



Bringing Birds into the Classroom

***A Curriculum
Guide for
SDR Elementary
Educators***

***By: Krista Klaus
July 1, 2008***



Why Birding at the Elementary Level?

This curriculum guide is considered to be for all elementary levels, not grade-specific, on the study of Northwoods bird and raptor species. This teaching guide includes specific activities adaptable to multiple grades and subject coverage. All activities include corresponding state standards and district benchmarks, material lists, activity background, activity step-by-step procedures, classroom follow-up ideas for outside activities, and a list of related resources. This guide should be used in conjunction with our natural setting throughout the School District of Rhinelander (SDR), including but not limited to use at the Cedric A. Vig Outdoor Classroom (CAVOC).

What is the Focus of This Curriculum?

This curriculum will focus on increasing student awareness of the behavior and characteristics of Northwoods birds, and thus, make their experience outdoors much more educational, meaningful and personal. An article from *Research in Science Education* found that young children have a number of misconceptions about birds, which are not addressed throughout their entire career as a student, even beyond the elementary years. Children are born with an innate predisposition toward becoming close to and a part of nature. As educators, we must foster this love of the outdoors and help our students understand the world in which they live and play.

How Can I Fit This Into District Benchmarks and State Standards?

There are a large number of district benchmarks and Wisconsin state standards that can make learning about birds and their behavior a part of your current classroom curriculum. With each activity in the guide, there are corresponding SDR benchmarks and Wisconsin Department of Public Instruction (DPI) state standards. Most activities can be adapted to every grade level with some minor tweaking; don't be afraid to change or alter any of the activities to achieve greater success among the students within your own classroom.

Where Can I Find the Materials Listed in the Resource Guide?

The resources listed may be located in your school's own library. If not, a larger number of these items are available throughout the district. There are a number of auditory learning tools and field guides funded through a Wisconsin Society of Ornithology grant received by one of the schools in our district. If you would like access to any of these items, please contact Northwoods Community Elementary School to learn about the specific items and/or borrow any of these items to use in your own classroom.

Bringing Birds into the Classroom
Table of Contents

Activity Title	Grades	Pages
Using Birds with Nature Journaling	K	3 – 5
Bird Feeder Tally Chart	K – 2	6 – 8
Explore Wisconsin Migratory Birds	K – 5	9 – 16
Student Sheet #1: Wisconsin Migration Bird Species		13
Student Sheet #2: Western Hemisphere Map		14
Student Sheet #3: North America Map		15
Student Sheet #4: South America Map		16
Tracking Migrations of Northwoods Birds	3 – 5	17 – 21
Student Sheet #1: Migration Model Directions		20
Student Sheet #2: Migration Model Scoring Rubric		21
The Whopping Crane to Kids Comparison	4 – 5	22 – 25
Student Sheet #1: Classroom Data Collection Table		25
Identifying Bird Songs and Calls	K – 5	26 – 29
Student Sheet #1: Northwoods Bird Checklist		29
Resource Guide		30 – 32
Web Resources		30
Print Resources		31
Audio / Visual Resources		32

Activity 1: Using Birds with Nature Journaling

Grade

K

WI DPI State Standards

- **Environmental Education** A.4.1, A.4.4, B.4.4, B.4.6
- **Art** A.4.6, C.4.5, C.4.6
- **English Language Arts** B.4.1

District Benchmarks

- **Language Arts** LA.K.B.2, LA.K.B.3, LA.K.B.4

Materials

Notebook

Writing Object

Coloring Objects

Time/Location

Various / Schoolyard

Activity Background

A great number of district benchmarks can be accomplished through the use of nature journaling for the students to record thoughts, observations, and data. At this age, many students express their ideas more accurately and vividly through pictures, and this type of learning tool allows students to draw, sketch and write single words and phrases to explain what they feel and see when bird watching. Before taking the class outside to journal or even up to the window to view a bird at the feeder, give the students a solid foundation on the process and the expectations for the activity. The teacher should walk them through the steps of nature journaling and your requirements. All journals should have a record of the date and location, with any other records determined by the individual instructor.

Activity Procedures

1. Depending on the time and resources available, you can either purchase a notebook for the students or create a simple booklet made with any type of paper (construction, drawing). If you plan to reuse this item throughout the school year, a great extension activity would be to have students collect outdoor collectibles to glue on the cover, or draw images of pictures that remind the students of nature.
2. The teacher introduces the concept of a journal, in which a student can record feelings, experiences, and information to the class. Following this, the students should know the journal can have both pictures and words. The students must

understand that only a pencil will be used outside; if they want to add colors, they may or may not when they return to the classroom, depending on the teacher's instructions.

3. After distributing or making the journal, the teacher has his or her students sit near a classroom window for a trial run of the nature journaling activity. If there is unfortunately no window in the classroom, show a photograph, poster or SMART Board bird image to the students.
4. The teacher directs the students to look at the picture and record their observations and thoughts for approximately five minutes. As the students write and draw in the journal, float around the classroom and help any students that may be having difficulty. If it looks as if the students will need some extra time, by all means, allow them to continue to express themselves. Don't be afraid to repeat this activity or review the purpose of the journal to the students if you feel they are having difficulty with this task.
5. Once the trial journaling activity shows student understanding, take the students outside and find a quiet place for them to sit and get comfortable. If there is a bird feeder, nature trail or courtyard area with plants on your school grounds, these spots would be ideal locations. If they are not available, find an open space where students can sit comfortably.
6. Ask the students to remain quiet and listen and look around them. They should begin journaling by drawing or writing about the outside area. The time the students remain outside is dependent on the classroom and school schedule.
7. If the weather is nice and time is available, the teacher can start a discussion and sharing session with the students about what they have recorded in their nature journals outside.

Classroom Follow-Up

- If you cannot share and discuss outdoors, the teacher may complete the reflection part of the activity indoors.
- If you have time available, the students can color their journal contents in the classroom environment.
- As a teacher, you may want to survey the students (with a show of hands) about their interest in the activity.
- If any students recorded a picture of a bird, ask for a detailed description and use field and web-based guides for bird identification. This type of activity would be a great way for

students to learn about birds in their schoolyard and the specific habits and behaviors of the bird. This discussion could lead to the benefits a bird has for living in the schoolyard habitat.

Resources

1. Website: Backyard Jungle

http://pbskids.org/backyardjungle/info/nature_journaling.php

The website provides some more specific information on nature journaling, including a rubric if you plan to use this activity as a form of student assessment.

2. Resource Book: Stan Tekiela's Birds of Wisconsin: Field Guide

This is a state-specific resource, printed in color, for easy identification of bird species. The benefit of field guides is the ability to take them outdoors. There is also an audio CD that can be purchased that serves as a companion to the field guide.

3. Website: Whatbird.com Bird Identification of North America Internet Guide

http://identify.whatbird.com/mwg/_/0/attrs.aspx

The web resource allows a teacher to use twelve different attributes - location, habitat, color, size, body shape, bill shape, bill length, food sources, wing shape, family, presence of feeders, and conservation status – to help with bird identification. If the bird species is already known, you can select the bird from an extensive species list that links to a detailed overview of its identification and behavior.

Activity #2: Bird Feeder Tally Chart

Grades

K-2

WI DPI State Standards

- **Environmental Education** A.4.1, A.4.2, B.4.6
- **Science** B.4.1, F.4.1, F.4.2
- **Math** A.4.1, A.4.2, A.4.3, B.4.2, E.4.2

District Benchmarks

- **Math (K)** M.K.A.2, M.K.A.4, M.K.E.2
- **Science (K)** S.K.2, S.K.6, S.K.10, S.K.21
- **Math (Grade 1)** M.1.B.5, M.1.E.2, M.1.E.3, M.1.F.4
- **Science (Grade 1)** S.1.A.2, S.1.B.1, S.1.C.2, S.1.C.4, S.1.F.1
- **Math (Grade 2)** M.2.A.1, M.2.A.3, M.2.E.1, M.2.E.2, M.2.E.3, M.2.F.4
- **Science (Grade 2)** S.2.B.1, S.2.C.1, S.2.C.2, S.2.C.3, S.2.C.5, S.2.C.6, S.2.F.1, S.2.F.2

Materials

Classroom Bird Feeder

Bird Seed

Large Paper / Poster

Construction Paper

Coloring Materials

Time/Location

Daily Observations / Outside Classroom Window

Activity Background

This activity will allow students to design a chart to track the number of birds that arrive at the classroom bird feeder. The chart can be categorized in a number of ways – color, body or wing size, the individual bird species or even bird family, days, weeks, or months of the school year or the type of bird seed / mixture used in the feeder. It is an individual choice that fits best into the teacher present curriculum. The teacher could choose one student, on a rotational basis so all students have an opportunity to participate throughout the entire school year, to draw and color each bird. These images are then added to a classroom chart. This activity allows the students to count the number of visitors they have to the feeder and look for patterns among the results. A great classroom extension would be tracking the number of bird visitors to the feeder, in regard to the phenological and seasonal calendar of the Wisconsin Northwoods, to make a personal and local connection of the activity to the students.

Activity Procedures

1. The teacher should purchase a simple bird feeder and birdseed, best suited for the species found in our local environment. Ask the local parent group or building principal if there are available funds to help offset the costs of the investment. The class can even make a bird feeder. If interested, check out the section on *Bird Feeders* in the **Bringing Birds into the Classroom Resource** section of this guide.
2. Before the school year begins, or as a class for a first-day project, install the classroom bird feeder outside the classroom window. If the students will refill the feeder, make sure it is placed at a height accessible to all students or prepare a corresponding classroom project for designing and building a step stool.
3. Design a classroom chart to track the bird species that visit the classroom feeder. The chart should be designed using one of the categories mentioned above for organizing the observations.
4. Students observe the feeder and record its visitors on a daily basis. As mentioned in the background section, select a student each day to draw and color the bird for the classroom chart.
5. The teacher will ask the students questions regarding the information on the classroom chart. Some good questions to prompt student response include:
 - What are some bird species we have in our schoolyard?
 - What bird species do we see the most at the feeder?
 - What bird species do we see the least at the feeder?
 - Are there any patterns on our chart?
 - How many of ___ (enter bird species) ___ did we see?
 - Did any birds change their feeding habits due to kind of birdseed we put into the feeder?
 - What birds do we see more this time of year?
6. The teacher creates math questions using the data collected from the observations from the classroom feeder. This could include adding two different species together to find a total, or even adding up a total number of birds to find out the number of birds at the feeder at a set time period in the school year. The possibilities are virtually endless for adaptation of this activity to your current math curriculum.

Resources

1. Website: Whatbird.com Bird Identification of North America Internet Guide

http://identify.whatbird.com/mwg/_/0/attrs.aspx

This resource is mentioned in the previous activity, with specific details about the features this website offers to both the teacher and student.

2. Website: Bird Watching and Feeding Guidelines

<http://www.janekirkland.com/jane-kirkland-author/2008/2/1/bird-watching-and-feeding.html>

This website provides some good information about the best locations for placing bird feeders, how the style and design of the feeder can impact the species of birds that may stop for a meal, and what types of food attract the most birds.

3. Website: How to Build a Step Stool

<http://www.thisoldhouse.com/toh/how-to/intro/0,,20165967,00.html>

This webpage shows a simple project on building a step stool that is appropriate for students age 7 and up, with adult supervision. In lieu of the checkerboard design, you could have students paint “ornithological” symbols on the steps.

4. Children’s Non-Fiction Trade Book: Cathryn Sill’s About Birds: A Guide for Children

This vivid book is designed for learners age 4-8 and shows nine different bird species in their specific environment. It serves as a great book to use to introduce the study of birds to early-elementary learners. It does include some other bird species that are not found in Wisconsin; however, it could spark a good discussion in why some bird species cannot adapt to or survive in the climate and habitat found in our state.

Activity #3: Explore Wisconsin Migratory Birds

Grades

K-5

WI DPI State Standards

- **Environmental Education** A.4.1, A.4.2, A.4.3, A.4.4, B.4.6
- **Social Studies** A.4.1, A.4.2, A.4.5, A.4.7
- **Science** A.4.2, A.4.3, B.4.6

District Benchmarks

- **Science (K)** S.K.21
- **Social Studies (K)** SS.K.A.3, SS.K.A.5
- **Science (1)** S.1.A.1, S.1.C.2, S.1.F.1
- **Social Studies (1)** SS.1.A.3, SS.1.A.5
- **Science (2)** S.2.A.1, S.2.E.3, S.2.F.1
- **Social Studies (2)** SS.2.A.1, SS.2.A.2, SS.2.A.3, SS.2.A.4, SS.2.A.7
- **Science (3)** S.3.A.5, S.3.E.5, S.3.F.1, S.3.F.2, S.3.F.4
- **Social Studies (3)** SS.3.A.1, SS.3.A.2, SS.3.A.3, SS.3.A.4, SS.3.A.5, SS.3.A.7
- **Science (4)** S.4.A.4, S.4.E.5, S.4.F.1
- **Social Studies (4)** SS.A.4.1, SS.A.4.2, SS.A.4.6, SS.A.4.11
- **Science (5)** S.5.C.3
- **Social Studies (5)** SS.5.A.1, SS.5.A.3, SS.5.A.6, SS.5.A.11

Materials

Student Sheet #1: Wisconsin Migration Bird Species

Student Sheet #2: Western Hemisphere Map

Student Sheet #3: North America Map

Student Sheet #4: South America Map

Colored Pencils

Time/Location

1-2 Class Sessions / 2 Hours / Classroom & Computer Lab

Activity Background

It would be fun to explore the birds that migrate to and from Wisconsin on a yearly basis, especially those species found outside the classroom window. The Wisconsin Birds Guide, one of the links in the resource section, would be a great tool to use to begin the study. However, if you are just beginning to bring the study of birding into the classroom, you will need to build a

solid foundation in the students of what migration means and why birds move from one place to another to survive.

Activity Procedures

1. The teacher introduces the concept of migration to the class. Some good questions to strike up a discussion or for creating a mind map on the whiteboard or SMART Board would include:
 - What does it mean to migrate?
 - Who were immigrants?
 - Why did immigrants move from one place to another?
 - Why do you believe some birds migrate?
 - Why do you believe some birds do not migrate and stay in Wisconsin all year long?

The website, Bird Migration, <http://www.backyardnature.net/birdmgt.htm>, has great background information about bird migration, including definitions and maps. Student should understand that the Mississippi River Flyway serves as one of four major pathways birds follow from Canada to the Gulf of Mexico. A flyway is a route birds follow during the spring and / or fall migration.

2. Once students understand the concept of migration, it is time to bring the lesson close to home. The teacher distributes the Wisconsin Migration Bird Species worksheet and asks students if they recognize any of the species listed. Encourage students to share what they know and describe the physical appearance of the bird.
3. The teacher distributes the three maps sheets (Student Sheet #2: Western Hemisphere Map, Student Sheet #3: North America Map, Student Sheet #4: South America Map) to the students. Assign a bird species from the list to an individual or group of students for further study. The students will need to:
 - Place a **RED** Mark on the maps for the winter location for the bird.
 - Place a **BLUE** Mark on the maps for the summer location for the bird.
 - Draw a **GREEN** line/arrow showing the spring migration route for the bird.
 - Draw a **YELLOW** line/arrow showing the fall migration route for the bird.After completing the maps, the students should paste them on a poster, listing their specific bird species in bold letters at the top and sketch or print a color photo of the bird. After completing the map questions, the students should brainstorm why the bird they tracked cannot survive in Wisconsin during the

winter months. An excellent resource to use for migration information is eNature's Spring Migration, http://www.enature.com/birding/region_migration.asp?bregionID=4, which allows a student to find an individual bird species and link to its specific maps of its migration route and a paragraph with further migration details.

4. The teacher selects each group of students to present the poster. As each group reports, students can write notes on the Wisconsin Migration Bird Species worksheet, draw the migration routes on a hand-drawn map in a notebook, or the teacher can make additional copies of Student Sheet #2: Western Hemisphere Map for the students to record migration information.
5. The teacher showcases the student's finding with a classroom or hallway display. To enlarge the presentation audience, the teacher can have students share the posters with other students in the building.

Resources

1. Website: Bird Migration

<http://www.backyardnature.net/birdmgt.htm>

This website provides an easy, but detailed, summary of bird migration, including vocabulary terminology, reasons for migration, major North American flyways, and bird banding. It provides a listing of additional print resources on bird migration a teacher could purchase or check out from a school or public library.

2. Website: EEK! International Migratory Bird Information

<http://dnr.wi.gov/org/caer/ce/EEK/nature/birday.htm>

International Bird Migration Day, the second Saturday in May, is a day designated to increase awareness of birds on a global scale. It provides the teacher a number of extension activities if you want to turn a lesson on migration into an extensive unit within your classroom. It includes a listing of 26 migratory bird species of Wisconsin.

3. Website: Flyways

<http://www.birdnature.com/flyways.html>

This website provides an extensive listing of the four North American flyways, with maps showing major and principal routes of each specific flyway, in addition to a collective North American flyway migration map.

4. Resource Book: Thomas Lovejoy's Atlas of Bird Migration

This colorful atlas contains information about bird migration for approximately 500 different bird species, and appeals to any level of the bird watcher from the budding ornithologist to expert biologists. It includes a migration calendar to help prepare your students for the arrival of selected birds to your classroom feeder or schoolyard. This resource can make the activity even more place-based in our local environment.

Student Sheet #1: Wisconsin Migration Bird Species

Whip-poor-will

Ruby-Throated Hummingbird

Wood Thrush

Blue-Wing Teal

Broad-Winged Hawk

Barn Swallow

Virginia Rail

Spotted Sandpiper

Baltimore Oriole

Laughing Gull

Ovenbird

Acadian Flycatcher

Purple Martin

House Wren

Ruby-Crowned Kinglet

Gray Catbird

White-Eyed Vireo

Common Yellowthroat

Scarlet Tanager

Rose-Breasted Grosbeak

Chipping Sparrow

Bobolink

Yellow-Headed Blackbird

Student Sheet #2: Western Hemisphere Map



Map Courtesy of: <http://commons.wikimedia.org/wiki/Image:Blankmap-ao-090W-americas.png>

Student Sheet #3: North America Map



Map Courtesy of: http://en.wikipedia.org/wiki/Image:North_america98.svg

Student Sheet #4: South America Map



Map Courtesy of: http://en.wikipedia.org/wiki/Image:South_america98.svg

Activity 4: Tracking Migrations of Northwoods Birds

Grades

3-5

WI DPI State Standards

- **Environmental Education** A.4.2, A.4.3, A.4.4, A.8.2, A.8.3, A.8.4, A.8.5, C.8.2
- **Science** A.4.2, A.8.6, A.8.7
- **Social Studies** A.4.1, A.4.2, A.4.5, A.8.3, A.8.5

District Benchmarks

- **Science (3)** S.3.A.1, S.3.A.3, S.3.A.5, S.3.B.1, S.3.C.4, S.3.F.1
- **Social Studies (3)** SS.3.A.1, SS.3.A.2, SS.3.A.4, SS.3.A.5, SS.3.A.7
- **Science (4)** S.4.A.1, S.4.A.3, S.4.B.1, S.4.F.1, S.4.F.2
- **Social Studies (4)** SS.4.A.1, SS.4.A.2
- **Science (5)** S.5.A.1, S.5.A.14, S.5.C.3
- **Social Studies (5)** SS.5.A.1, SS.5.A.3, SS.5.A.5

Materials

Resource Books & Maps

Student Sheet #1: Migration Model Directions

Student Sheet #2: Migration Model Scoring Rubric

Large, Flattened Cardboard Boxes

Modeling Clay

Toothpicks

Yarn/String

Glue

Paint

Time/Location

(4) 1 Hour Class Sessions / Classroom

Activity Background

After learning about migration pathways of birds to and from Wisconsin (Activity 3), students will transfer that knowledge to a hands-on project. In this activity, Tracking Migrations of Northwoods Birds, students will make a model of the migration route of one specific bird species to and from its tropical home to Wisconsin. Each pair of students will be given a specific bird species to track, and then, they will create a model with cardboard, clay, toothpicks, yarn, and paint to show its migration route. Before this assignment is given, the teacher will reintroduce

and review some of the basic knowledge of migration that was delivered to the students in the previous activity, including a listing of the local birds with fall and spring migrations.

Activity Procedures

1. The teacher will create groups of two students (pairs). If the teacher feels the class can choose effective partners without teacher direction, students may then be allowed to choose their own partners.
2. Each group will select a Northwoods bird species from a teacher-designed list. If you need help deciding which birds to include, take a look at the lists in Activity 3 and Activity 6 for some ideas. The most democratic method of selection would be a random drawing of student names, where they can make a group choice from the list.
3. Within each group, the students assign roles and formulate a project plan, which lists when each phase of the project will be finished and what group members will be assigned to each phase. The project plan needs to be completed before the pair can begin constructing their model. The project plan may be written on a loose-leaf piece of paper or typed if laptops or computers are easily accessible.
4. Each group will select the needed materials for the activity from a table in the classroom. The items each group needs are listed on Student Sheet #1: Migration Model Directions.
5. Students have three days to complete the migration model, following the teacher directions and expectations listed on Student Sheet #1: Migration Model Directions and Student Sheet #2: Migration Model Scoring Rubric.
6. On the fourth day of the activity, students will present the migration models. As they present, students should follow the guidelines from Student Sheet #2: Migration Model Scoring Rubric to receive the full points possible.

Resources

Teacher Resource: Judy Braus' "Migration Models" Lesson in Ranger Rick's Nature Scope

This lesson serves as the foundation for the activity mentioned above. If a teacher would want more details about how to make this successful in his or her classroom, they should definitely check out this teaching resource from the National Wildlife Federation.

Resource Book: Laura Erickson's Sharing the Wonder of Birds with Kids

This resource is a definite must-read for any educator who is and planning to infuse the subject of birding and ornithology into their classroom curriculum. It

gives reasonable knowledge about birds, classroom activities, learning tools, hands-on project ideas, and further books to explore for additional information.

Children's Trade Book: Lynne Cherry's Flute's Journey: The Life of a Wood Thrush

This book traces the journey of a wood thrush from Mexico to the state of Maryland along the Atlantic seaboard. This may cause you to question its use in a curriculum focused on northern Wisconsin; however, the wood thrush is found in our state and is one species designed with a Wildlife Action Plan from the Wisconsin Department of Natural Resources (DNR). When a species is designed with a Wildlife Action Plan, it indicates the species is given priority with conservation actions and grant money to protect their numbers and habitats.

Poster: *Bird Migration* (National Geographic Maps)

This poster shows the migration routes of a wide array of bird species through the western and eastern hemisphere of the world.

Student Sheet #1: Migration Model Directions

Bird Species _____

1. Complete Project Plan

- Roles
- Timeline
- Phases & Due Dates

2. Collect Materials

- Clay
- Cardboard
- String or Yarn
- 20 Toothpicks
- Paint Tray
- Paint
- Paintbrushes
- Resource Books
- Glue

3. Directions for Model

- (1) Draw map outline in pencil. Paint map. Label states and countries, all waterways and bodies of water. Make sure labels are visible after painting.
- (2) Draw migration routes in pencil. Trace the migration routes with paint or clay.
- (3) Place clay and toothpicks at resting locations for the species along the route. Span yarn or string along the routes, and glue the yarn or string to each toothpick. Use one color for spring migration. Use a different color for the fall migration.
- (4) You may use clay to denote geographic markers along the route. Be creative as these markers are part of your project grade.
- (5) Design a model of your bird species. This bird species will not be attached to your model, as it will follow the migration routes on the model.
- (6) Include a legend and a compass rose.
- (7) Cite any resources used in the creation of your model.

Student Sheet #2: Migration Model Scoring Rubric

Project Requirements	Points			
Project Plan	3	2	1	0
Model: Political Labels & Lines	3	2	1	0
Model: Route	3	2	1	0
Model: Geographical Labels	3	2	1	0
Model: Bird Species Model	3	2	1	0
Model: Legend	3	2	1	0
Model: Compass Rose	3	2	1	0
Model: Resource List	3	2	1	0
Model: Accuracy	3	2	1	0
Model: Organization	3	2	1	0
Model: Creativity	3	2	1	0
Presentation: Organization	3	2	1	0
Presentation: Time	3	2	1	0
TOTAL POINTS				

Grading Scale: 39 – 35 A ; 34 – 31 B ; 30 – 27 C ; 26 – 24 D ; 23 – 0 F

Activity 5: The Whooping Cranes to Kids Comparison

Grade

4-5

WI DPI State Standards

- **Environmental Education** A.4.2, A.4.3, A.8.2, A.8.3
- **Science** A.4.2, C.4.2, C.4.4, A.8.3, A.8.4, C.8.2, C.8.3
- **Math** D.4.1, D.4.2, D.4.5, D.8.2, D.8.4

District Benchmarks

- **Math (4)** M.4.D.2, M.4.D.3, M.4.D.4, M.4.D.5
- **Science (4)** S.4.A.3, S.4.C.1
- **Math (5)** M.5.D.1, M.5.E.1, M.5.E.5
- **Science (5)** S.5.A.1

Materials

Wisconsin Wildlife Federation Whooping Crane Educational Trunk

Ruler/Yardstick

Student Sheet #1: Classroom Data Collection Table

Time/Location

45 Minutes / Classroom

Activity Background

Before conducting this activity, the teacher must introduce whooping cranes to his or her students through using the Wisconsin Wildlife Federation Whooping Crane Educational Trunk, which includes a teacher guide on basic information about the whooping crane and its history. The trunk includes a great deal of materials, at no cost to the school or district. This activity, Whooping Cranes to Kids Comparison, allows students to measure their own height and arm span and compare the data to the height and wingspan of a whooping crane. As an extension, students can then compare the results with other Wisconsin birds (bald eagles, sandhill cranes, trumpeter swans, blue herons, Canadian geese) and to how the teacher, other teachers, parents, and other family members would compare in size. The activity written here is a modification of “Activity #1: Name That Adaptation” from *A Closer Look at Whooping Cranes Activity Guide* produced by the Wisconsin Environmental Education Board. The entire activity guide is found at the web link listed in the **Resources** section below.

Activity Procedures

1. The teacher should write the word “whooping crane” in bold letters, either using a whiteboard, poster or SMART Board, if available. Ask the students for words,

phrases or images that they have learned thus far about the whooping crane in class. The teacher or individual students add items to the list. The class reviews the entire list, commenting on any mention to the body of a whooping crane regarding its size or height. If there is no mention, the teacher ends the review by asking the students if they have any predictions on the size and height of a whooping crane.

2. The teacher assigns a pair of students to measure each other height and arm span, using a ruler or yardstick. Students record the data on Student Sheet #1: Classroom Data Collection Table.
3. In a whole-group discussion, students exchange their findings, so the entire class has the Classroom Data Collection Table filled out completely.
4. Next, students need to research the height and wingspan of the whooping crane. They can use any resources from the trunk, on the Internet, or in any field guide and print resources the teacher has in the classroom. If the library is available, the teacher could allow the students to explore any materials in that location. *Most resources suggest that whooping cranes are 5 feet tall with a wingspan of 7 ½ feet. Males weigh a few more pounds (17 lbs.) than females (14 lbs.).*
5. Students pair up and discuss how the size and height of a whooping crane compares to the students in the class.
6. As an assessment for this activity, the teacher should give each pair of students five minutes to make a chart, comparing the whooping crane to humans. Students should not only look at size and height, but also food sources, behaviors, characteristics, and habitat, learned from previous lessons.

Resources

Teacher Resource: Wisconsin Wildlife Federation Educational Trunks

http://www.wiwf.org/education/education_trunks.htm

This traveling educational trunk was designed by the Wisconsin DNR and features hands-on materials to teach students about the whooping crane. It includes: replicas of the crane skull, leg, and egg; feathers; samples of crane food; an adult costume and puppet; leg bands; a MP3 player with CD/DVD that includes the crane's calls; videos; and an instruction manual for educators. To reserve the crane trunk for free, which includes shipping (as of the writing of this curriculum), for two weeks call 1-608-635-2742. The trunks are reserved on a first-call, first-serve basis.

Website: Journey North Whooping Crane Migration

<http://www.learner.org/jnorth/tm/crane/Resources.html>

This website gives the teacher the ability to make the study of whooping cranes into a unit of its own. It gives lesson plans, contact information for questions on the species, a glossary of terms, data on the flocks for classroom tracking, guidelines for relating activities to state standards, and ways to make reading and writing connections for integration of the unit with our district's Four Blocks framework.

Teacher Resource: Wisconsin DNR *A Closer Look at Whooping Crane Activity Guide*

http://dnr.wi.gov/org/land/er/birds/wcrane/education/pdfs/closer_look.pdf

The guide provides a number of complete lessons focused on the whooping crane for classroom use. It gives a great deal of background information, with colored photographs and ready-to-use student handouts.

Activity 6: Identifying Bird Songs and Calls

Grades

K – 5

WI DPI State Standards

- **Environmental Education** A.4.1, B.4.6, A.8.2, B.8.8
- **Science** C.4.1, F.4.1, F.4.2, F.4.4, C.8.1, C.8.8, F.8.7
- **Music** F.4.2, F.4.3, F.8.6

District Benchmarks

- **Science (K)** S.K.6, S.K.9
- **Science (1)** S.1.C.1, S.1.C.2, S.1.F.1
- **Science (2)** S.2.A.1, S.2.C.2, S.2.C.6, S.2.F.2
- **Science (3)** S.3.A.1, S.3.A.3, S.3.F.2, S.3.F.4
- **Science (4)** S.4.A.1, S.4.A.3, A.4.F.1, A.4.F.2
- **Science (5)** S.5.A.1, S.5.C.1

Materials

CD, *Bird Songs of the Northwoods*

Pencil

Binoculars

Student Sheet #1: Northwoods Bird Checklist

Time/Location

2 Hours / Inside & Outside the Classroom

Activity Background

In this activity, students will understand how listening for birds is just as important as seeing them. Student will start in the classroom learning about different bird sounds and characteristics, and then transition to the outdoors when they can look and listen to bird calls and songs in the local environment.

Activity Procedures

1. The teacher will start the activity playing music from a CD titled, *Bird Songs of the Northwoods*, asking students to note any familiar sounds by the rhythm or specific bird.
2. The teacher will ask what bird species any students recognized as they listened to the CD. The teacher or a designated student volunteer will create a list of bird species mentioned. To strike student engagement, the teacher will guide students with questions such as:

- Where have you heard these sounds before – home, school, park?
 - When have you heard these sounds – morning, afternoon, evening?
 - Do you know any birds and their corresponding call or song?
 - Why is it important for birds to communicate with each other?
 - Why do you believe each bird species has its own unique call or song?
 - How is this comparable to our own voices?
3. The teacher will pass out the Northwoods Bird Checklist to each student. After distributing the worksheet, the teacher will take the student-created list and compare its contents with the Northwoods Bird Checklist.
 4. The teacher will link one computer and the SMART Board (if applicable) to a website that allows the students to hear the sounds of Northwoods birds. There are many sites that give you this information; however, Learn Bird Songs, found at <http://www.learnbirdsongs.com/> is the most straightforward and user-friendly choice.
 5. Once the site is ready for use, follow the birds listed on the Northwoods Bird Checklist in order so students can listen to the songs and calls while writing notes to recognize the sounds when the class heads into the outdoor classroom. You should play each sound two to three times for the students.
 6. After playing the bird sounds, the teachers passes out a set of binoculars to each student or pair of students, depending on the number of binoculars available. The teacher must review focusing the binoculars with the students. The U. S. Fish & Wildlife Service has a good site, Binocular Basics, which includes step-by-step instructions on focusing binoculars. The link for the site is below:
http://www.fws.gov/pacific/migratorybirds/binocular_basics.htm.
 7. Once the binoculars are focused for all students, the teacher reminds students that they need to remain quiet when outside and use their senses. If available, pass out field guides to help students identify the species they see and hear.
 8. The teacher takes the students outside as they begin to look and listen for birds and their sounds. If students hear a call or song or see one of the birds listed on the Northwoods Birds Checklist, they should mark in the “SPOTTED” column. If students hear any other sounds or see any other bird species not listed, they should make note of the sound or species on the reverse side of the checklist. The time the students remain outside is dependent on the classroom and school

schedule. It is best to give the students at least 20 minutes to investigate the sights and sounds of the schoolyard.

Classroom Follow-Up

After the students return to the classroom, the teacher should begin a discussion among the students about what they experienced outside. If you need some starter questions, some suggestions include:

- How many bird species did you see or hear?
- Did you see more than one of any species? Which one(s)?
- Was it easier to hear or see the species for identification?
- Did you see or hear any birds that were not on the checklist?
- When do you think you might use a bird checklist outside of school?
- Why is it important to know what birds sound like?
- Why is it important to know what birds look like?
- Do you think birds impact our own lives? How?

To end the activity, the teacher sends the students home with the task of trying today's activity in his or her own backyard. The students should record any sounds and birds they notice. This would be a great follow-up activity to begin class the next day.

Resources

Website: Learn Bird Songs

<http://www.learnbirdsongs.com/>

This website is a must-have resource when using this activity with your students.

The website plays short clips of bird songs and includes a photograph of the bird.

Website: Binocular Basics (USFWS Migratory Birds and Habitat Programs)

http://www.fws.gov/pacific/migratorybirds/binocular_basics.htm

The website reviews some good information about binocular usage, including magnification, focusing, and use with eyeglasses.

Resource Book: Stan Tekiela's Birds of Wisconsin: Field Guide

This is a colorful resource for easy identification of birds of the Northwoods.

It is mentioned more in-depth in the Resource section of Activity 1.

Student Sheet #1: Northwoods Bird Checklist

BIRD SPECIES	SOUND	SPOTTED?
Bluebird	<i>churli, cheeli</i>	
Chipping Sparrow	<i>chip, chip, chip (rapid)</i>	
Rose-Breasted Grosbeak	<i>chink, chink</i>	
Baltimore Oriole	<i>crite, rite, rite</i>	
American Robin	<i>kleep, tuk, tuk, tuk</i>	
Gray Catbird	<i>mew, mew, mew</i>	
White-Eyed Vireo	<i>chick, warble, chick</i>	
Northern Cardinal	<i>chip, chip, chip (short)</i>	
Yellow-Headed Blackbird	<i>conk-a-ree</i>	
Scarlet Tanager	<i>chick-bree, chip-burr</i>	
Common Yellowthroat	<i>chup, chup</i>	
Barn Swallow	<i>vit, vit, vit</i>	
Broad-Winged Hawk	<i>scream (high)</i>	
House Wren	<i>warble</i>	
Wood Thrush	<i>whit, whit, whit</i>	
Ruby-Throated Hummingbird	<i>chip, chip, chip (squeaky)</i>	
Purple Martin	<i>tew, tew, tew (lowering in pitch)</i>	
Whip-poor-will	<i>whip-poor-wil</i>	
Acadian Flycatcher	<i>peet-see</i>	
Ovenbird	<i>teacher, teacher, teacher</i>	

Bringing Birds into the Classroom Resource Guide

Web Resources

General Bird Resources

<http://www.whatbird.com/>

<http://www.birds.cornell.edu/AllAboutBirds/BirdGuide/>

<http://dnr.wi.gov/org/es/science/publications/VertChklist/Birdslist.html>

<http://www.dnr.state.wi.us/org/caer/ce/eek/critter/bird/index.htm>

Bird Songs & Calls

<http://www.enature.com/birding/audio.asp>

<http://www.learnbirdsongs.com/>

Bird Watching

<http://www.birdingguide.com/>

<http://www.wild-bird-watching.com/>

<http://www.birding.com/>

<http://ebird.org/content/ebird>

Bird Houses

http://www.wild-bird-watching.com/Bird_Houses.html

<http://www.birdhouses101.com/when-where-birdhouses.asp>

<http://www.50birds.com/D50BH.htm>

<http://www.freebirdhouseplans.net/freebuildingbirdhouseplans.html>

Bird Feeders

<http://www.wild-bird-watching.com/Bird-Feeders.html>

<http://www.birdwatching-bliss.com/free-bird-feeder-plans.html>

Bird Video Links

<http://video.nationalgeographic.com/video/player/kids/>

<http://video.nationalgeographic.com/video/player/animals/index.html>

<http://streaming.discoveryeducation.com/>

Bird Coloring Pages

<http://www.coloring.ws/birds5.htm>

http://www.first-school.ws/theme/animals/cp_birds.htm

<http://pelotes.jea.com/ColoringPage/Birds/birdcolor.htm>

<http://www.liketocolor.com/pages/bird/>

Print Resources

General Knowledge

- Arnold, C. (2003). BIRDS: Nature's Magnificent Flying Machines. Watertown (MA), Charlesbridge.
- Burnie, D. (2005). Smithsonian Bird-Watcher: dK Nature Activities. New York: DK Publishing.
- Lincoln, F. (1998). Migration of Birds (Circular 16). U. S. Fish and Wildlife Service.

Field Guides

- Janssen, R. B., Tessen, D. D., and Kennedy, G. (2003). Birds of Minnesota and Wisconsin. Auburn (WA), Lone Pine Publishing.
- National Geographic. (2002). Field Guide to the Birds of North America. 4th ed. Washington, D. C, National Geographic.
- Tekiela, Stan. (2004). Birds of Wisconsin: Field Guide. Cambridge (MN), Adventure Publications.

Teacher Activity Guides

- Boring, M. (1996). Take-Along Guide: Birds, Nests and Eggs. Minnetonka (MN), NorthWord Press.
- Braus, J. (1992). "Migration Models." Ranger Rick's Nature Scope. Washington, D. C., National Wildlife Federation.
- Burton, R. (2002). The Audubon Backyard Birdwatcher: Birdfeeders and Bird Gardens. Thunder Bay Press.
- Council for Environmental Education. (2004). Flying Wild: An Educator's Guide for Celebrating Birds. Houston, Council for Environmental Education.
- Erickson, L. (1997). Sharing the Wonder of Birds with Kids. Duluth, MN, Pfeifer-Hamilton.
- Harrison, G. H. (1997). Backyard Bird Watching for Kids: How to Attract, Feed, and Provide Homes for Birds. Minocqua, Willow Creek Press.
- Illinois Department of Conservation. (1992). "Nature Discovery 1 - Conservation Education Today & Tomorrow." Illinois Birds Curriculum Guide. Springfield (IL), Illinois Department of Conservation.
- Kirkland, J. (2001). Take a Backyard Bird Walk. Lionville (PA), Stillwater Publishing.
- Lee, F. (2005). Backyard Birding for Kids: A Field Guide & Activities. Salt Lake City, Gibbs Smith.

Stokes, D. and L. (1990). The Complete Birdhouse Book. Boston, Little Brown and Company.

Children's Trade Books

Cherry, L. (1997). Flute's Journey: The Life of a Wood Thrush. New York, Harcourt, Brace & Company.

Gallo, F. (2001). Bird Calls: Play the Sounds, Pull the Tabs. Norwalk (CT), Innovative KIDS.

Gans, R. (1996). How Do Birds Find Their Way? New York, Harper Collins.

Himmelman, J. (2000). A Hummingbird's Life. New York, Children's Press.

James, D., and S. L. (2002). A First Look at Animals: BIRDS. Princeton, Two-Can Publishing.

Pembleton, S. (1989). The Pileated Woodpecker. Minneapolis, Dillon Press.

Ring, E. (1989). Loon at Northwood Lake. Norwalk, Soundprints.

Sill, C. (1997). About Birds: A Guide for Children. Peachtree Publishers.

Willis, N. C. (1996). The Robins in Your Backyard. Middletown (DE), Birdsong Books.

Audio / Visual Resources

VHS / DVD

BBC. (2007). Planet Earth: The Complete Series. DVD. Burbank (CA), Warner Home Video.

Roberts, P. (1989). Loons. VHS. Seattle, Peter Roberts Production.

Music CDs

Elliott, L. Producer. (2000). Know Your Bird Sounds: Volume Two: Birds of the Countryside. Stamford (CT), NorthSound Music Group.

Tekiela, S. Composer. (2007). Bird Songs of the Northwoods. Cambridge (MN), Adventure Publications.