***Animal Diversity, 8e* (Hickman)**

**Chapter 19 Birds**

1) In order to fly, birds must have which of the following adaptation(s)?

A) A lightweight skeleton.

B) A highly efficient respiratory system.

C) A high-pressure circulatory system.

D) Well-developed nervous and sensory systems.

E) All of the choices are correct.

Answer: E

Section: 19.02

Topic: Structural and Functional Adaptations for Flight

Learning Objective: 19.02 Identify how the feathers and organ systems of birds are adapted for flight.

Bloom's: 2. Understand

Gradable: automatic

2) *Archaeopteryx* is

A) an extinct "bird-like" dinosaur.

B) an insect-eating bird that is rare in the United States but somewhat common in South America.

C) the most primitive of the living birds.

D) a primitive therapsid from which birds eventually evolved.

E) a hoax made to resemble an intermediate between reptiles and birds.

Answer: A

Section: 19.01

Topic: Origin and Relationships

Learning Objective: 19.01 Describe the early evolution of birds.

Bloom's: 1. Remember

Gradable: automatic

5) Bird species outnumber species in all other vertebrate groups except the

A) mammals.

B) reptiles.

C) amphibians.

D) fishes.

Answer: D

Section: 19.01

Topic: Origin and Relationships

Learning Objective: 19.01 Describe the early evolution of birds.

Bloom's: 1. Remember

Gradable: automatic

6) Evidence indicates that birds are the sister group of the

A) pterosaurs.

B) theropod dinosaurs.

C) therapsid reptiles.

D) stem diapsids.

E) anaspids.

Answer: B

Section: 19.01

Topic: Origin and Relationships

Learning Objective: 19.01 Describe the early evolution of birds.

Bloom's: 1. Remember

Gradable: automatic

7) Flightless birds

A) have evolved mostly on islands without predators.

B) include the ratite or paleognathous birds.

C) have appeared independently in many different groups of birds.

D) tend to become large.

E) All of the choices are correct.

Answer: E

Section: 19.01

Topic: Origin and Relationships

Learning Objective: 19.01 Describe the early evolution of birds.

Bloom's: 2. Understand

Gradable: automatic

8) Birds fly through the air at relatively high speeds. This is possible in part because they have

A) a crop and gizzard.

B) highly sensitive sensory systems.

C) less power per unit weight.

D) the ability to store large amounts of water.

E) All of the choices are correct.

Answer: B

Section: 19.02

Topic: Structural and Functional Adaptations for Flight

Learning Objective: 19.02 Identify how the feathers and organ systems of birds are adapted for flight.

Bloom's: 2. Understand

Gradable: automatic

10) What permits the feather to "zip" and "unzip"?

A) The cohesive force of water molecules.

B) Barbules and hooks.

C) Oil from skin glands sticks the vanes together.

D) Magnetic attraction due to charges built up from the feathers rubbing against each other.

E) Bird saliva acting as a temporary glue.

Answer: B

Section: 19.02

Topic: Structural and Functional Adaptations for Flight

Learning Objective: 19.02 Identify how the feathers and organ systems of birds are adapted for flight.

Bloom's: 1. Remember

Gradable: automatic

13) The vertebral column of a bird has been modified so it is

A) much longer and more flexible.

B) springy and elastic to store energy for flight.

C) rigid with many vertebrae fused together.

D) broad to assist in aerodynamic lift.

E) no longer connected to the ribs.

Answer: C

Section: 19.02

Topic: Structural and Functional Adaptations for Flight

Learning Objective: 19.02 Identify how the feathers and organ systems of birds are adapted for flight.

Bloom's: 1. Remember

Gradable: automatic

15) Where would you locate the Supracoracoideus and pectoralis muscles of a bird?

A) In the neck controlling the voice box.

B) Anchoring a perching bird's feet.

C) In the breast, where they control both upstroke and downstroke of the wing.

D) In the wing itself, running along the wing bones.

Answer: C

Section: 19.02

Topic: Structural and Functional Adaptations for Flight

Learning Objective: 19.02 Identify how the feathers and organ systems of birds are adapted for flight.; 19.03 Explain how birds generate lift and thrust to fly.

Bloom's: 1. Remember

Gradable: automatic

18) The digestive system contributes to the success of birds as flying animals because

A) it is long.

B) the crop can store huge quantities of food.

C) it digests food quickly.

D) it is penetrated by air sacs.

E) it has a high sense of taste to reject toxic foods.

Answer: C

Section: 19.02

Topic: Structural and Functional Adaptations for Flight

Learning Objective: 19.02 Identify how the feathers and organ systems of birds are adapted for flight.

Bloom's: 1. Remember

Gradable: automatic

19) We don't see a crop and gizzard in many vertebrates; why do we see them in most birds?

A) Birds are more closely related to earthworms than we are and therefore did not lose this structure.

B) Any animal that eats earthworms and insects needs these organs.

C) Birds lack hands and teeth to reduce the size of food, and they need to gather food fast to avoid predators and competition.

D) The bird "crop" and "gizzard" are really just names for the stomach and intestine and therefore other vertebrates actually have them.

E) None of the choices are correct.

Answer: C

Section: 19.02

Topic: Structural and Functional Adaptations for Flight

Learning Objective: 19.02 Identify how the feathers and organ systems of birds are adapted for flight.

Bloom's: 3. Apply

Gradable: automatic

20) Birds have what type of red blood cells?

A) Like mammals, birds have enucleated, biconcave erythrocytes.

B) Unlike mammals, birds have nucleated, biconcave erythrocytes.

C) Unlike mammals, birds have nucleated, biconvex erythrocytes.

D) Unlike mammals, birds have enucleated, biconvex erythrocytes.

Answer: C

Section: 19.02

Topic: Structural and Functional Adaptations for Flight

Learning Objective: 19.02 Identify how the feathers and organ systems of birds are adapted for flight.

Bloom's: 1. Remember

Gradable: automatic

27) An example of a bird with high-lift wings is

A) a humming bird.

B) a woodpecker.

C) a hawk.

D) an albatross.

E) All of the choices are correct.

Answer: C

Section: 19.03

Topic: Flight

Learning Objective: 19.03 Explain how birds generate lift and thrust to fly.

Bloom's: 2. Understand

Gradable: automatic

29) Newly hatched birds that lack down and are nest-bound, unable to feed on their own, such as with baby wrens or robins, are

A) derived.

B) carinate.

C) precocial.

D) altricial.

E) ratites.

Answer: D

Section: 19.05

Topic: Social Behavior and Reproduction

Learning Objective: 19.05 Describe different mating systems of birds.

Bloom's: 1. Remember

Gradable: automatic

33) The one unique feature that separates living species of birds from other animals is \_\_\_\_\_\_\_\_.

Answer: feathers

Section: 19.02

Topic: Structural and Functional Adaptations for Flight

Learning Objective: 19.02 Identify how the feathers and organ systems of birds are adapted for flight.

Bloom's: 1. Remember

Gradable: automatic

35) The seasonal loss of bird feathers is \_\_\_\_\_\_\_\_.

Answer: molting

Section: 19.02

Topic: Structural and Functional Adaptations for Flight

Learning Objective: 19.02 Identify how the feathers and organ systems of birds are adapted for flight.

Bloom's: 1. Remember

Gradable: automatic

36) The large breast muscle that depresses the wing during flight is the \_\_\_\_\_\_\_\_\_\_muscle.

Answer: pectoralis

Section: 19.02

Topic: Structural and Functional Adaptations for Flight

Learning Objective: 19.02 Identify how the feathers and organ systems of birds are adapted for flight.

Bloom's: 1. Remember

Gradable: automatic

38) The enlargement at the lower end of the esophagus that serves as a food storage chamber in birds is called the \_\_\_\_\_\_\_\_.

Answer: crop

Section: 19.02

Topic: Structural and Functional Adaptations for Flight

Learning Objective: 19.02 Identify how the feathers and organ systems of birds are adapted for flight.

Bloom's: 1. Remember

Gradable: automatic

39) The stomach of a bird is comprised of the enzyme-secreting proventriculus and the muscular \_\_\_\_\_\_\_\_.

Answer: gizzard

Section: 19.02

Topic: Structural and Functional Adaptations for Flight

Learning Objective: 19.02 Identify how the feathers and organ systems of birds are adapted for flight.

Bloom's: 1. Remember

Gradable: automatic

42) The exchange region in the bird lung is the tube-like \_\_\_\_\_\_\_\_ through which air flows continuously.

Answer: parabronchi

Section: 19.02

Topic: Structural and Functional Adaptations for Flight

Learning Objective: 19.02 Identify how the feathers and organ systems of birds are adapted for flight.

Bloom's: 1. Remember

Gradable: automatic

43) A unique feature of the bird respiratory system is the extensive system of nine interconnecting \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_.

Answer: air sacs

Section: 19.02

Topic: Structural and Functional Adaptations for Flight

Learning Objective: 19.02 Identify how the feathers and organ systems of birds are adapted for flight.

Bloom's: 1. Remember

Gradable: automatic

44) The major nitrogenous waste excreted by the bird kidney is \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_.

Answer: uric acid

Section: 19.02

Topic: Structural and Functional Adaptations for Flight

Learning Objective: 19.02 Identify how the feathers and organ systems of birds are adapted for flight.

Bloom's: 1. Remember

Gradable: automatic

46) The common chamber that receives material from the digestive, excretory, and reproductive system is the \_\_\_\_\_\_\_\_.

Answer: cloaca

Section: 19.02

Topic: Structural and Functional Adaptations for Flight

Learning Objective: 19.02 Identify how the feathers and organ systems of birds are adapted for flight.

Bloom's: 1. Remember

Gradable: automatic

49) Predatory, land-soaring birds have wing types that are referred to as \_\_\_\_\_\_\_\_ wings.

Answer: high-lift

high lift

Section: 19.03

Topic: Flight

Learning Objective: 19.03 Explain how birds generate lift and thrust to fly.

Bloom's: 1. Remember

Gradable: automatic

53) The bird that makes the longest known migrations of any bird, between the Arctic and the Antarctic, is the \_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_.

Answer: Arctic tern

Section: 19.04

Topic: Migration and Navigation

Learning Objective: 19.04 Explain how birds navigate in migration and why migration might be beneficial.

Bloom's: 1. Remember

Gradable: automatic

54) More than 90% of all birds follow a type of mating system in which an individual mates with only one partner each breeding season, called \_\_\_\_\_\_\_\_.

Answer: monogamy

Section: 19.05

Topic: Social Behavior and Reproduction

Learning Objective: 19.05 Describe different mating systems of birds.

Bloom's: 1. Remember

Gradable: automatic

58) Why does it take two cycles of breathing to move a molecule in the air through this system? Trace the air flow through a bird from inhaling to exhaling, indicating where absorption of gases occurs.

Answer: Answers will vary.

Section: 19.02

Topic: Structural and Functional Adaptations for Flight

Learning Objective: 19.02 Identify how the feathers and organ systems of birds are adapted for flight.

Bloom's: 4. Analyze

Gradable: manual