

Basic Biology Series  
**BIRDS**

NAME \_\_\_\_\_ SCHOOL \_\_\_\_\_

DATE STARTED \_\_\_\_\_ DATE COMPLETED \_\_\_\_\_

**PREREQUISITES:** Animal Kingdom; ability to use binoculars.

**HOW TO DO THIS COURSE:** Do the steps one at a time, in order. When you finish a step, put your initials and the date on the sign-off line on the right. A split line means to get a pass (and an initial) from another student (or your supervisor if it says that). A \* means get a checkout. Essays are turned in to the supervisor.

**PURPOSE:** Learn something about the nature and importance of birds in the world, and become familiar with a variety of the more common birds.

**ESTIMATED TIME:** 15 hours.

**MATERIALS NEEDED FOR THIS COURSE** \_\_\_\_\_

A guide book on birds (*Golden Guides* series published by Golden Books or *Peterson's First Guides* published by Houghton Mifflin are suggested). An encyclopedia or other references with good colored pictures of the eggs of various birds, bird's nests and domestic turkeys (if your guide book doesn't include them), chicken eggs, quill feathers, soft (down) feathers, binoculars, coloring crayons, drawing paper, a bird's nest (if available), several bird magazines or wildlife magazines with pictures of birds. Quarter or half dollar with eagle emblem on the back.

Materials for optional practical applications: two fertilized eggs (available at feed stores), chicken egg incubator, a hummingbird feeder, sugar or honey, a feeder (or an old dish for use as a bird feeder), bird seed (available at most supermarkets), plans and materials for building a bird house, a pet bird in a cage.

Heron text-pack with these Data Sheets:

2840            2841            2843            2842            2844

Exams: 4149, 4725 (review)

**NOTE TO THE SUPERVISOR** \_\_\_\_\_

At the end of Part A of this course there is a practical application referring to a list of practical application projects (DS #2843 Birds, Practical Application Projects). The student is to do at least three of them. Many of these projects work well with a group. Try to plan group activities for students who are doing or will soon do this course.

The "special project" option (project #12) allows you and the students to be innovative. Make this a group project if there is a special or unusual opportunity to study birds in your area that you want to take advantage of. Do not let students use this option to shortcut the requirement by doing something too minor.

It is expected that the student will complete three of these, but if there is one of them that the student cannot reasonably finish in time to meet the course completion target (for instance if it depends on a planned group excursion which takes place too late) you can sign off the step at your discretion if the project is well planned and you are confident it will be done (and the other two are fully done).

**A. ABOUT BIRDS**

\*1. READ: Data Sheet #2840 How All Birds Are Alike. \_\_\_\_\_

2. DEMONSTRATE: Look at colored pictures of a chicken egg and the eggs of other kinds of birds. See how they are similar and how they are different in size and color. \_\_\_\_\_
3. DEMONSTRATE: Look at and feel some stiff wing feathers. Notice how they might help the bird fly. \_\_\_\_\_
4. DEMONSTRATE: Look at and feel some soft feathers. Notice how they might help the bird keep its eggs warm. \_\_\_\_\_
5. DEMONSTRATE: Look through a wildlife or bird magazine or guide book for birds. For each bird you see, notice what shape of beak the bird has. Guess what the bird eats. \_\_\_\_\_
6. DEMONSTRATE: Get a pair of binoculars and be sure you know how to use them. Take them with you outside and look for birds. Look through the binoculars. Look at the wings and feathers and beaks of each bird. Look at five birds. Count each bird as a separate demonstration. \_\_\_\_\_
7. DEMONSTRATE USING CLAY: Three ways that all birds are alike. \_\_\_\_\_
8. READ: Data Sheet #2841 The Life of a Bird, to the heading “Baby Birds Grow Up.” \_\_\_\_\_
9. DEMONSTRATE: Get a chicken egg and crack it open gently into a bowl. Look at the yolk. Try to find the white spot where the embryo would grow. (There won’t be an actual embryo unless it is a fertile egg, but you should be able to find the white spot.) \_\_\_\_\_
10. READ: Data Sheet #2841, the section “Baby Birds Grow Up.” \_\_\_\_\_
11. DEMONSTRATE: Draw a picture of a mother bird feeding baby birds in a nest. Color the picture with crayons. \_\_\_\_\_
12. READ: Data Sheet #2841, the section “Mother and Father Birds.” \_\_\_\_\_
13. PRACTICAL APPLICATION:
  - a) Look at a bird’s nest. (Your supervisor will tell you if your school has one. If not, find a picture of one in a guide book or picture encyclopedia.) Look at the nest closely. See what it is made of. Notice its shape and how it is put together. Notice all the things it is made of. Make a list. \_\_\_\_\_

- b) Go outside and look for birds' nests in trees. Take a pair of binoculars with you. If you find a nest, look at it through the binoculars. See if you can see any birds in it. If it is spring or summer, there should be nests in some trees. In fall or winter there may be some too. Write how many nests you saw, where they were and what they looked like and turn it in to your supervisor. (If you find an unused nest and your school didn't have one for the last demonstration, you can bring it back with you and use it to make sure your list of things a nest is made of was right.) \_\_\_\_
- c) Go outside and gather some things you think a bird would use to make a nest. Make a nest out of these things. Show it to your supervisor. \_\_\_\_

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- 14. READ: Data Sheet #2841 The Life of a Bird, the section "Going South for the Winter."
- 15. DEMONSTRATE: Get a globe and find North and South America on it. See how far birds fly when they migrate from Canada to Mexico. See how far the Arctic terns fly when they migrate from northern Canada to the southern tip of South America.
- 16. DEMONSTRATE USING CLAY: The life of a bird. Show at least four steps.
- 17. PRACTICAL APPLICATION: Choose three things to do from the list in Data Sheet #2843 Birds, Practical Application Projects, or choose two of these and one more practical activity having to do with birds that you think of yourself. (If you think of your own, your supervisor must approve.) Write down what projects you want to do and when you plan to do them, and turn that in to your supervisor. Do what it says to do for each project that you choose. Do these projects as soon as you can, but not during course time. The sign-off line here is for planning your projects. There is another sign-off line at the end of the course steps for completing them. **Supervisor pass.**

**B. DIFFERENT KINDS OF BIRDS**

- 1. READ: Data Sheet #2842 Different Kinds of Birds, to the heading "Wrens."
- 2. DEMONSTRATE: Look up woodpeckers in a guide book and look at the pictures. Notice how they are alike and how they are different.

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20. READ: Data Sheet #2842, the section “Sea Gulls.” \_\_\_\_\_
21. DEMONSTRATE: Look up gulls in a guide book and look at the pictures. Notice how they are alike and how they are different. \_\_\_\_\_
22. READ: Data Sheet #2842, the section “Owls.” \_\_\_\_\_
23. DEMONSTRATE: Look up owls in a guide book and look at the pictures. Notice how they are alike and how they are different. \_\_\_\_\_
24. READ: Data Sheet #2842, the section “Hawks.” \_\_\_\_\_
25. DEMONSTRATE: Look up hawks in a guide book and look at the pictures. Notice how they are alike and how they are different. \_\_\_\_\_
26. READ: Data Sheet #2842, the section “Eagles” and the Summary. \_\_\_\_\_
27. DEMONSTRATE: Look up eagles in a guide book and look at the pictures. Notice how they are alike and how they are different. \_\_\_\_\_
28. DEMONSTRATE: Get an old quarter or old half dollar coin. Look at the back and see if it has an eagle on it. \_\_\_\_\_
29. ESSAY: Tell what hunting birds hunt and what makes them different. \_\_\_\_\_
30. DEMONSTRATE: Look up at least ten other different kinds of birds in your guide book that were not included in Data Sheet #2842. Some that you might find are swallows, thrushes, loons, petrels, cormorants, herons, plovers, sandpipers, terns, falcons, swifts, kingfishers, flycatchers, nuthatches, vireos, warblers, tanagers, juncos, meadowlarks, blackbirds, vultures and condors. Particularly look for birds that might be common in your area. Make a list of the birds you pick and write something about each one that tells how it is different from other birds. Count each bird as a separate demonstration. Turn what you wrote in to your supervisor. **Supervisor pass.** \_\_\_\_\_
31. DEMONSTRATE: Pick your five favorite birds of all the birds you have studied. Draw a picture of each one. Try to make your pictures show what makes each one special. Count each picture as a separate demo. Save your pictures for the next step. \_\_\_\_\_
32. ESSAY: Write a short essay about each bird you drew. Tell why you picked it and some things you were interested in about it. Also tell where it lives and what it eats, and what it is doing in your picture. Turn your drawings in with your essays. \_\_\_\_\_

33. PRACTICAL APPLICATION: Look through some magazines on birds or wildlife. Look for pictures of birds. See if you can name each kind of bird that you see. \_\_\_\_\_

34. DRILL: Have your supervisor or someone who has done this course show you ten or more pictures of birds in your guide book, and you tell what bird it is without looking at the name. The drill is passed when you can name ten different ones of the kinds of birds you studied in Data Sheet #2842 Different Kinds of Birds, quickly and easily. \_\_\_\_\_

### C. BIRDS IN THE WORLD

1. READ: Data Sheet #2844 Living with Birds. \_\_\_\_\_

2. ESSAY: Tell what scavenger birds are and how they are different. \_\_\_\_\_

3. DEMONSTRATE USING CLAY: Three ways that birds and people affect each other. \_\_\_\_\_

4. ESSAY: Imagine what the world would be like if there were no birds in it. Write an essay telling what you think it would be like. Decide whether it is good to have birds in the world, and tell what you decided and why you decided that in your essay. \_\_\_\_\_

5. PRACTICAL APPLICATION: Completion of projects from Part A, step 17. Write a report on each project telling what you did and what you learned about birds from doing it. If one of your projects isn't done when you get to this point, write a report saying what you have done so far and when you expect to finish the project. Turn your reports in to your supervisor. Your supervisor will decide if it is okay to sign off this step before the last project is finished. (You must complete at least two of the projects to complete the course.)

**Supervisor pass.** \_\_\_\_\_

I have done all the steps of this course. I understand what I studied. I can use what I studied.

Student \_\_\_\_\_ Date \_\_\_\_\_

The student has completed the steps of this course and knows and can use what was studied.

Supervisor \_\_\_\_\_ Date \_\_\_\_\_

This student has passed the exam for this course.

Examiner \_\_\_\_\_ Date \_\_\_\_\_

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