

TEACHERS GUIDE

to “There's No Place Like Nest”

Multidisciplinary classroom activities based on the Young Naturalists nonfiction story in *Minnesota Conservation Volunteer*, May-June 2023, mndnr.gov/mcvmagazine.

Minnesota Conservation Volunteer magazine tells stories that connect readers to wild things and wild places. Subjects include earth science, wildlife biology, botany, forestry, ecology, natural and cultural history, state parks, and outdoor life.

Education has been a priority for this magazine since its beginning in 1940. “One word—Education—sums up our objective,” wrote the editors in the first issue. Thanks to the MCV Charbonneau Education Fund, every public library and school in Minnesota receives a subscription. Please tell other educators about this resource.

Every issue now features a Young Naturalists story and an online Teachers Guide. As an educator, you may download Young Naturalists stories and reproduce or modify the Teachers Guide. The [student portion of the guide](#) includes vocabulary cards, study questions, and other materials.

Readers’ contributions keep *Minnesota Conservation Volunteer* alive. The magazine is entirely financially supported by its readers.

Find every issue online. Each story and issue is available in a searchable PDF format. Visit mndnr.gov/mcvmagazine and click on *past issues*.

Thank you for bringing Young Naturalists into your classroom!

“There's No Place Like Nest”

Multidisciplinary classroom activities based on the Young Naturalists nonfiction story in *Minnesota Conservation Volunteer*, March-April 2023, mndnr.gov/mcvmagazine.



SUMMARY. Everyone knows what a bird's nest looks like. Or do they? This Young Naturalists feature explores the wide variety of nests Minnesota bird nests make, describing materials, processes, and locations. It also explores what enables birds to be such elaborate home-makers while also maintaining consistency within a species Enjoy!

SUGGESTED READING LEVELS. Third through middle school grades

MATERIALS. KWL organizer; optional resources include dictionaries, video viewing equipment, Internet access and other print and online resources your media specialist may provide.

PREPARATION TIME. 15–30 minutes, not including time for extension activities.

Estimated instruction time. 30–60 minutes, not including extension activities.

MINNESOTA ACADEMIC STANDARDS APPLICATIONS. “There's No Place Like Nest” activities described below may be used to support some or all of the following Minnesota Department of Education standards for students in grades 3–8:

MATH

Data analysis (Benchmark 4.4.1.1)

ENGLISH LANGUAGE ARTS (GRADES 3-8)

Reading Benchmarks: Informational Text

Key Ideas and Details (Benchmarks 3.2.1.1, 3.2.2.2, 4.2.1.1, 4.2.3.3, 5.2.1.1,

5.2.3.3, 6.5.1.1, 7.5.4.4, 8.5.1.1)

Craft and Structure (Benchmarks 3.2.4.4, 4.2.4.4, 5.2.4.4, 6.5.4.4, 7.5.4.4, 8.5.4.4)

Integration of Knowledge and Ideas (Benchmarks 3.2.7.7, 3.2.9.9, 4.2.7.7, 4.2.9.9, 5.2.7.7, 5.2.9.9, 6.5.7.7)

WRITING BENCHMARKS (GRADES 3-8)

Text Types and Purpose (Benchmarks 3.6.2.2, 4.6.2.2, 5.6.2.2, 6.7.1.1, 6.7.2.2, 6.7.1.1., 7.7.1.1, 7.7.2.2, 8.7.1.1, 8.7.2.2)

Research to Build and Present Knowledge (Benchmarks 3.6.7.7, 4.6.7.7, 5.6.7.7, 6.7.1.1, 7.7.7.7, 8.7.7.7)

LANGUAGE BENCHMARKS GRADES 3-8)

Vocabulary Acquisition and Use (Benchmarks 3.10.4.4, 4.10.4.4, 5.10.4.4, 6.11.4.4, 6.11.6.6, 7.11.4.4, 7.11.6.6, 8.11.4.4, 8.11.6.6)

READING BENCHMARKS Literacy in Science and Technical Subjects (Grades 6-8)

Key Ideas and Details (Benchmarks 6.13.1.1, 6.13.2.2)

WRITING BENCHMARKS: LITERACY IN SCIENCE AND TECHNICAL SUBJECTS (GRADES 6-8)

Research to Build and Present Knowledge (Benchmark 6.14.7.7)

SCIENCE (*CODING IS BASED ON THE 2019 COMMISSIONER APPROVED DRAFT OF MN ACADEMIC STANDARDS IN SCIENCE)

SCIENCE AND ENGINEERING PRACTICES

2. Developing and using models
3. Planning and carrying out investigations
4. Analyzing and interpreting data
6. Constructing explanations and designing solutions
8. Obtaining, evaluating, and communicating information

CROSS CUTTING CONCEPTS

6. Structure and function
7. Stability and change

DISCIPLINARY CORE IDEAS

Life Sciences 2: Ecosystems: Interactions, energy, and dynamics; 3: Heredity: Inheritance and Variation of Traits; 4: Biological Evolution: Unity and Diversity

Earth and Space Sciences 3: Earth and Human Activity

Engineering, Technology, and the Application of Science: 2: Links among Engineering, Technology, Science, and Society

SOCIAL STUDIES

Geography (Benchmarks 4.3.1.1., 5.3.1.1, 6.3.1.1, 7.3.1.1)

For current, complete Minnesota Academic Standards, see www.education.state.mn.us. Teachers who find other connections to standards are encouraged to contact *Minnesota Conservation Volunteer*.

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Preview. What do your students already know about bird nests? Give them a chance to share their stories about watching birds build nests, finding nests, etc. Then divide them into small groups to do a KWL activity. Give each student a copy of the organizer (see teach-nology.com/web_tools/graphic_org/kwl/) and encourage each to make notes during the group discussion. Within the groups, have students describe what they already know about bird nests and what they wonder about them and encourage each to write down their thoughts on the organizer. As you read and discuss the article and carry out extension activities, they can then record what they learn. If you'd like to try something different, you might wish to check out the [THC and KLEW](#) frameworks.

VOCABULARY PREVIEW. You can find a copy-ready vocabulary list at the end of this guide. Feel free to modify it to fit your needs. Share the words with you students and invite them to guess what they think they mean. Tell them you will be reading a story that will help them understand these words so they can use them in the future! As your students encounter these vocabulary words in the story, you may want to encourage them to infer meaning using context clues, such as other words in the sentence or the story's illustrations. Students also could be encouraged to compare their inferences as to what the words mean with their earlier guesses and with the definitions from the vocabulary list.

STUDY QUESTIONS OVERVIEW. Preview the study questions with your class before you read the article. Then read the story aloud. Complete the study questions in class, in small groups, or as an independent activity, or use them as a quiz.

ASSESSMENT. You may use all or part of the study guide, combined with vocabulary, as a quiz. Other assessment ideas include: (1) Have students write multiple-choice, true-false, or short-answer questions based on the article. Select the best items for a class quiz. (2) Pass out paper with the names of the nine bird species listed vertically. Have students list one fascinating fact about each species' nest beside its name. 3) Invite students to create their own field guide to the various types of nests. For each, they should draw a picture showing its main characteristics and add a brief description in their own words of what characterizes that type. 4) Hand out a sheet of paper with the nine types of nests illustrated. Ask students to name

each type and a bird species (from the story or from their own experience) that makes that type of nest.

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. Have students choose a nest type, build a model, and gather additional information (while practicing integrating information from two texts on the same topic). Students can present their model and research to the class. Or their models could be combined for a classroom nest museum that could be shared with other students or school guests. Students may want to prepare information about their nests that could be displayed, similar to a museum exhibit, or orally shared with the museum visitors.

2. Invite students to design and build their own nests from yarn scraps and twist ties. To simulate the challenges birds face, they should only use their thumb and first finger to manipulate the materials. When done, invite students to show and describe their nests. What features are similar to the nests described in the story? What features are unique? What challenges did they encounter as they built the nest, and how did they overcome them? Or students could participate in one of the nest-building activities from [Project Learning Tree](#) or from the [Association for the Study of Animal Behaviour](#).

3. Go on a hike and make a list of all the birds you see and hear. When you get back to the classroom divide up the list and have groups of students do research to learn which of the eight types of nests described in the story it makes. Encourage them to discover other fun facts about the species as they're researching as well. Have groups take turns sharing what they learned.

4. Engineers often take inspiration from nature when designing objects for human use. Visit the Biomimicry Institute's [AskNature](#) website and search for "bird nest" to discover dozens of ways bird nests can offer helpful hints for human designers. Invite students to each choose one strategy, learn about it, and use what they learned to create a graphic novel type one-page illustration with descriptive text. Post the illustrations in a gallery that encircles your classroom or lines the hall so other students can see and learn from them.

5. Build a birdhouse or nest box and install it (with permission) in your schoolyard or nearby park. The [Cornell Lab of Ornithology](#) is a great place to start with instructions on how to do so. Be sure to learn what kind of maintenance it needs and make plans to keep it a "happy home" in the years to come. The Cornell Lab of Ornithology also has

a nationwide nest-monitoring program, NestWatch, designed to track the status and trends in the reproductive biology of birds. Students can learn more about participating at nestwatch.org. The blog from this site also offers interesting updates as to what scientists are learning through this nest-monitoring program.

6. In early spring, [gather natural materials](#) (not plastic or synthetic fibers) local birds might like to use for their nests. Place them in an area you can observe from your classroom or on a nature walk. If you're lucky, perhaps you'll see a bird harvesting your materials to build its nest!

7. The story describes nest-building ability as partly instinctual, but also as a characteristic trait of a bird species as it evolved, as well as something that improves with practice. Ask students to think more about this by relating it to humans. What abilities do humans have that are hard-wired into our brains (innate)? What behaviors have evolved to become characteristic traits of humans? What behaviors do we learn and get better at with practice? Older students could be prompted to think about how scientists came to know that birds' abilities to build nests were more than instinctual. What would an experiment look like that could allow scientists to discover that nest-building ability is more than innate and more than a characteristic trait that has evolved, but that for some bird species, it gets better with practice? After brainstorming ideas, share with students [the story](#) of the Scottish and Botswana scientists who discovered that for Southern Masked Weaver birds, "practice makes perfect."

8. Birds occupy a special place in the lives of many people and cultures around the world. Across cultures and places, birds can be messengers, ancestors, spirits, and teachers. Across time and space, the relationships among birds, people, and their surroundings change. Invite students to share their individual, family, or cultural connections to particular bird species, or stories of bird sightings or interactions they or family members have had that have been memorable and meaningful. Then introduce the term ethno-ornithology to students, asking them to guess its meaning. Show students the online resource, the [Ethno-Ornithology World Atlas](#), which brings together and celebrates diverse bird knowledge from Indigenous and local communities, conservationists, academics, and their institutions to promote bird conservation. Older students could be invited to explore this resource on their own, guided by their own interests; there are educational activities for younger students within the [Global Classroom](#) section of the Resources tab. This world atlas also provides an opportunity for students to learn how geographic representations and geospatial technologies can be used to acquire, process, and report information within a spatial context.

9. After reading about mound nests that loons build and use, ask students to look at the picture and think about the picture. Younger students could be asked to think about what threats there might be to the success of loon nests. Older students can be asked to

see if they can speculate as to how climate change might impact loon nesting success, and then check their speculations through some online research.

WEB RESOURCES

MINNESOTA DNR WEB PAGES

GENERAL TEACHER AND STUDENT RESOURCES

[Minnesota DNR Teachers' Resources](#)

[DNR FalconCam](#)

WEB RESOURCES:

[Curious kids: How do birds make their nests?](#)

[How do birds know how to build such intricate nests?](#)

[Bird nests: Variety is key for the world's avian architects](#)

RELATED YOUNG NATURALISTS ARTICLES

[Hole Sweet Hole](#)

[Special Delivery](#)

VIDEOS

[What are nests made of?](#)

CURRICULA

[Life in a Nest curriculum \(Cornell Lab of Ornithology\)](#)

STUDY QUESTIONS ANSWER KEY

1. True or false: All birds build their nests in trees. **False.**
2. Name three things a bird's nest protects its young from. **Answers may vary, but may include various predators, wind, rain, snow, people, etc.**
3. Which of these do birds NOT use as materials for constructing their nest?
 - a. spiderwebs
 - b. twigs
 - c. branches
 - d. spit
 - e. mud
 - f. all of the above
 - g. none of the above**
4. What do hormones have to do with nest building? **They tell a bird when it's time to start building a nest.**

5. True or false: Eagles glue sticks together to form the base of their nest. **False. They weave the sticks together.**

6. Name four materials that birds use to create a soft space for their young. **Answers may vary; materials mentioned in the story include grass, moss, feathers, dandelion seeds, animal fur, milkweed silk.**

7. How does pretending to have a broken wing help a killdeer protect its young? **It draws the attention of a lurking predator away from the nest.**

8. Who builds the nest? Match the species to information gathered from the article regarding which parent builds the nest.

Common Loon – both

Baltimore Oriole – female

Barn Swallow – both

Ovenbird – female

Hummingbird – female

Red-necked Grebe – both

Wood Duck – female

Killdeer – both

Bald Eagle – both

9. How many eggs does a killdeer lay in its nest? **Four**

10. What is the most common type of bird nest? **Cup nest.**

11. Which of these is not listed as a material used in a barn swallow nest?

a. mud

b. saliva

c. feathers

d. plant material

12. Which is bigger, an eagle's nest or a red-necked grebe's nest? **A grebe's nest. An eagle's nest is described as 5 to 10 feet in diameter, while a grebe's nest is 1 to 4 feet in diameter.**

Challenge question: Choose one bird/nest combination featured in the story. Compare and contrast how it makes its nest with how people build homes. Try to come up with at least three similarities and three differences.

MINNESOTA COMPREHENSIVE ASSESSMENTS ANSWER KEY.

1. What is the main function of a bird nest?

a. to protect baby birds

b. to provide adult birds a place to go at the end of the day

c. to protect adult birds from rain and cold

d. a and c

e all of the above

2. True or false? Nest-building is guided by instinct. **True.**

3. Why do different birds use different materials to build their nests? **Answers will vary and may include differences in the materials available in their habitat, size of bird, location of the nest, etc.**

4. True or false: All bird eggs are about the size of chicken eggs. **False. An egg that big would not fit into a nest the size of a golf ball.**

5. What is Minnesota's state bird? **The common loon.**

VOCABULARY LIST

cavity – hole

deciduous – a tree that loses its leaves

extraordinaire – super fancy

incubate – keep warm

mottled – blotchy

peninsula – a portion of land that juts out into a body of water

resin – sticky material that plants produce