



## LESSON: Prairie Bird Investigation

**GRADE: 3<sup>rd</sup>**

**TIME: 45 min.**

### SUMMARY:

Students share what they know about birds and what they wonder about birds. Students choose one investigative question to search for while they are outside. Then they go on a hike to seek answers to their questions. Students practice standing still, listening for sounds, and waiting for bird movement in order to make more discoveries about birds. Students record data in their nature journals that support the answers to their questions. To conclude the lesson, students discuss what they learned by answering their investigative questions.

### OBJECTIVES: Iowa Core

#### Science

##### **From Molecules to Organisms: Structures and Processes**

- **3-LS1-1** Construct an argument that some animals form groups that help members survive.

##### **Biological Evolution: Unity and Diversity**

- **3-LS4-2** Use evidence to construct an explanation for how the variations in characteristics among individuals of the same species may provide advantages in surviving, finding mates, and reproducing.
- **3-LS4-3** Construct an argument with evidence that in a particular habitat some organisms can survive well, some survive less well, and some cannot survive at all.

#### Literacy

##### **Speaking and Listening**

- **SL.3.1.** Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 3 topics and texts, building on others' ideas and expressing their own clearly.
- **SL.3.4.** Report on a topic or text, tell a story, or recount an experience with appropriate facts and relevant, descriptive details, speaking clearly at an understandable pace.
- **SL.3.6.** Speak in complete sentences when appropriate to task and situation in order to provide requested detail or clarification.



## Writing

- **W.3.2.** Write informative/explanatory texts to examine a topic and convey ideas and information clearly.
  - ✓ Introduce a topic and group related information together; include illustrations when useful to aiding comprehension.
- Develop the topic with facts, definitions, and details.

## MATERIALS & RESOURCES:

- Blank paper or nature journals
- Pencils
- Colored pencils
- White board
- Dry erase marker
- Bird ID sheets or field guides
- Binoculars

## PRESENTATION:

To begin the investigation, start a KWL chart and ask students what they know about birds. Record their answers on the board. If they need more help, guide the students by asking them such things as, “How many birds live in this area? Do all birds fly exactly the same? Do all birds make the same sounds? Where do birds make their nests?”

Next, ask students what they wonder about birds. They should think about questions that can be answered today by going outside and exploring. Each question should also be recorded in the column next to what they know. Coming up with their own questions will give them more ownership in the investigation. If necessary, prompt them with questions like: “Is there something you would like to find out today about how birds fly? Where birds live?” Ask students to consider the following: Do some birds live in groups? Does living in a group help an animal to survive? Are some of the birds better adapted to this environment? What about birds which nest only in trees? Do you think they are adapted to the prairie? Did you notice differences among the same species of birds?



## DIRECTIONS:

1. Divide students into group. Pass out clip-boards, pencils, binoculars and any other materials they need. Give specific instructions on how to use the binoculars and that they should be kept around the neck. Tell students that binoculars are scientific tools and need to be handled with care.
2. Instruct students to choose one of the questions on the board for their group to find the answer to by going outside. Give students time to discuss in their groups *how* they are going to gather the evidence to answer their questions. Will they draw pictures? Use tally marks? Create a chart? For example, if the question is how many birds can we see today, one quadrant might be to make a list of bird species. Other possibilities are: drawing flight patterns, describe the colors of birds seen, sketch a bird and list of bird sounds heard. This data sheet will guide the investigation in the field.
3. Have students line up in their groups to head outside. Remind students that they are naturalists and that naturalists are calm and quiet, respectful, happy outside, curious etc.
4. On the trail, carefully observe the birds you see and have the students' record data in their journals.
5. Head back inside. Once in the classroom, facilitate a discussion of discoveries made in the field. Students share information gathered to answer their question. Record answers in the learned (L) section of the KWL investigation.

## REFLECTION/JOURNAL PROMPT:

Ask students how or who they could share their discoveries with when they return home. (Tell a friend or relative, write a poem or paint a picture to give away, etc.) Encourage them to keep going outside anywhere and looking for birds. Make student bird lists in class to encourage lifelong birding habits. It's free and fun! It could be a lifetime sport!



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This lesson is a part of Project Bluestem at Neal Smith National Wildlife Refuge

#### Whiteboard lesson set-up

##### On whiteboard:

Know!   Wonder?   Learn!

\*\*In the column "Know", write down students' answers to what they know about birds. If students need guidance, ask them "Do all birds fly? Do they make the same sounds? What types of birds on the prairie do they know?"

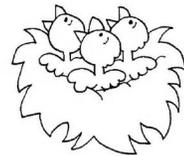
\*\*In the "Wonder" column, ask students what they wonder about prairie birds. Make sure to give parameters for their wonder questions. Tell students they need to ask questions they can find answers to today in the short amount of time they have to investigate.

\*\*In the "Learn" column, write down what students found during their outdoor investigation.

#### Journal Page Setup:

NSNWR	Name	Date
Weather	<u>Prairie Bird Investigation</u>	Time
Temp		

\*\*Have students write their wonder question at the top of the page.



I saw a bird sitting in the grass. I saw a nest. I wonder what kind of birds made the nest.



## BACKGROUND INFORMATION:

### *From Prairie Wetlands Learning Center*

The purpose of this field investigation is for 3<sup>rd</sup> graders to use a scientific methodology to form questions about birds and then investigate those questions in the field. The KWL chart will be applied to this scientific investigation as a way to organize and structure the process. The types of questions investigated in the field about birds will be driven by student inquiry. By having students decide what to learn, they are able to use scientific investigation and critical thinking skills while practicing careful observation and data collection methods.

Birds of the prairie are important because they are relatively easily viewed, they are part of the food chain, they tell us something about the habitat they live in, and they are interesting and beautiful. Students witness and wonder about the spectacle of migration first-hand.

Spring is an excellent time to observe birds. The peaceful and quiet winter months have melted away, and many bird species are migrating through the area. Some pass through, others stay awhile to rest and refuel for the rest of their journey north, and yet others stay to nest. Showy males are often busy singing and displaying their vivid plumage in an effort to defend territory and attract a mate. Their calls and visibility make them easy to find.

Bird identification and learning bird names could become a focus of the investigation depending on students' questions. If so, students will be asked to look for clues as to what species the bird might be. This includes habitat, colors, size of bird, shape of beak, flight patterns and behaviors. Using this information and field guides, students should have some success in identifying birds.

Birds are more noticeable than mammals in the prairie. Some bird species have adapted well to changes in land use and may be found in farmland and towns as well as prairie. However, others are more choosy or specialized and may only be found on the few remaining remnants of native prairie. Less obvious but more common species include eastern and western meadowlarks, bobolinks, and savannah, grasshopper, and clay-colored sparrows. Probably the most abundant birds are the blackbirds, especially noticeable in spring when nesting; and in fall when migrating in large, waving flocks. Red-winged blackbirds commonly nest in



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fields removed from cultivation, followed by sedge wrens, bobolinks, common yellowthroats, and savannah sparrows. Certain species can only survive in large grassland blocks (as opposed to remnants), including meadowlarks and dickcissels. Prairie birds, therefore, can serve as indicators of particular environmental conditions.