



Montclair State University

New Jersey School of Conservation
One Wapalanne Road
Branchville, NJ 07826-5116
800-624-7780 (dial option 3) or 973-948-4646
Fax: 973-948-5131
email: njsoc@mail.montclair.edu
<http://www.csam.montclair.edu/njsoc/>

Introduction to Ornithology

Subject Area: Natural Science

Core Curriculum Content Standards: 3.3A, 3.4A, 5.1A, 5.5A&B, 5.10A&B, 6.6E

DESCRIPTION:

This activity can be used alone or in conjunction with the lesson “The Ways of Wild Birds”. The trail uses simulated wooden birds placed along a trail and is designed to give students practice locating and identifying common species of birds. The twelve stations that are part of the trail highlight a variety of birds and habitats. The trail is “teacher friendly” in that the accompanying teacher’s manual provides photographs and information about each bird along the trail.

OBJECTIVES:

- Students will be able to track the evolution of birds from their reptilian ancestors and recognize the first fossilized remains of a bird-like organism.
- Students will be able to list the adaptations that birds have evolved that allows them to fly, feed, build nests and mate.
- Students will gain experience using field guides and binoculars to identify birds.
- Students will gain insight into the study of ornithology, and to bird watching as a recreational pastime.
- Students will be able to state the value of birds, the role they play in the natural environment, the threats to their existence, and ways in which we can all help our feathered friends.
- Teachers will learn how to conduct a ‘bird activity’ that is user friendly and can be used to enrich their student’s knowledge of ‘back yard’ wildlife.

BACKGROUND INFORMATION:

Bird watching is an excellent tool to introduce students to the importance of wildlife. It is an activity that can easily be continued at home or at school and often continues as a life long hobby. Learning to identify birds is a good first step, however the lessons should not end there.

The behavior of birds, the interaction of birds with their environment and the monitoring of birds as indicators species of the health of an environment are steps that should naturally progress over time.

Even if this activity is being utilized alone, teachers might want to consult with local ‘birders’ or ornithologists who can offer expertise. These local experts are in just about every community, since bird watching is an avid and passionate pastime for many people.

MATERIALS:

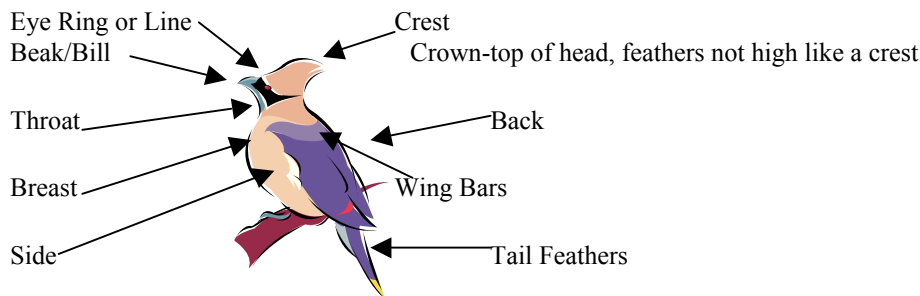
Pictures of a variety of birds; Bird nests collection; Bird field guides; Binoculars; Bird Trail Teacher’s Guide; Bird Identiflyer song player.

STUDENT ORIENTATION / PROCEDURES:

1. Start the session by asking the students what they know about birds. Elaborate on their knowledge in order to give everyone a good picture of this unique class (Aves) of animals. During this interaction period, the students will inevitably bring up topics like flight, food, songs, nest-building, feathers, eggs, etc. which will give the instructor the opportunity to discuss these topics in depth. All the information the instructor needs to lead this discussion can be found in the *Bird Facts* sheet included in this lesson plan package. This part of the session should last about one third of the total time allotted for the session.

2. Tell the students that they will have the opportunity to take a hike on the SOC bird trail to look for birds and identify them. Students will need two tools in order to fully utilize the bird trail; binoculars and a field guide. First it is important to talk about key terms/areas of the bird that are often used for identification. Use pictures of different birds on the bird poster to help students better understand these terms.

Key areas used in bird identification



3. Have students investigate the field guides provided so that they understand the layout of the book. In order to acquaint students with the field guide you may want to ‘quiz’ them with questions such as: On what page can you find a purple finch? How did you determine this? If you see a very large bird in flight that you think may be a hawk, what would be your next step in using the field guide? If you see a bird that is bright red and orange, how could you narrow down what you think it may be?

4. Once students seem comfortable with the layout of the field guide it is important for them to practice using the binoculars. Using binoculars takes a bit of practice, which is why the wooden, non-moving birds on our bird trail provide a good start for beginning bird watchers. Pass out the binoculars and have the students adjust them for their eyes (see *Using Binoculars* study sheet). Have the students place the strap around their necks and proceed to the outdoor bird feeders behind Big Timbers.

5. Students should first practice finding the bird feeders with their binoculars. Then gradually have them locate smaller fixed objects (rock, the pulley on a tree that holds the bird feeder line, etc.) a variety of distances away. For safety reasons, remind students not to walk while looking through the binoculars. Once you are comfortable with the students understanding of the key vocabulary words, the layout of the field guide and the use of the binoculars you can move on to the bird trail located behind Cabin # 2.

THE BIRD TRAIL: The ‘bird trail’ utilizes the Green Darner trail, which begins behind cabin #2. The ‘bird trail’ portion consists of twelve different stations; a numbered falcon that is mounted on a post marks each of the twelve stations. The ‘bird trail’ makes a circle with the beginning markers on the right side of the trail. Once you reach the old beaver marsh (an unmistakable clearing) you have reached the top of the loop. At the marsh you will see stations 7, 8 (the very top of the loop), and 9. After identifying these birds, proceed back down the trail you just came up, looking for the remaining 3 stations (10, 11, and 12) on the right side of the trail which eventually terminates at cabin #2 once again.

6. Once you reached the first station marker students should try to locate a life size, wooden model of a bird. All of the birds are mounted 50 –100 feet directly behind each marker, it is intended that the group stays near the markers and use their binoculars to locate the birds. Birds are mounted in their natural setting, meaning if they are ground birds they will be found on the ground, if they are song birds they are in the trees etc. If the students are having trouble locating the wooden bird, use the Bird Hike Hint Sheet included in the lesson plan packet to help the students locate the bird.

7. Once the birds are located students should use the field guides to come to a consensus as to what the bird is, here is where a discussion of identification features is key. Once the group comes to a consensus on what bird they have located, the teacher’s manual will provide a photograph of the bird, its scientific and common name and additional scientific, social and conservation information about the bird. Some fun facts, trivia and jokes have been added as well. The birds in the teacher’s guide clearly correspond to the numbered markers on the trail. The teacher might also want to use the provided Bird Identifier to play the song of the bird to give the students an appreciation of the diversity of vocalizations birds use and what they use them for (i.e. attract a mate and ward off a potential competitor) Note: only the males “sing” in most species but the females does utilize a variety of calls.

8. After the last bird is identified at station #12, lead the group back to the classroom for a wrap-up.

WRAP-UP:

- ✓ Have students identify which birds were located in what type of habitat, and discuss how that habitat is important to that birds’ survival. Diverse habitats contribute to species richness.
- ✓ Discuss which birds were easiest and which were the most difficult to identify. How would bird identification change if the birds were moving?
- ✓ What other birds are common or familiar?
- ✓ **Discuss the value of birds** (food chains and food webs – pest control; seed dispersal; flower pollination; recreation – aesthetics, pets, hobby; research; genetic vaults of irreplaceable information; environmental indicators).
- ✓ Discuss the importance of a clean environment and how pollution may affect different birds. Make a list of the **threats to our wild bird population**.

- ✓ Help the students understand some of the things they can do to make sure our wild bird population is around for many generations to come.

FOLLOW-UP:

Have students set up bird feeders at school. (Discuss Black Bear issues with feeders)
Begin a class 'life-list' of birds they have seen.
Discuss/Research different nesting boxes or houses and build some.
Learn to identify birds by their songs.

Revised 2007 by R.W. FitzGerald