eBird Advice for Educators

Whether you love birds and want to share your interest with your students, or you simply feel that Citizen Science would be a wonderful way to engage students in science and math, we encourage you to use eBird!

eBird is a free, easy-to-use citizen science project offered by the Cornell Lab of Ornithology. Through the Cornell Lab of Ornithology's citizen science program, people across the continent help scientists by collecting data about their local birds and sending the information to scientists who study bird populations and conservation. Perhaps one seventh grader put it best when she said, "Scientists can't be everywhere, so kids from all over can record data and send it in."

The importance of their data creates a real-world connection for students of all ages. You'll find that your students, even those who don't traditionally excel in science, will be motivated and engaged by helping scientists and birds! In addition, amid growing concern about the health of children and the environment, citizen science gets children outside, observing and learning to appreciate nature.

Although eBird is easy to use, many educators, especially those new to birds and birding, prefer extra support and guidance. This resource will help you begin to use eBird with student groups, in classroom or homeschool environments. Some of this provided content was borrowed from the ***BirdSleuth: Most Wanted Birds*** module. ***BirdSleuth: Most Wanted Birds*** is a complete curriculum it available for purchase from the Cornell Lab of Ornithology.

The ***BirdSleuth: Most Wanted Birds*** module was tested in classrooms around the country and contains the best resources and ideas for teaching kids how to identify and count bird and use the eBird database to teach math, science, and technology. It contains formal lessons, student journal pages, an engaging and educational Reference Guide, sound and video files, PowerPoint presentations, a set of full color BirdSleuth Focus Cards, and a CD-Rom-based Bird ID game.

If you find this starter lesson useful and want to do more with your students, visit **www.birdsleuth.net** to learn more and order your kit.

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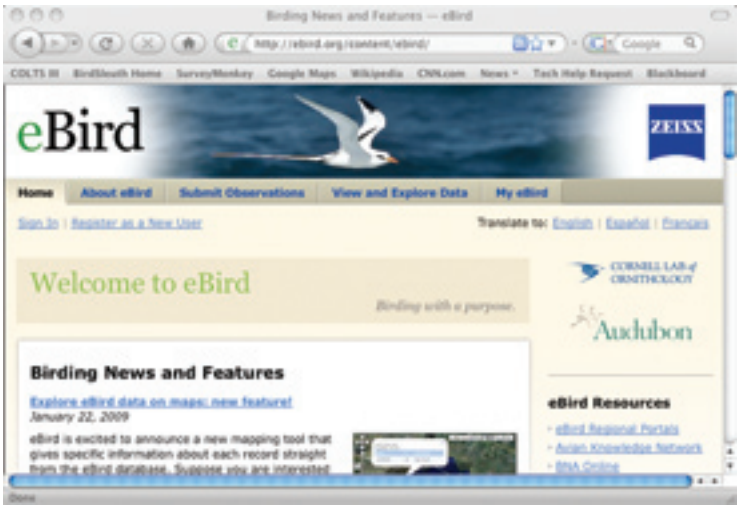
Using eBird with Groups

Getting Started...

1. Become familiar with eBird and citizen science before introducing it to your students. Create an eBird user account for your class, creating a username and password that you can share with students. You may access eBird at **www.eBird.org**.

2. Introduce your students to "citizen science." You may wish to share your own experience as a citizen scientist and ask the students to read the "Why Count Birds" article. Explain to students that their local data is important and they need to be able to accurately identify and count birds. The data they collect will be used by scientists who need accurate information in order to understand and conserve birds.

3. Teach your students the basics of bird identification, both in the classroom and in the field (see Teacher Tip: "Teaching Bird ID"). The Cornell Lab of Ornithology's All About Birds website (**www.AllAboutBirds.org**) has "Birding 1-2-3" and "Bird Guide" online resources that you might find useful.



Teacher Tip! Teaching Bird ID

Start by concentrating on teaching the students to identify the birds you are most likely to see in your area.

Some teachers have been successful helping students learn bird ID by choosing one to three "birds of the day" for the students to learn. Consider showing the students the **AllAboutBirds.org** *page for the "bird of the day," so they can hear and see the bird, learn where it lives, and find out "cool facts" about the bird. You might also want to order the BirdSleuth Focus Cards.*

If you need more support, the **BirdSleuth: Most Wanted Birds** *curriculum has detailed lesson plans and tools to help you teach bird ID step by step.*

4. Begin collecting eBird data when you feel confident in student's ability to accurately identify and count birds (see Teacher Tip: "Bird ID is Important). Use the included "eBird Tally Sheet." You might wish to collect data about the temperature, precipitation, and other environmental factors that might affect your counts (see Teacher Tip: "Weather and Habitat Data"). This might allow students to later correlate these variables with their counts.

5. If you've allowed students to count individually or in pairs or groups, summarize your class data before entering it into eBird. This is useful because it will allow you to double-check

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the accuracy of the data and also compile the data into one master class list (you should not enter multiple lists containing essentially the same data into eBird, see It Happened in Class: "Summarizing Bird Counts"). Save your master lists in a binder so your students will have the opportunity to look at the growing data both in print and online.

6. Enter the master Tally Sheet into eBird. You might let groups of two to three students take turns entering the data using the class eBird account you created in step one.

7. Use what your students have learned and asked as a springboard to authentic inquiry! The ***BirdSleuth: Most Wanted Birds*** and ***BirdSleuth: Investigating Evidence*** modules will help you. You might consider having students explore eBird data via the collected Tally Sheets and the "View and Explore Data" tab in eBird.

It Happened in Class!

Summarizing Bird Counts

This conversation was overheard when Mrs. Toth's class summarized their bird data for the first time:

Mrs. Toth: *What birds did you see when we were outside?*
James: *I saw three American Crows.*
Mrs. Toth: *Yes, I actually counted two crws. Are you pretty sure you saw three different birds?*
James: *Yes. Two were flying together and later I saw another on eperched in a tree in another area. I don't think they were the same birds.*
Mrs. Toth: *Did anyone see more than three?*
Resana: *Katie and I wrote down five on our list. I think we saw the two flying ones that James saw, and we saw three that were perched in trees. I think they were all different birds, too.*
Mrs. Toth: *We'll write down five, then. What other birds did you see?*
Katie: *We also saw two seagulls.*
Mrs. Toth: *What kind of gulls? Aren't there several species of gulls around here?*
Katie: *I don't know what knid they were. I just wrote down "seagull."*
Mrs. Toth: *Did anyone who saw the gulls look them up in a field guide or sketch them?*
Students: No.
Mrs. Toth: *Well, we can't count those gulls; we need to know what species they are. Let's look in our field guides. Next time we see gulls, what should we look for?*
Students: *The size of the gull...whether it has a ring around its beak...whether it has a red spot on its beak... what color its winds are.*
Mrs. Toth: *In this area, what are the common gulls we might see?*
Stephen: *The Herring Gull and the Red-billed Gull. It says both are common. But the Herring Gull looks a lot bigger and has a different beak.*
Mrs. Toth: *Nest time we see gulls, we shoud look for those field marks. Maybe we can figure it out during another count!*
Graem: *Could we write down "gull" in the notes section, to remind us that we saw them?*
Mrs. Toth: *That's a great idea! I'll add "two unknown gulls" to the notes section.*

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Teacher Tip! Bird ID Is Important

Some teachers express concern that their students' data are not good enough to be included in the eBird database. Let students know why their data are important and need to be reliable, and encourage your students to enter only data they are confident about. You might wish to consider how you'll respond if students report seeing birds you know are unlikely. For example, one field test teacher stated,

> "As a serious birder, I feel uneasy about submitting data that is inaccurate. I also don't want to tell students. 'No, you couldn't have seen that.' As an example, Lesser Goldfinches are an uncommon bird here in December, and the park we visited is not a likely place to find them. Yet I had one group who insisted they saw five of them. I questioned them about how they knew they were Lesser Goldfinches, and they gave an appropriate answer. I still doubt it, but we entered it. How do I handle situations such as this?"

We'd like to offer these possible responses if you are concerned about a student's identification of a species:

- *What makes you think it was that species? Do the field marks match?*
- *Is that species found here at this time of year?*
- *Is that species found in this habitat?*
- *What other species could it have been? What makes you confident that it was that species?*
- *Let's not enter that bird this time, since we aren't sure about it. But next time you see that kind of bird, point it out to the class so we can figure it out together!*

Note that improbable data might be "flagged," and our regional editors might contact you to ask if your report could be a mistake. For example, if Lesser Goldfinches are never found in a certain state, the eBird editor might later email you to ask, "Are you sure it wasn't an American Goldfinch that you saw?" We encourage you and your students to enter data! So relax, enjoy birding, and continue to be the eyes and ears of Lab scientists!

Inquiry Alert! Weather and Habitat Data

Students may begin to make predictions or draw conclusions about what they observe. For example, after observing for a while, a student might make the following testable hypotheses:

- **More chickadees visit when it is snowing.**
- **Birds seem to visit less when it is raining.**
- **It is too cold for birds.**
- **When there are crows around, we see fewer birds.**

Encourage students to collect data that will help them determine if their hypotheses are valid. You may decide to make and maintain data sheets to keep track of these additional data. Though these data cannot be entered into the eBird website, they will be helpful later when students ask and answer their own questions.

Name: Date:

BIRD COUNT TALLY SHEET

A. LOCATION INFORMATION—WHERE DID YOU BIRD?

Name of Count Site _____

B. OBSERVATION INFORMATION—HOW & WHEN DID YOU BIRD?

1. Count Protocol (check one) ◯ Casual Observation ◯ Stationary Count ◯ Traveling Count

2. Observation Date _____ Start time _____ AM / PM

3. Number of people in group _____ Duration or distance _____

C. CHECKLIST INFORMATION—WHAT DID YOU SEE?

Are you reporting all the species you identified? (check one) ⊗ Yes ◯ No

Species	Total # of Individuals	Notes

Can't identify a bird in the field? Use the next page to sketch any bird(s) that you were unable to identify. Include as many field marks as possible so you can use a field guide to help identify the bird.

Name: Date:

BIRD COUNT TALLY SHEET SKETCHES