

Teachers Guide

Prepared by **“Raptors in the Neighborhood” Multidisciplinary Classroom Activities**

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Teachers guide for the Young Naturalists article “Raptors in the Neighborhood” Published in the July–August 2014 *Minnesota Conservation Volunteer*, or visit www.mndnr.gov/mcvmagazine/issues/2014/jul-aug/young-naturalists.html

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 Minnesota 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.surveymonkey.com/s/JQ9M9LH



Summary

Raptors, such as bald eagles, Cooper’s hawks and peregrine falcons, are no longer found only in wild places. In “Raptors in the Neighborhood,” readers will learn how these predators have adapted to hunting and reproducing in urban spaces and how they differ from other animals and from each other. While cities offer opportunities for raptors, there are also dangers. Students are given instructions for reporting injured raptors to The Raptor Center.

Suggested reading levels:

Third through middle school grades

Materials:

DNR Bird Maps (See Web resources), index cards, paper, poster board, colored pencils, crayons, pens, markers, 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)

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Minnesota Academic Standards Applications:

“Raptors in the Neighborhood” may be applied to the following Minnesota Department of Education standards:

Language Arts

Reading Benchmarks

Informational Text 3–8

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 6–8

Text Types and Purposes
Writing Process: Production and Distribution of Writing
Research to Build and Present Knowledge
Range of Writing

Writing Benchmarks 3–8

Text Types and Purposes
Writing Process
Research to Build and Present Knowledge
Range of Writing

Science

Grades 3, 4, 5, 7, and 8

Life Science
3.4.1.1.1; 3.4.1.1.2; 5.4.1.1.1;
7.4.2.1.2;

Reading Benchmarks: Literacy in Science and Technical Subjects 6–8

Key Ideas and Details
Craft and Structure
Integration of Knowledge and Ideas
Range of Reading and Level of Text Complexity

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

Current, complete 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

(1) Ask students to scan the photos and illustrations in the article. What do they predict they will learn? (2) Watch the FalconCam video at <http://webcams.dnr.state.mn.us/falcon/>. (3) Another preview strategy is **KWL** (Ogle, 1986). To find out what your students already know (**K**) about raptors in general and these three in particular, ask small groups to brainstorm their ideas. Then combine the groups’ data to make a class list. Repeat step one by asking what students would like to learn (**W**). As you read and discuss the article you will begin to compile the (**L**) list, or what they learn while reading the article and related materials and participating in extension activities. Display your **K** and **W** ideas on poster board or paper. See www.teach-nology.com/web_tools/graphic_org/kwl/ for a KWL generator that will produce individual organizers for your students. KWL gives you the opportunity to introduce interdisciplinary connections you will make during extension activities. If you use the article in science, math, or art class, you may wish to focus your prereading activity on academic standards that apply for that class. (4) See www.teachervision.fen.com/tv/printables/TCR/0743932080_007.pdf for a brainstorming web download.

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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). Italicized words are not generally included on the list or in the study cards.

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 with an asterisk 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 compare and contrast two species of raptors. See compare and contrast tools in Web Resources. (2) Students may write multiple-choice, true-false, or short-answer questions. Select the best items for a class quiz. (3) Students may create posters that combine visual art, writing, and oral presentations. Posters may be combined with the compare and contrast activity in Assessment (1). Students may work in small groups or as individuals.

Extension activities

Extensions are intended for individual students, small groups, or your entire class. Young Naturalists articles provide teachers many opportunities to make connections to related topics, to allow students to follow particular interests, or to focus on specific academic standards.

1. “Whoooo’s Watching” and “Northern Saw-Whet Owl 10-583” (see Related Articles) make great companion pieces for “Raptors in the Neighborhood.” You may encourage students to include content from related articles in evaluation and/or extension activities.
2. What can be deduced from the three bird maps? Encourage students to be as expansive as possible. Students may work in small groups first, then come together as a class to compare and contrast their findings.
3. What other raptor species make Minnesota their home? What do they have in common with the three species featured in the article? How are they different?

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Extension activities continued

- Owls are a particular interesting group of birds of prey. Are they raptors? How are owls adapted to take advantage of their nocturnal niche?
- What is DDT, and how does it affect raptors?
- Take a field trip to The Raptor Center in St. Paul or invite a raptor educator to your classroom. If you live in greater Minnesota, contact a naturalist at your state park to plan a program for your class.

Web resources

DNR

www.dnr.state.mn.us/birds/index.html
files.dnr.state.mn.us/eco/mcbs/birdmaps/coopers_hawk_map.pdf
files.dnr.state.mn.us/eco/mcbs/birdmaps/bald_eagle_map.pdf
files.dnr.state.mn.us/eco/mcbs/birdmaps/peregrine_falcon_map.pdf
www.dnr.state.mn.us/eco/nongame/projects/peregrine.html
www.dnr.state.mn.us/nongame/videos/peregrine.html
webcams.dnr.state.mn.us/falcon/
www.dnr.state.mn.us/north_shore_iba.html
www.webcams.dnr.state.mn.us/eagle/

Owls

www.owlpages.com
www.allaboutbirds.org/guide/browse/43,13
aviary.owls.com/owls.html

Raptors

www.raptorresearchfoundation.org/education/raptor-world
www.pbs.org/wnet/nature/episodes/raptor-force/introduction/1109

Raptor Centers

www.raptor.cvm.umn.edu
www.thecenterforbirdsofprey.org

DDT

www2.ucsc.edu/scpbrg/pefaddt.htm

Compare and Contrast

www.readwritethink.org/files/resources/interactives/compcontrast
www.readingquest.org/strat/compare.html

Minnesota DNR Teacher Resources

www.mndnr.gov/education/teachers/index.html
www.mndnr.gov/dnrkids/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.

“Raptors in the Neighborhood”—Teachers Guide

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. Young Naturalists articles and teachers guides are found at www.dnr.state.mn.us/mcvmagazine/young-naturalists.html

March–April 2001

“Whoooo’s Watching?” (YN article with teachers guide)

files.dnr.state.mn.us/mcvmagazine/young_naturalists/young-naturalists-article/owladventures/owladventures.pdf

March–April 2003

“Let’s Go Birding” (YN article with teachers guide)

files.dnr.state.mn.us/mcvmagazine/young_naturalists/young-naturalists-article/birding/birding.pdf

January–February 2004

“The Nature of Feathers” (YN article with teachers guide)

files.dnr.state.mn.us/mcvmagazine/young_naturalists/young-naturalists-article/feathers/feathers.pdf

March–April 2004

“Special Delivery” (YN article with teachers guide)

files.dnr.state.mn.us/mcvmagazine/young_naturalists/young-naturalists-article/eggs/eggs.pdf

March–April 2006

“The Hole Story” (YN article with teachers guide)

http://files.dnr.state.mn.us/mcvmagazine/young_naturalists/young-naturalists-article/cavity_nesters/cavity_nesters.pdf

March–April 2007

“What’s in a Bird Song?” (YN article with teachers guide)

files.dnr.state.mn.us/mcvmagazine/young_naturalists/young-naturalists-article/birdsong/birdsong.pdf

“Spring Soundscapes”

https://webapps8.dnr.state.mn.us/volunteer_index/past_issues/article_pdf?id=3587

January–February 2008

“Counting Critters” (YN article with teachers guide)

files.dnr.state.mn.us/mcvmagazine/young_naturalists/young-naturalists-article/counting_critters/counting_critters.pdf

January–February 2011

“The Greatest of Feet” (YN article with teachers guide)

files.dnr.state.mn.us/mcvmagazine/young_naturalists/young-naturalists-article/feet/feet.pdf

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Related Articles continued

March–April 2011

“Northern Saw-Whet Owl 10-583” (YN article with teachers guide)

files.dnr.state.mn.us/mcvmagazine/young_naturalists/young-naturalists-article/saw_whet_owl/saw_whet_owl.pdf

May–June 2011

“Wild Anglers” (YN article with teachers guide)

files.dnr.state.mn.us/mcvmagazine/young_naturalists/young-naturalists-article/wild_anglers/wild_anglers.pdf

November–December 2011

“Two Eastern Screech Owls” (YN article with teachers guide)

files.dnr.state.mn.us/mcvmagazine/young_naturalists/young-naturalists-article/screech_owls/screech_owls.pdf

March–April 2012

“How Do Birds Fly?” (YN article with teachers guide)

files.dnr.state.mn.us/mcvmagazine/young_naturalists/young-naturalists-article/bird_flight/bird_flight.pdf

March–April 2013

“Big, Bold, and Blue” (YN article with teachers guide)

files.dnr.state.mn.us/mcvmagazine/young_naturalists/young-naturalists-article/blue_jays/blue_jays.pdf

References

Hock, M.F., Deshler, D.D., and Schumaker, J.B. *Strategic Tutoring*. Lawrence, Kan.: Edge Enterprises, 2000.
Ogle, D.S. K-W-L Group Instructional Strategy. In A.S. Palincsar, D.S. Ogle, B.F. Jones, and E.G. Carr (Eds.), *Teaching Reading as Thinking: Teleconference Resource Guide*, pp.11–17. Alexandria, Va.: Association for Supervision and Curriculum Development, 1986.

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Study Questions

Teachers guide for the Young Naturalists article “Raptors in the Neighborhood” Published in the July–August 2014 *Minnesota Conservation Volunteer*, or visit www.mndnr.gov/mcvmagazine/issues/2014/jul-aug/young-naturalists.html

Name _____ Period _____ Date _____

1. In the past raptors have been symbols of _____.

2. The _____ is the world’s fastest creature.

3. Explain the difference between a predator and its prey. _____

4. All raptors use what to catch their prey? _____

5. Sketch a raptor’s foot. Describe what it looks like.

6. What makes each of the three species’ feet unique? _____

7. A bald eagle’s large beak allows it to _____

8. Match list terms from List A with terms from List B. Make the best match based on what you learned from the article.

A

- Raptor
- Bald Eagle
- Peregrine Falcon
- Cooper's Hawk
- Eyases
- The Raptor Center

B

- One or two eggs
- 75 Sounds
- Chicks
- Injured Raptors
- South America
- Bird of Prey

9. What is a crop and how does it benefit eagles? _____

10. Because eagles are so big, they have very loud voices. True False

11. You might see a Cooper's hawk at your bird feeder. True False

12. What do Cooper's hawks do with uneaten food? _____

13. How fast may a peregrine falcon fly during a stoop? _____

14. Make a list of dangers faced by urban raptors. _____

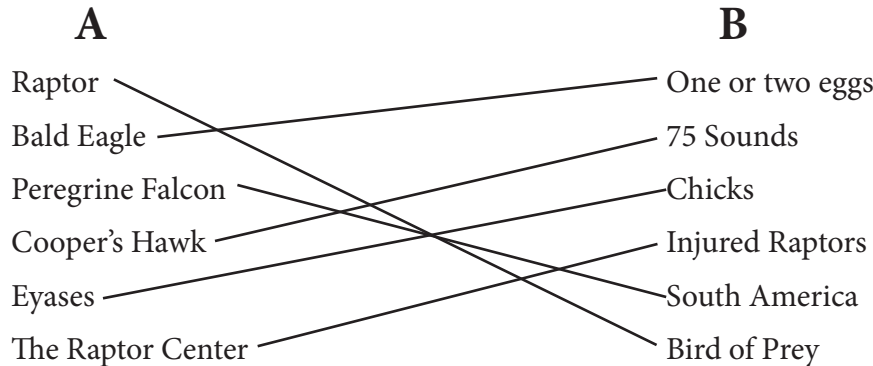
15. Is it OK to kill raptor? Why or why not? _____

Challenge: What is binocular vision and how does it benefit raptors? (Hint: you may need to dig for information in other sources for this one.)

Study Questions Answer Key

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1. In the past raptors have been symbols of **wild places**.
2. The **peregrine falcon** is the world’s fastest creature.
- *3. Explain the difference between a predator and its prey. **A predator is an animal that kills and eats prey animals.**
4. All raptors use what to catch their prey? **Raptors use their feet to catch their prey.**
- *5. Sketch a raptor’s foot. Describe what it looks like. **Sketches should show three toes pointing forward and one backward. Descriptions should include toe arrangement and talons on each toe.**
- *6. What makes each of the three species’ feet unique? **Eagles have spikes on the fleshy parts of their toes to help grasp fish. Cooper’s hawks have long, slender toes with very sharp talons to help catch and hold small birds. Peregrine falcons have longer talons to help catch prey in flight.**
7. A bald eagle’s large beak allows it to **cut through the tough skin of its prey.**
8. Match list terms from List A with terms from List B. Make the best match based on what you learned from the article.



9. What is a crop and how does it benefit eagles? **An eagle’s crop is a place in its throat where it can store extra food, which can be digested some time after it is eaten.**
10. Because eagles are so big, they have very loud voices. True **False**
11. You might see a Cooper’s hawk at your bird feeder. **True** False
12. What do Cooper’s hawks do with uneaten food? **Cooper’s hawks hang uneaten food on branches near their nests.**
13. How fast may a peregrine falcon fly during a stoop? **Peregrines can reach speeds of 240 miles per hour.**
- *14. Make a list of dangers faced by urban raptors. **The dangers list should include power lines, windows, lead shot, and habitat loss.**
- *15. Is it OK to kill raptor? Why or why not? **No. Raptors are protected species that require our protection.**
- **Challenge:* What is binocular vision and how does it benefit raptors? **Think of binoculars. Animals with binocular sight, humans included, can see an object with both eyes at the same time. Binocular sight allows raptors to see objects in three dimensions and also allows better depth perception.**

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Minnesota Comprehensive Assessments Practice Items

Teachers guide for the Young Naturalists article “Raptors in the Neighborhood” Published in the July–August 2014 *Minnesota Conservation Volunteer*, or visit www.mndnr.gov/mcvmagazine/issues/2014/jul-aug/young-naturalists.html

Name _____ Period _____ Date _____

1. DDT is a
 - A. type of raptor.
 - B. prey animal.
 - C. toxic chemical.
 - D. place in Alaska.
2. Peregrine falcons eat almost any kind of
 - A. fish.
 - B. bird.
 - C. mammal.
 - D. insect.
3. Flap, flap, glide describes the flight pattern of a
 - A. Cooper’s hawk.
 - B. bald eagle.
 - C. peregrine falcon.
 - D. none of the above.
4. An _____ nest can weigh as much as a small car.
 - A. owl’s
 - B. Cooper’s hawk’s
 - C. eagle’s
 - D. peregrine falcon’s
5. Until a few yeas ago, raptors were rarely seen in
 - A. state parks.
 - B. scientific and natural areas.
 - C. museums.
 - D. cities and towns.

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Minnesota Comprehensive Assessments Answer Key

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1. DDT is a **C. toxic chemical**.
2. Peregrine falcons eat almost any kind of **B. bird**.
3. Flap, flap, glide describes the flight pattern of a **A. Cooper’s hawk**.
4. An **C. eagle’s** nest can weigh as much as a small car.
5. Until a few yeas ago, raptors were rarely seen in **D. cities and towns**.

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Vocabulary

Teachers guide for the Young Naturalists article “Raptors in the Neighborhood” Published in the July–August 2014 *Minnesota Conservation Volunteer*, or visit www.mndnr.gov/mcvmagazine/issues/2014/jul-aug/young-naturalists.html

binocular	two eyes used together to give precise depth perception
biologist	scientist who studies living organisms
carcass	dead body of an animal
habitat	natural environment an animal or plant lives in
migrate	move from one region to another
nontoxic	not poisonous
prey	animals that are killed and eaten by other animals

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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.

What is **binocular vision**?

FOLD HERE

Two eyes used together to give precise depth perception is called

A
biologist
is a person who

FOLD HERE

A person who
studies living things
is a

What is a
carcass?

FOLD HERE

The dead body of an animal is a

An organism’s
habitat is

FOLD HERE

The natural environment an animal or plant lives in is its

To **migrate** is to

FOLD HERE

To **move from one region to another** is to

Nontoxic
means

FOLD HERE

If a substance is **not poisonous** it is

What are **prey**
animals?

FOLD HERE

Animals that are killed and eaten by other animals are called

FOLD HERE

FOLD HERE