

ADAPTATION ARTISTRY

OBJECTIVES

Students will : 1) identify and describe the advantages of bird adaptations; and 2) evaluate the importance of adaptations to birds.

METHOD

Students design and create imaginary birds, and write reports including descriptions of the birds' adaptations.

BACKGROUND

Birds have a variety of adaptations—including characteristics of beaks, feet, legs, wings and coloration. These adaptations have evolved so that the bird is better suited to its environment and lifestyle. A variety of major adaptations are listed on the next page.

The major purpose of this activity is for students to realize that there are advantages for birds in looking how they do, recognizing some of the ways in which birds are physically adapted to their environments.

MATERIALS

drawing, painting, clay sculpture or papier maché materials; construction paper and glue; pencil and paper

PROCEDURE

1. Discuss with the students the various adaptations given in the background section of this activity, listing the charts on a chalkboard for reference by the students. Or, brainstorm a list of bird characteristics,

Age: Grades 4-9

Subjects: Science, Art, Language Arts

Skills: analysis, application of concepts, description, discussion, drawing, invention, media construction, observation, problem solving, reporting, synthesis, writing

Duration: one or two 45-minute periods

Group Size: any

Setting: indoors (outdoors optional)

Conceptual Framework Reference: III.D., III.D.1., III.D.2.

Key Vocabulary: adaptation

Appendices: None



name the birds with such characteristics, and describe the advantage of the adaptation represented by the characteristic.

2. Tell the students they will each have a chance to design their own original bird—one well adapted to its habitat. Each student should decide:

- where the bird will live
- what it will eat
- its type of mobility
- its sex

3. Based on these choices, the students will decide the adaptations that are necessary for their bird, and write them down before proceeding further.

4. Using their list of adaptations, each student will create his or her own original bird; for example, by drawing or sculpting it.

5. In conjunction with each drawing or sculpture, each student should write a short report which includes the name of the bird and its food sources, habitat and lifestyle. Students should also include their lists of adaptations, the reasons for the adaptations, and the advantages provided by the adaptations.

6. Completed projects may either be submitted to the teacher, presented to the class, or displayed in the classroom.

7. OPTIONAL: Go outside and identify adaptations on real birds!

Adaptation	Bird	Advantage	Adaptation	Bird	Advantage		
Beaks	pouch-like long, thin	pelican avocet can hold fish, a food source can probe shallow water and mud for insects, a food source	Legs	flexor tendons long, powerful	chicken ostrich aid in perching, grasping aids running, transportation		
	pointed	wood-pecker can break and probe bark of trees, for insects, a food source		long, slender powerful muscles	heron, crane eagle, hawk aids wading, transportation aids lifting, carrying prey, transportation		
	curved	hawk can tear solid tissue, like meat, a food source		Wings	large	eagle aids flying with prey, soaring while hunting	
	short, stout	finches can crack seeds and nuts, a food source			Color-ation	bright plumage	male birds attraction in courtship, mating rituals
	slender, long	humming-bird can probe flowers for nectar, a food source					female birds aids in camouflage while nesting, protection in shelter
Feet	webbed	duck aids in walking on mud, transportation	change of plumage with seasons	owl ptarmigan provides camouflage protection (brown in summer, white in winter), protection in shelter			
	long toes	crane, heron aids in walking on mud, transportation					
	clawed	hawk, eagle can grasp food when hunting prey					
	grasping	chicken aids in sitting on branches, roosting, protection					

EXTENSIONS

1. Make mobiles of the completed birds.
2. Prepare a slide presentation on an overhead projector showing different types of bird adaptations.
3. The teacher could give the students examples of bird adaptations on the overhead projector or a ditto sheet and the student could explain the reasons for these adaptations.
4. Collect pictures of birds to develop a bulletin board showing some of the adaptations discussed. Look for pictures showing bird parts compatible with the "invented" birds. Display the invented birds. Use the bulletin board during parent conferences.

EVALUATION

Name two bird adaptations for each of the following body parts, listing their advantages: beaks, feet, leg, wings, color.