

American Dipper Haiku

Subject: Language Arts

Objectives: Students write in a variety of formats to record, generate and reflect upon ideas.

Materials:

- Writing and drawing utensils
- One copy per student of *Wildlife Worksheet*
- Construction paper for final draft

Procedure:

1. Discuss the purpose of poetry with students. Introduce or review what a haiku poem is and where it originated. If possible share some examples. (see below)
2. Review syllables with students.
3. Hand out *Wildlife Worksheet* and let students write a haiku poem about the American dipper.
4. When rough drafts are complete, give them a piece of construction paper to complete their final drafts.

Sample Poems:

Line 1: 5 syllables
Line 2: 7 syllables
Line 3: 5 syllables

Lives in the mountains

Soars, flying high in the sky
Sharp Talons, hooked beak

Black and white colors
Gentle creatures eating fish
Swimming with webbed feet

Black and white, soft, silky fur
Panda's face, eyes sad



WILDLIFE WORKSHEET

American Dipper Haiku

Haiku is a form of poetry that originated in Japan in the 1890s. It is usually written about nature. It does not rhyme and should be written in the present tense.

The seventeen-syllable poem has three lines. It goes like this:

Line 1: 5 syllables

Line 2: 7 syllables

Line 3: 5 syllables

Here is an example:

Black and white colors
Gentle creatures eating fish
Swimming with webbed feet



To get started writing a haiku about the American dipper, write down some words and thoughts you have about the bird below.

Write your poem on the lines provided.

Check your spelling with a partner. When finished, write your poem on a piece of construction paper and illustrate it or shade it with light colors for a special effect.

Nests Are Neat

Subjects: Math and Science

Objective:

Math: Students will use and understand numbers.

Science: 1. Students will investigate the diversity of animals.
2. Students simulate animal behavior.

Materials:

- Materials for nest making (students collect)
- Nests are Neat Worksheet
- Tape measure/Ruler

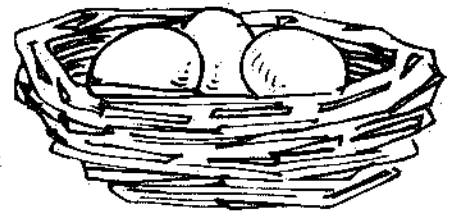
Procedure:

1. Discuss what your students know about nests. Where are nests sometimes located? What materials do birds use to make nests? How are nests built?
2. Share pictures of nests. Remind the students that nests vary as much as the birds that make them. Some birds nest high in trees; some nest on the ground. Some birds plaster their nests to the sides of buildings or on rocky cliffs. Not all birds use the same things to build their nests either. Sticks, mud, grasses, spider webs, twine, twigs, leaves, foil and scraps of cloth are a few things birds might use building their nests.
3. Tell students they are going to build a bird nest. First, they will need to collect their materials. (Remind students not to pick flowers or pull up living plants.) To simulate a bird's beak, they may use only their thumb and index finger to pick up materials. They should use their fist to form a cup shape in the nest. Ask them to think about how a bird might form the nest into the cup shape. Many species will sit in the center of the nest and turn in circular motions, pushing and shaping the material.
4. Students should share their nests with one another when finished.
5. For the second part of this activity, students will be talking about nest sizes and figuring the area. Talk again about the shape of nests, most are round. The sizes vary from an eagle's nest (9 feet in diameter) to a hummingbird's nest (3 inches in diameter).
6. Measure a nine foot line on the floor. Have the students stand in a circle around this line. Tell them this is the size of an eagle's nest. When finished, tell them they are going to learn how to figure the area of a circle. Before they sit down, you might want to explain that area is the amount of room inside the circle.
7. Pass out the Nests are Neat Worksheet. Practice the formula with your students. When they are comfortable with the formula, have them figure the area for the following birds' nests.

Answers:

Great Blue Heron	$A = 5.9 \text{ feet}^2$
Eagle	$A = 63.6 \text{ feet}^2$
Hummingbird	$A = 7.1 \text{ inches}^2$
Dipper	$A = 56.7 \text{ inches}^2$

8. Don't stop with the worksheet! Have the students do some research to find out nest sizes of other bird species.



Nests are Neat!

Figuring the area of circles is as easy as pi.

There are many things in our world that are circular in shape. Look around you, do you see any? Go to one of the objects and measure the distance around the circle. This is called the **circumference**. Next, measure the distance from one side of the circle to the other. This is called the **diameter**. Divide the circumference by the diameter. If you did your calculations carefully, you should have come up with a number very close to 3.14. This number is called **pi**.

For about twenty five hundred years, mathematicians have known this little "magic" trick. They have also used pi, which symbol looks like this π , to figure the area of a circle. **Area** is the amount of space inside the circle. It is measured in square units. Think of it like this, if you cut out a whole bunch of little squares, how many little squares could fit inside the circle?

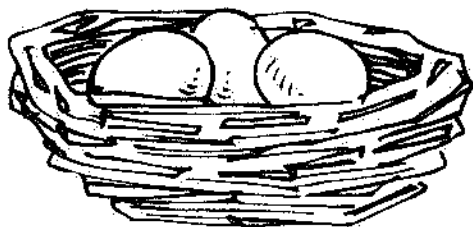
The formula to find the area of a circle looks like this: **Area = 3.14 X r²**

Figure the area of the following nests. Here's how:

1. You're given the diameter (d), which is the length across the center of the nest. To use the formula you first need to get the radius (r), which is half the diameter.
2. Divide the diameter (d) by 2. This equals the radius (r).
3. Once you have the radius. Multiply it by itself. You've figured radius squared!
4. Lastly, multiply that number by π (3.14). Remember to write that little 2 above the unit of measure on your answer!

Great Blue Heron	d = 2.75 feet
Eagle	d = 9 feet
Hummingbird	d = 3 inches
Dipper	d = 8.5 inches

Area of a great blue heron's nest = _____
Area of an eagle's nest = _____
Area of a hummingbird's nest = _____
Area of a dipper's nest = _____



Congratulations!
You're a circle master!!!

Bird Behavior Scavenger Hunt



OVERVIEW

Following this bird-based version of a scavenger hunt, students observe various behaviors of birds.

CONTENT AREA

Science, Language Arts, Environmental Education

PEOPLE POWER

Any group size

SPACE REQUIREMENT

Outdoors

ACTIVITY TIME

One class period (can be extended), plus preparation

MATERIALS

- Observing Birds in the Wild worksheet, 1 copy per student, pair, or group
- Field guides
- Notebook
- Pencil
- Optional: Binoculars
- Optional: Tips for Successful Field Experiences (see page 318)

SPECIAL GUESTS

Contact a local member of the Audubon society, or the owner of a bird watching supply store to discuss methods and tips for observing birds. Have them specify reasons for specific behaviors.

TERMS TO KNOW

Behavior, flocking, roosting

Look at what that bird's doing!

Learning Objectives

Students will learn to identify different behavior patterns of birds and explain their function.

Background

Observing birds in the wild is fun but does take some patience and skill. The observer must be able to locate the bird, watch what it is doing, and try to identify it—all within a few moments. This activity concentrates on looking for different behaviors exhibited by songbirds.

Songbirds may be perching on a branch, singing to attract mates, feeding their young, searching for food on the ground, preening their feathers, or performing any number of other *behaviors*. A bird's behavior may result from a particular adaptation that helps the bird survive. For example, *flocking* is a behavioral adaptation that helps birds in several ways. It can protect a bird from a predator by creating safety in numbers—most flocks can more easily drive away a predator as a group than as individuals. Also, birds located at the center of the flock are especially safe, as the surrounding birds act as a protective barrier. Also, by having more birds available to warn against predators, the majority of birds are able to spend more time feeding and less time “watching out.”

Bird behaviors are as plentiful and varied as the physical adaptations found among the many different types of birds. A behavior may be specific to one species or found in many species. For example, a White-breasted Nuthatch can walk down a tree head-first—an unusual behavior for almost any type of bird. On the other hand, many bird species have developed the successful behavior of *roosting* communally, which involves banding together for shelter and protection from predators, primarily during sleep. Roosting enables group members to stay warm at night, which also helps conserve food



resources. In addition, some members of the flock remain alert at all times, which provides further protection against predators. Also, the roosting flock shares information about available food resources when leaving the roost each day.

Knowing the behavior patterns of birds and of different species of birds is fundamental to our understanding of songbirds and can help in their conservation. Before going out to observe birds in an area, think about where birds may be found and what time birds are most active. Songbirds tend to be very active in the morning and evening.

Getting Ready

1. In this exercise, students are looking for birds exhibiting different types of behavior, like flying, feeding, or singing. Review the Tips for Successful Field Experiences (on page 318).
2. Choose an area where you can take students out to conduct the search.

Taking Flight!

1. Take students to the site where they'll conduct their search. Students can work individually, in pairs, or in groups.
2. After spotting a behavior, students can place a check in the space provided on the worksheet. They should try to identify the species if possible.
3. Return to the classroom and summarize the information. Have students discuss why a particular behavior may be a benefit or detriment to a bird. Consider the following questions: Were any behaviors not observed? Why? Did any single species seem to be exhibiting a particularly distinctive behavior? Why?

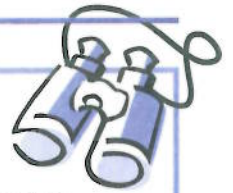
Assessment

Ask students to discuss the following questions:

1. In pairs, act out the behavior of the bird you observed and have the class guess what you are doing and why. Explain to the class how these behaviors may benefit songbirds.
2. A bird's behavior can sometimes help in identifying the bird. List one behavior you observed that helped identify the bird and explain why.

Adapted with permission from *Illinois Birds*, Illinois Department of Natural Resources Educational Services; and from *Pennsylvania Songbirds: A K-12 Teacher's Guide for Activities in the Classroom*, copyright 1998 by Audubon Pennsylvania; Pennsylvania Game Commission; and DCNR State Parks.

ZOOM IN, ZOOM OUT!



- Do this activity during different seasons and compare the findings.
- Have students choose a species of bird and record its behavior patterns at different times of day over a time period of one or more weeks.
- Conduct this activity in more than one place, such as different habitats or parts of the schoolyard, at the same time. Compare results.
- Have students write a poem or a story about what they observed.

*Observing birds
is fun, but takes
some patience
and skill.*

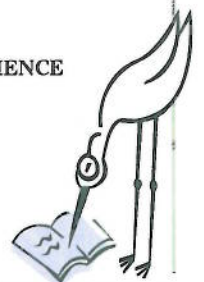
IN STEP WITH SCIENCE STANDARDS

STANDARD A: SCIENCE AS INQUIRY

- Abilities necessary to do scientific inquiry
- Understandings about scientific inquiry

STANDARD C: LIFE SCIENCE

- Regulation and behavior
- Populations and ecosystems





Observing Birds in the Wild Worksheet

Look for the behaviors listed below. Check those you find, then list the bird's specific location and habitat. If you can, identify the species. If not, list some identifying features.

CHECK	BEHAVIOR ITEMS	SPECIFIC LOCATION AND HABITAT	IDENTIFICATION
<input type="checkbox"/>	Singing or calling (Mostly males.)		
<input type="checkbox"/>	Preening (Sometimes looks as if it is nibbling, tugging, or combing its feathers with its beak.)		
<input type="checkbox"/>	Bathing in water		
<input type="checkbox"/>	Taking a dust bath		
<input type="checkbox"/>	Soaring		
<input type="checkbox"/>	Flying (Its wings are beating.)		
<input type="checkbox"/>	Perched on a limb or branch		
<input type="checkbox"/>	Hovering in mid-air (wings beating rapidly.)		
<input type="checkbox"/>	Swimming		
<input type="checkbox"/>	Walking or hopping on the ground		
<input type="checkbox"/>	Diving or tipping up its rump in the water		
<input type="checkbox"/>	Standing on the ground		
<input type="checkbox"/>	Wading in water		
<input type="checkbox"/>	Feeding		
<input type="checkbox"/>	Flying with a worm or insect in its mouth		
<input type="checkbox"/>	Flying with or gathering twigs, grasses, leaves, string, etc.		
<input type="checkbox"/>	Perched on the edge of its nest		
<input type="checkbox"/>	Climbing a trunk or branch		
<input type="checkbox"/>	Hanging upside down from a branch		
<input type="checkbox"/>	Chiseling into the side of a tree or branch		
<input type="checkbox"/>	Perching on a wire, fence post, tree snag, over an open area		
<input type="checkbox"/>	A group of birds perching together on a phone/electrical wire		
<input type="checkbox"/>	A flock of small birds chasing a large bird		
<input type="checkbox"/>	A group of birds flocking together		
<input type="checkbox"/>	Other (List behavior)		

Education Pathways



Great Possessions – An Awakening
By Seliesa Pembleton, Minnesota LEP Coordinator
Retyped by Lori Adams

About the Activity

In his essay, Great Possessions, Aldo Leopold describes the succession of bird songs he hears at the Shack on a summer morning in Wisconsin. Participants will use mnemonic sounds to imitate bird songs as they “recreate” the dawn chorus described by Aldo Leopold.

Setting the Stage

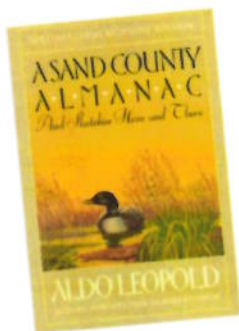
Leopold arose early to enjoy his morning coffee and make note of the “tenants” on his farm. He recorded the time and sequence of songs as each species of bird began proclaiming its territory.

“This daily ceremony contrary to what you might suppose, begins with the utmost decorum. Who originally laid down its protocols I do not know. At 3:30 a.m., with such dignity as I can muster of a July morning, I step away from my cabin door, bearing in either hand my emblems of sovereignty, a coffee pot and a notebook. I seat myself on a bench, facing the white wake of the morning star. I set the pot beside me. I extract a cup from my shirt front, hoping none will notice its informal mode of transport. I get out my watch, pour coffee and lay notebook on knee. This is the cur for the proclamation to begin”

-Aldo Leopold from a Sand County Almanac, Great Possessions

Objectives

This activity can be used as a 10 minute workshop “energizer” to change pace and revitalize the group when energy levels drop – or it can become a lively way to introduce students to a study of birds.



Preparation

Below is a list of birds in the order that Leopold recorded. The initial time of singing and the mnemonic sound that can be used to mimic the bird call.

Record information for each bird species on a separate index card. Prepare multiples so there are enough for each participant to receive a card.

Place pictures and identification information on the backs of the cards and laminate for repeated use.

Materials

Large clock with moveable hands or digital times on cards

Bird name cards with mnemonic information and time

Binoculars (optional)

Bird Identification guide (optional)

Sand County Almanac (optional)



Procedure

Introduce the July essay, Great Possessions.

Lead a general discussion about bird song. Why do birds sing? When are birds most actively singing?

Randomly distribute the bird cards. One to each participant and ask them to find others in the group with the same bird.

Ask them to read the bird name and practice simulating the bird call using the mnemonic information printed on the card. (Mnemonics are words or phrases that help us remember. In this case, they can help us remember the rhythm of a bird call. Mnemonics are different than phonetics, which help us pronounce a word properly.)

Return to order and be seated.

Now, using your clock or digital time cards, indicate that the time is 3:30 a.m. The field sparrows should arise and begin singing. (To avoid that initial embarrassment, it’s best to have at least two sparrows sing together.)

As you indicate the passage of time, additional birds join in.

All birds sing continually until full dawn chorus is achieved.

Time	Bird	Mnemonic Sound
3:35 a.m.	Field Sparrow	Tew...tew...tew, tew, tew, tew, tew
3:40 a.m.	American Robin	Cheerup, cherrily, cheerily
3:45 a.m.	Baltimore Oriole	Pidoo, tewdi tewdi yewdi tew tidew
3:50 a.m.	Indigo Bunting	Sweet sweet chew chew chew
4:00 a.m.	House Wren	churff chrff chrff chrff
4:05 a.m.	Rose breasted Grosbeak	chink chink chink
	Brown Thasher	What's Up What's Up (repeat 2 times)
	Yellow Warbler	sweet, sweet, sweet, I'm so sweet
4:10 a.m.	Eastern Bluebird	cheer, cheerful charmer
	White-eyed Vireo	chick-per-a-weeo-chick
	Red-Eyed Vireo	Look up over here, see-me-up-here
4:15 a.m.	Rufous-sided Towee	Drink your teee, drink your teee
	Northern Cardinal	What-cheer! What-cheer! What-cheer!

Results

In Leopold's words – a “bedlam” of sound – followed by laughter, smiles and increased awareness of bird songs. Who says learning can't be fun?

Conclusions

Many students – and adults – have never experienced the dawn chorus. One of the goals of the Leopold Education Project is to foster connections with the natural world. This activity may raise awareness of the songs that so often fall on deaf ears as we go about our busy lives.

Going a Step Further

Outdoor opportunities:

Leopold and his dog, Gus, made observations using many senses. Armed with sharp senses, hunt for the living things that are tenants on the schoolyard.

Establish a bird feeding station to observe and record data.

Plan a field trip to a local park, zoo or aviary to observe birds.

For information about the
Leopold Education Project
 Go to: <http://www.lep.org/>

Evaluation

Keep nature journals. Use a bulletin board for data collection. Do observations increase over time and become more detailed? Are students more conscious of their environment and the other creatures that share it? Do they ask more questions about what they observe?



Western Bird Song Mnemonics

1. Song Sparrow maids, maids, put on your tea kettle-lettle-lettle
2. American Robin cheerily, cheerily, cheer, cheer-up
3. Bullock's Oriole chuck, chuck, chuck-it-too-ee, zhew, zhew
4. Willow Flycatcher fitz-bew, fitz-bew
5. Mourning Dove hoooo-la-hoop, hoop, hoop
6. MacGillivray's Warbler chiddle-chiddle-chiddle-turtle
7. Hermit Thrush why don't you come? why don't you come? why don't you come to me?
8. Black-capped Chickadee cheeseburger, cheeseburger
9. Spotted Towhee che che che che zheeeee
10. Cassin's Vireo see me? here I am
11. Yellow Warbler sweet, sweet, sweet, I'm so sweet
12. Western Wood Pewee peeeer, peeeer