

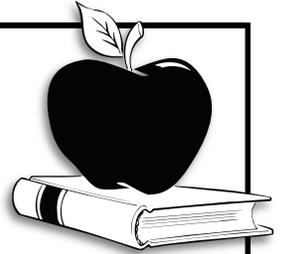
SUGGESTED GRADE LEVELS: 3 - 4

NEXT GENERATION SCIENCE STANDARDS:  
3-LS4-2, 4-LS1-1

SKILLS/PROCESSES: observation, classification, data collection, writing

OBJECTIVE: Students will distinguish the major classifications of birds and the characteristics of related birds.

# TEACHER'S GUIDE



## UNIT 1 ■ LESSON 3

# Birds of a Feather

### BACKGROUND

Scientists use **keys** to classify relationships of birds. Keys list **primitive** birds first and the more advanced birds, requiring more steps to identify, later in the key. Birds that have similar characteristics are placed together in a category known as a "family." The major families of birds common to Illinois are listed below in order from the least to most advanced.



#### heron, bittern

These large, fish-eating birds wade rather than swim.



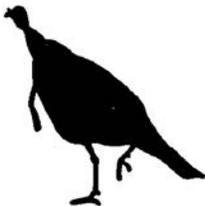
#### duck, goose, swan

These birds are common to wet areas and usually have webbed feet. Their eggs are not spotted.



#### hawk

Hawks are **diurnal** (day) birds of prey.



#### pheasant, turkey

Birds in this family have relatively short, rounded wings, are more apt to walk than fly and are year-round residents.



#### owl

Most owls are **nocturnal** (night) birds of prey. Their feathers are modified to allow them to fly quietly, and their eyes are adapted for ability to judge distances.



#### pigeon

Birds in this family have a plump body, small head and small beak. Pigeons are known for their "homing" ability.



#### cuckoo

Cuckoos have short legs with two toes forward and two back. Their bill is heavy and curved.



#### nighthawk

Having a weak bill and a large mouth, nighthawks feed at night by sweeping insects out of the air as they fly.



#### hummingbird

Birds in this family are small and have a long, thin bill. They can hover when feeding.



#### kingfisher

The kingfisher has a large head and bill. It feeds by diving into water to catch fishes.



#### woodpecker

These birds drill into trees searching for insects. They have two toes pointing forward and two backward.



#### flycatcher

These birds perch upright while waiting for insects, which they catch in flight. Their flat bill has bristles at the base.

## PROJECTS AND ACTIVITIES

1. Have students develop a key of classmates using characteristics such as boys/girls, color of hair, length of hair, color of eyes, hometown and does/doesn't have a dog. Ask the principal to come into the class and, using the key, locate one particular student.
2. Conduct a visual exercise to compare and contrast two birds. Using two, slightly overlapping circles, note shared features in the overlapping section and unique features of each bird in the remaining portions of the circles (see Example 1).
3. Use the *Illinois' Natural Resources Trading Cards* from the Illinois Department of Natural Resources to find bird species to represent each family. What are the features common to birds in each family?

2. Have students list five traits used in the classification of birds and give some variations in each trait.

## EXTENSION

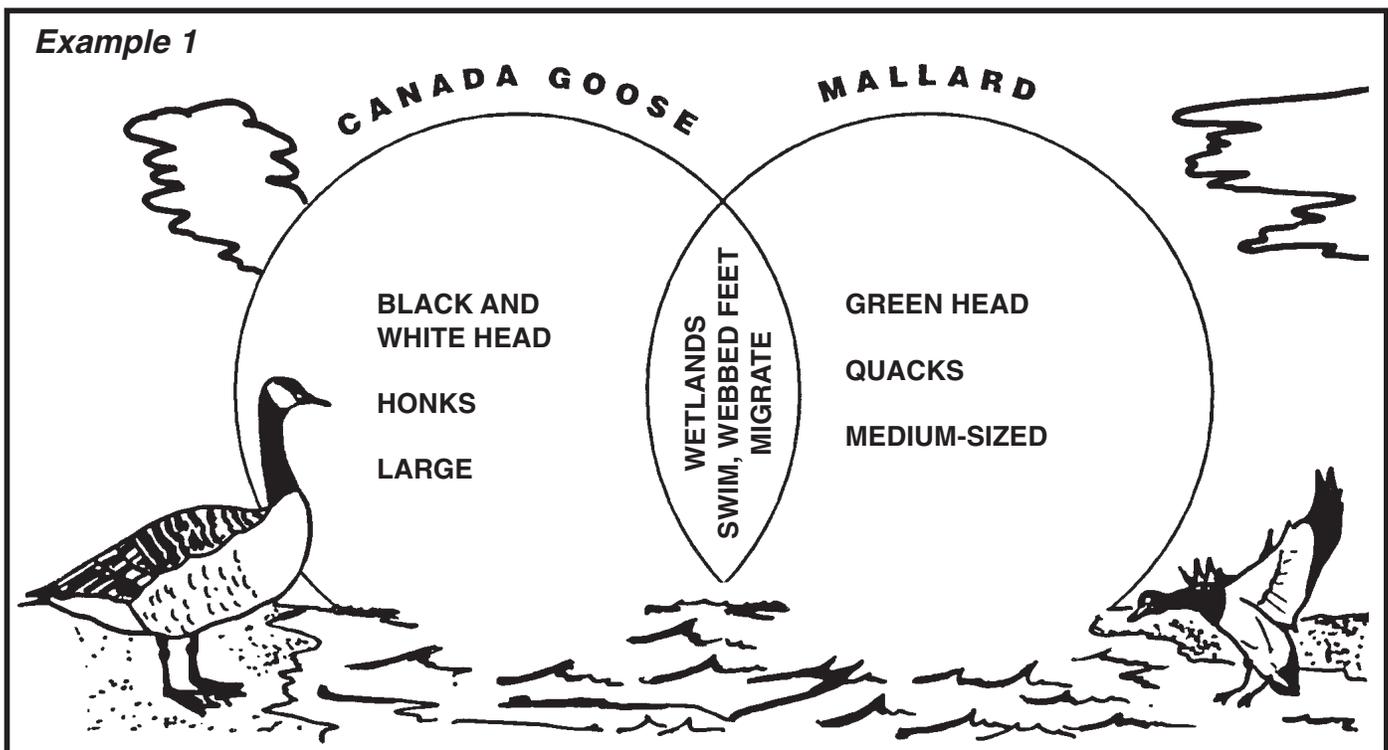
- Using **field guides**, show how birds are placed into families based on physical characteristics. The most "primitive" birds are depicted first in the books. Ducks are more primitive than owls, and owls are more primitive than sparrows.

## EVALUATION

1. Have students classify into families the bird species commonly seen on the school grounds or in a local park. Discuss similarities and differences of the birds, such as habitat needs and how they obtain food.

### VOCABULARY

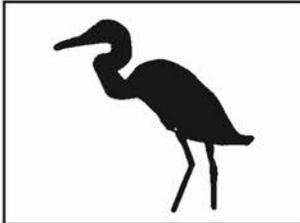
characteristics	nocturnal
classification	prey
diurnal	primitive
field guide	scientists
key	



# Birds of a Feather

# STUDENT'S GUIDE

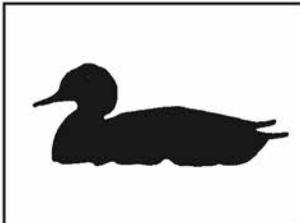
Birds that have similar characteristics are placed in a category known as a "family." The major families of birds common to Illinois are listed below.



**heron**  
large body; eat fishes; wade rather than swim



**cuckoo**  
heavy, curved bill; two toes face forward and two toes face backward



**duck, goose, swan**  
live in wet areas; usually have webbed feet



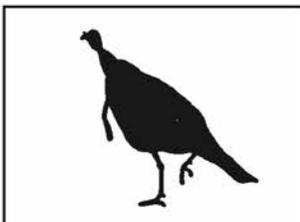
**nighthawks**  
fly at night to feed by sweeping insects out of the air; weak bill; large mouth



**hawk**  
diurnal (active during the day); catch prey to eat



**hummingbird**  
small body; very long, thin bill; hover when feeding



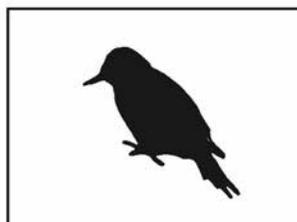
**pheasant, turkey**  
relatively short, rounded wings; more likely to walk than fly



**kingfisher**  
large bill; dive into water to catch fishes; large head



**owl**  
nocturnal (active at night); catch prey to eat



**woodpecker**  
strong beak is used to drill into trees for insects; two toes point forward and two backward



**pigeon**  
plump body; small head; small beak; known for "homing" ability



**flycatcher**  
flat bill with bristles at base; catch insects while flying

# ACTIVITY PAGE

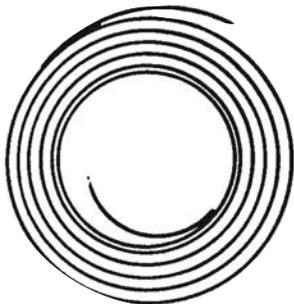
## Make Your Own Bird!

Have you ever noticed the variety of birds? Imagine that you can create a new variety of bird. What would you make?



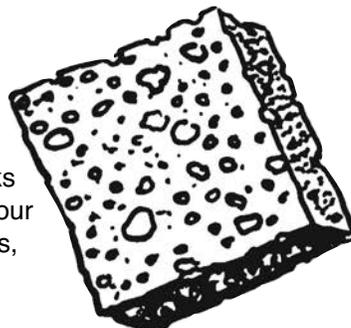
First, decide what kind of habitat your bird will live in. Be creative and think of an interesting environment.

Second, collect some materials to make a model or illustration of your bird. You can use string, paints, block prints, sponges, wire or anything else. Use your imagination.



Third, explain how your bird has adapted to its environment. What makes its bill, feet or color special?

Finally, fill in the answer to the blanks as you document your bird's characteristics, habits and habitat.



BIRD NAME:

BIRD SIZE:

BIRD COLORS:

FAVORITE FOODS:

AREA WEATHER:

HABITAT CHARACTERISTICS:

NESTING MATERIALS:

PREDATOR PROTECTION:

OTHER UNIQUE CHARACTERISTICS  
(BILL AND FEET):