umn.edu/
www.lloydjohnsonfoundation.org/what_we_fund/index.php?page=Hawk-Ridge
www.smm.org/warnernaturecenter/outreach
www.mnzoo.com/education/education_zooMobile.asp

Other Birds in this Article
www.allaboutbirds.org/guide/Downy_Woodpecker/id
www.allaboutbirds.org/guide/Pileated_woodpecker/lifehistory
www.allaboutbirds.org/guide/European_Starling/id
www.allaboutbirds.org/guide/American_Crow/id
www.allaboutbirds.org/guide/Blue_jay/id
www.allaboutbirds.org/guide/Black-capped_Chickadee/id
www.allaboutbirds.org/guide/Northern_flicker/id

Minnesota DNR Teacher Resource
www.mndnr.gov/education/teachers/index.html

Note: All websites were active at the time of this guide’s publication. However, some may no longer be active when this guide is accessed.

Related articles
In addition to the related articles listed below, every Minnesota Conservation Volunteer article published since 1940 is now online in searchable PDF. See: webapps8.dnr.state.mn.us/volunteer_index.

September-October 1992
“Awesome Owls”
www.dnr.state.mn.us/young_naturalists/awesomeowls/index.html (YN article)

March-April 1994
“Baby Birds of Minnesota”
www.dnr.state.mn.us/young_naturalists/babybirds/index.html (YN article)

January-February 1995
“What’s Making a Racket?” (YN article)
www.dnr.state.mn.us/young_naturalists/woodpeckers/index.html

January-February 2001
“Scampering Mammals”
www.dnr.state.mn.us/young_naturalists/scamperingmammals/index.html (YN article)

March-April 2001
“Whoooo’s Watching?”
www.dnr.state.mn.us/young_naturalists/owladventures/index.html (YN article with teachers guide)
January-February 2004
“The Nature of Feathers”
www.dnr.state.mn.us/young_naturalists/feathers/index.html (YN article with teachers guide)

March-April 2006
“The Hole Story”
www.dnr.state.mn.us/young_naturalists/cavity_nesters/index.html (YN article with teachers guide)

January-February 2011
“The Greatest of Feet”
www.dnr.state.mn.us/young_naturalists/feet/index.html (YN article with teachers guide)

March-April 2011
“Northern Saw-Whet Owl 10-583”
www.dnr.state.mn.us/young_naturalists/saw_whet_owl/index.html (YN article with teachers guide)

References
Study Questions

1. During what month does this story begin? ____________________________________________

2. Why do you suppose the woodpecker chose the owls’ nest box for a drum?__________________
____________________________________________________________________________________

3. Why do owls spit up their pellets? ____________________________________________________
____________________________________________________________________________________

4. The male owl shared the mouse he caught on a blustery night with his mate. Why? ______________
____________________________________________________________________________________

5. Why do owls prefer cavities in trees to man-made nesting boxes? __________________________
____________________________________________________________________________________

6. What did male owl do that led the writer to guess that the owl preferred a particular nest site?
____________________________________________________________________________________

7. The owls’ restlessness was explained by _______________________________________________
____________________________________________________________________________________

8. What do screech owls and starlings have in common? ___________________________________
____________________________________________________________________________________

9. The owls were not nesting in their ideal location because ________________________________
____________________________________________________________________________________

10. Why was a spot close to the zoo a good location? ______________________________________
____________________________________________________________________________________

11. Explain why the color of a screech owl’s plumage is important. __________________________
____________________________________________________________________________________

12. Why do you suppose the blue jay was alarmed by the owls? ______________________________
____________________________________________________________________________________

13. What is preening, and why is it an important owl behavior? ______________________________
____________________________________________________________________________________

14. How long can eastern screech owls live? _______________

Challenge: If you were a baby screech owl, what factors would affect your chances of growing to 
adulthood? ________________________________________________________________________
____________________________________________________________________________________
Study Questions Answer Key
Teachers guide for the Young Naturalists article “Two Eastern Screech-Owls” by Laura Erickson with illustrations by Betsy Bowen. Published in the November-December 2011 Minnesota Conservation Volunteer, or visit www.mndnr.gov/young_naturalists/screech_owls.

1. During what month does this story begin? Valentine’s Day is in February.

2. Why do you suppose the woodpecker chose the owls’ nest box for a drum? It made a loud noise.

3. Why do owls spit up their pellets? Answers may vary. They spit up what they cannot digest.

4. The male owl shared the mouse he caught on a blustery night with his mate. Why? His hormone levels were changing. Perhaps he wanted his mate to be strong for the breeding season.

5. Why do owls prefer cavities in trees to man-made nesting boxes? Tree cavities stay more humid and are better insulated against temperature changes.

6. What did the male owl do that led the writer to guess that the owl preferred a particular nest site? He stored two mice there, which let his mate know he liked that nest cavity.

7. The owls’ restlessness was explained by changing hormone levels.

8. What do screech owls and starlings have in common? They are both birds, and they both nest in cavities made by other birds.

9. The owls were not nesting in their ideal location because a storm had blown down the tree in which the nest was.

10. Why was a spot close to the zoo a good location? It was close to a reliable food source (mice that came to feed from the zoo animals’ food troughs).

11. Explain why the color of a screech owl’s plumage is important. Gray feathers provide good insulation against cold weather.

12. Why do you suppose the blue jay was alarmed by the owls? Perhaps the blue jay recognized the owls as predators.

13. What is preening, and why is it an important owl behavior? Preening is grooming with the beak. Birds gently pull their feathers through their beaks. Mutual preening helps owls bond to one another.

14. How long can eastern screech owls live? Wild screech owls have been known to survive for 14 or more years.

Challenge: If you were a baby screech owl, what factors would affect your chances of growing to adulthood? Answers may vary, but should include: the availability of food, the size of the chick (smaller chicks may not be fed), and the location of the nest (urban vs. rural).
Minnesota Comprehensive Assessments Practice Items

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Name________________________Period_____________________Date____________

1. Eastern screech owls’ primary prey is
   A. frogs.
   B. mice.
   C. snakes.
   D. rabbits.

2. Chickadees nest in
   A. old barns.
   B. attics.
   C. cavities.
   D. none of the above

3. Eastern screech owl males and females are about the same size.
   A. True
   B. False

4. Owl pellets contain
   A. fur, teeth, and bones.
   B. nuts and seeds.
   C. indigestible parts of prey animals.
   D. A and C.

5. Why can’t owls build their own nest cavities?

____________________________________________________________________________________
____________________________________________________________________________________
____________________________________________________________________________________
1. Eastern screech owls’ primary prey is B. mice.
2. Chickadees nest in C. cavities.
3. Eastern screech owl males and females are about the same size. A. True
4. Owl pellets contain D. A and C.
5. Why can’t owl build their own nest cavities? Unlike woodpeckers, owls do not have beaks that are adapted for building nest cavities.
Vocabulary
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<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>calories</td>
<td>the energy units in food</td>
</tr>
<tr>
<td>cavities</td>
<td>hollow places</td>
</tr>
<tr>
<td>courting</td>
<td>trying to attract a mate</td>
</tr>
<tr>
<td>duo</td>
<td>a pair of closely related things</td>
</tr>
<tr>
<td>fledge</td>
<td>to become capable of flight</td>
</tr>
<tr>
<td>genetically</td>
<td>referring to characteristics that are inherited from parents</td>
</tr>
<tr>
<td>hormones</td>
<td>chemicals produced in one part of the body that send signals to cells in another part of the body</td>
</tr>
<tr>
<td>indigestible</td>
<td>not digestible</td>
</tr>
<tr>
<td>irritable</td>
<td>easily annoyed</td>
</tr>
<tr>
<td>plumage</td>
<td>color and pattern of a bird’s feathers</td>
</tr>
<tr>
<td>predation</td>
<td>the act of preying on (killing and eating) other animals</td>
</tr>
<tr>
<td>predators</td>
<td>animals that kill and eat other animals</td>
</tr>
<tr>
<td>skittish</td>
<td>nervous</td>
</tr>
</tbody>
</table>
### Vocabulary Study Cards

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Cut along the horizontal lines, fold in the middle and tape or staple. Blanks are provided to allow you or your students to add new words or phrases.

<table>
<thead>
<tr>
<th>What are calories?</th>
<th>The energy units in food are called</th>
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</thead>
<tbody>
<tr>
<td>FOLD HERE</td>
<td>FOLD HERE</td>
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</table>

<table>
<thead>
<tr>
<th>Nest cavities are</th>
<th>Hollow places where birds nest are called</th>
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<tr>
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<table>
<thead>
<tr>
<th>When birds are courting they are</th>
<th>When birds are trying to attract a mate they are</th>
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<tbody>
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<td>FOLD HERE</td>
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<table>
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<th>What is a duo?</th>
<th>A pair of closely related things is a</th>
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<tr>
<td>FOLD HERE</td>
<td>FOLD HERE</td>
</tr>
<tr>
<td>When baby birds <strong>fledge</strong> they</td>
<td>When baby birds <strong>learn to fly</strong> they</td>
</tr>
<tr>
<td>-------------------------------</td>
<td>-------------------------------------</td>
</tr>
<tr>
<td><strong>Genetically</strong> refers to</td>
<td><strong>Characteristics, such as hair or eye color, that are inherited from parents</strong> are transferred</td>
</tr>
<tr>
<td><strong>Hormones</strong> are chemicals produced in one part of the body that</td>
<td><strong>Chemicals produced in one part of the body that</strong> send signals to <strong>cells in another part of the body</strong> are called</td>
</tr>
<tr>
<td>If a food is <strong>indigestible</strong> it is</td>
<td>If a food is <strong>not digestible</strong> it is called</td>
</tr>
<tr>
<td>To be <strong>irritable</strong> is to be</td>
<td>To be <strong>easily annoyed</strong> is to be</td>
</tr>
<tr>
<td>A bird’s plumage is the</td>
<td>What is a name for the color and pattern of a bird’s feathers?</td>
</tr>
<tr>
<td>------------------------</td>
<td>------------------------------------------------------------------</td>
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<tr>
<td>Predation is</td>
<td>What is the act of preying (killing and eating) on other animals?</td>
</tr>
<tr>
<td>Predators are</td>
<td>What are animals that kill and eat other animals?</td>
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<td>To be skittish is to be</td>
<td>To be nervous is to be</td>
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</table>