

Natural History of UCSC Fall 2017

Birds of UCSC Lesson Plan

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Learning outcomes: Students will learn to identify birds based on quick identification skills they will learn in this lesson. Students will learn to look for beak shape, tail shape, color, posture, size, behavior, and habitat for bird identification. Bird calls will also be observed and students will learn to listen for patterns in pitch, duration, rhythm, etc. The observational questions obtained from BEETLES “I wonder, I notice, it reminds me of” will be introduced and practiced throughout the day. Students will learn to use binoculars and field guides.

Background Information: The goals of this lesson are to get students making quick observations about things that are only observable for short times. When birding, ask students what they notice, what they may wonder about the bird behavior, and what it reminds them of. This will tattoo these questions in their minds and help them to be more inquisitive and notice more things. Make sure you're comfortable with quick identifications of birds: beak, tail, color, size, behavior, habitat, etc. You don't have to be able to identify every bird you see, you're going to be there to help students make quick observations and point out what to look for. You will be drawing and saying a few things about bird bills, so look on google images for bird bill identifications to find a few common bills to discuss. These are usually a generalist bill, seed eater bill, and meat eater bill. Others may be added to your drawings too, but be familiar with the most common bills and be able to draw them during class or draw ahead of time. To become more familiar with bird ID, flip through some bird field guides and look up images of the most common birds in Santa Cruz County. This will help you be more decisive when you're sitting down with your group to identify birds you were observing. Some common birds that will probably be seen are: Say's Phoebe, American Crow, Common Raven, Anna's Hummingbird, California Scrub Jay, Steller's Jay, Red-tailed Hawk, Acorn Woodpecker, Western Bluebird, Golden Crowned Sparrow, Dark Eyed Junco, House Finch, Ruby Crowned Kinglet, and Bushtit.

Materials:

-Binoculars for all students (could try borrowing from the Bird School Project)

-Bird Field Guides for all students (Sibley Birds of the West or other Sibley, Birds of North America, Peterson Bird Guide). Ask TA's to bring theirs and get more copies from the Norris Center

-Notebook for drawing bird bills

-Bird specimens from the Norris Center

-Flashy costume for one person

Plan for the day:

Opening- Meet at the Village! Meet in the Village parking lot and pass out binos and field guides to those without them. Answer any questions about the day and last or next week.

Duration: 10 mins

Observation Activity

Duration: 15 mins

Introduce I notice, I wonder, it reminds me of and do an example of a tree or something nearby that everyone can see. Explain why qualitative observations are important in birding. We usually only have a few seconds or less to see a bird as it whizzes by, so we have to notice everything we can in that time. Remind everyone of how important your journal is at these times-- write down everything that you see and notice so when you're using your bird guide to look it up, you remember everything you experienced. To practice this, everyone will get their journals out and be shown a specimen to observe. This will be a TA or instructor type that will be in a flashy/strange outfit that will come out and circle around quickly and then leave sight. Students will write down all the observations they can make in this time and then the whole group will be asked to share what they notice, wonder, and were reminded of when looking at this specimen.

Bird Basics and More Observations

Duration: 25 mins

Break into groups of 3 or 4 and have them discuss birds. What do we know about them, why are they unique, why do we care? Ask what thing birds have that nothing else does- feathers! Draw

some bird bills on your notebook/drawing pad/whiteboard to discuss. Draw a generalist beak, seed eater beak, and meat eater beak. What other beak shapes can anyone think of? How about a kiwi and sandpiper, duck, or woodpecker? Discuss the main kinds of bills and ask what they may be used for. Have a few bird specimens from the Norris Center and choose one at a time. A good specimen is a woodpecker due to the obvious coloring and features that are easy to spot. “Fly” the bird around the crowd and have them write down as many observations as they can about what they see and notice. Then have them share amongst their small group. Do this for a few specimens and have a small or large group discussion. Introduce the idea of feet and how some birds are diggers and can be seen doing this behavior. Even though it’s hard to observe feet when they are flying, sometimes they are visible and it’s a good observation to inquire about. Emphasize the importance in using observations other than color- this will help when your looking through the field guide and all you can remember was that it was black and brown!

Binos and Field Guides Debriefing

Duration: 15 mins

Show everyone the key features of binos- they only focus, they don’t zoom in or out. Explain the eyecups and which dials to turn to focus. The small end of the binos are the ones you look through and don’t walk or run while you bino. In addition, spot what you are going to look at, then bring the binoculars to your face. Otherwise it will be disorienting to try to find your target through your binos. You can form two lines of students facing each other and have them practice focussing their binos. Go through the instructions for closing one eye while you focus and then switching and focusing the eye cup dial to calibrate the binos. Then go over field guides- they are to be used only after you observe a bird for a good amount of time and have collected multiple points of information about it. Then it’s the time to sit down, recall your observations, and look through the guides to find what you saw. Explain how most guides will show a range map that shows residency and what seasons they are in depending on their migration patterns. Use a field guide to hold up and point out these maps and have students look at theirs and how its color coordinated because they are often different by guide. For example, purple may indicate winter residency in California and red for summer residency in Utah. When determining if a bird is what you think it is, this range map can be crucial- you may be certain you saw a bird but the range map says it only lives in Canada!

Go Birding!

Duration: 2 hours

Split into 3 or 4 groups of around 7 students. First do a point count listening exercise where everyone is quiet and just listens to as many bird calls they notice. Do this for 5 minutes and have them write down all the sounds they hear. You can suggest writing down what the calls remind them of, such as the trash truck or a car alarm or a whistle. Also suggest lines and dots to illustrate the frequency they hear. When the 5 minutes is up, discuss the calls everyone heard together, what it reminded them of, and try to identify some of these birds if the calls are known to you. Then take different paths around the farm, arboretum, and great meadow and maintain jungle etiquette for seeing wildlife. Emphasize focusing on one bird and really observing it as well as you can. If the bird leaves, don't disregard it, but keep that bird in mind in case it or another one like it comes back around. If there are multiple birds around to observe and your group seems scattered, try to label them bird A, B, C etc. for the time being. Then you can refer to the bird everyone is observing and have them take notes on it and then switch around as needed. Then when all those birds are gone, take out the field guides and identify all the birds at once. When you're getting a good look at a bird, use this opportunity to remind students of "I wonder, I notice, it reminds me of" and ask them these questions. Really take your time with this process and don't give away bird names too quickly if you know them, let the students keep trying to figure it out.

Regroup and Say Bye

Duration: 5 mins

Regroup at the Village parking lot. Ask students if they have a new appreciation for birds than they previously had. Is there anything anyone wants to share from today? Anything amazing they observed or observations/patterns they want to share? Make sure all questions are answered and students have their assignments for the next week and say bye bye!

Bibliography:

The outline of the class on birds was made by fellow TA, Camille Hartley. I used her class plan to write a detailed lesson plan of how the class went with resources and more

Better Environmental Education Teaching, Learning, and Expertise Sharing (BEETLES):

Questioning Strategies. Obtained from:

<http://beetlesproject.org/cms/wp-content/uploads/2015/11/Questioning-Strategies.pdf>

Bird Bill anatomy drawing ideas: <https://www.pinterest.com/pin/351351208406499402/>

Sibley, D.A. (2016). *The Sibley Field Guide to Birds of Western North America*. Alfred A. Knopf: New York