BIRDS

Answer Key: Grades 7–8 Lesson Extensions

Notes:

- This answer key should be used as a guide for basic responses to the questions and instructions found in the grades 7–8 lesson extensions. The child should be encouraged to make his or her science journal tidy, beautiful, and exceptionally well done.
- Encourage the child to write his or her answers in their own words, with definitions being a possible exception.
- There are two types of answers provided in this answer key:

  Sample answers: Most questions are open-ended, so the child's answers will not match the provided text exactly or include everything provided in the sample answer. However, some answers should match more closely (for example, vocabulary word definitions, copied charts, etc.).

  Answers will vary: This is used when there will be great variation in the child's answers, which may be due in part to a lesson having more information provided than another lesson. Refer to the text in the lesson to check these answers.

Lesson 1

1. In your science journal, describe the different types of bird plumage and the purpose of each one.

Sample answers:

natal plumage—on hatchlings; plain and subdued in color; provides insulation and camouflage

juvenile plumage—as the bird grows; may have some color, but is still relatively plain to provide camouflage

mature plumage—adult patterning and coloration we are accustomed to seeing

breeding plumage—vibrant and colorful patterns typically worn by males; attracts mate

2. In your science journal, explain how and why a bird's plumage changes color.

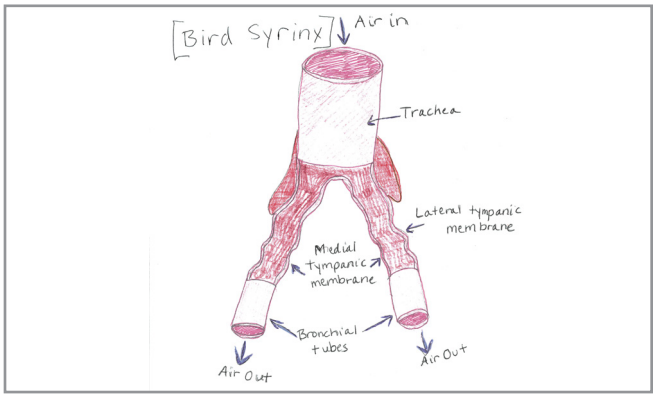
Sample answer:

Feathers are much like our hair or fingernails and are made of the same keratin substance. Feathers are "dead," meaning they cannot heal themselves or change in any way. Birds undergo a molting process—a feather falls out and is replaced by a new one. This process can completely replace all feathers, partially replace a few damaged feathers, or replace one area of the plumage. A bird's feathers may come in with different colors depending on the bird's stage of life. Some birds' feathers change with the seasons to help them blend in. Muted colors help protect the bird, while bold colors help in mating rituals.

Lesson 2

1. Draw a diagram of a syrinx in your science journal.

Sample image:



2. In your science journal, describe the sounds of the birds you hear.

Answers will vary.

Lesson 3

1. In your science journal, name and describe the function of the six types of feathers.

Sample answers:

a. contour feathers: give birds their streamlined shape; provide wind protection and a watertight layer; aid in propulsion, lift, steering, braking, and balance

b. semiplume feathers: aid in insulation

c. down: aids in insulation by trapping warm air, especially in chicks; may be plucked and used in nests to insulate eggs

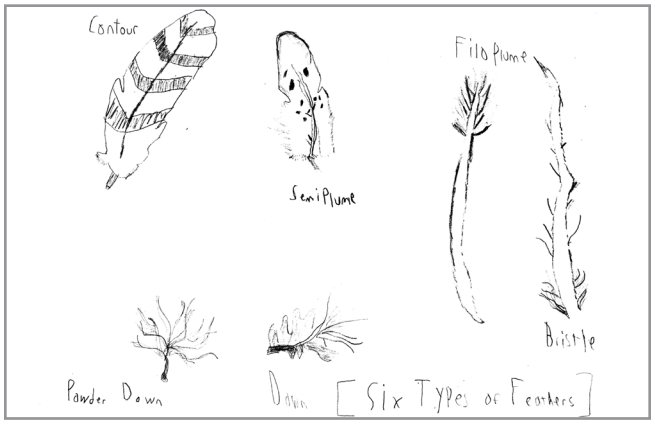
d. powder down: aids in insulation; found only on some birds; grows continuously and does not molt; disintegrates into powder at the tips

e. filoplumes: most numerous near flight feathers; associated with nerves in the skin; help birds sense when other feathers are not correctly aligned so birds will preen and fix them, which in turn helps the birds fly or swim more aerodynamically

f. bristle feathers: found only on a select number of species; found around the mouth, eyes, or neck of the bird and act as dust filters or eyelashes

2. Optional: Draw an illustration of each of the six types of feathers.

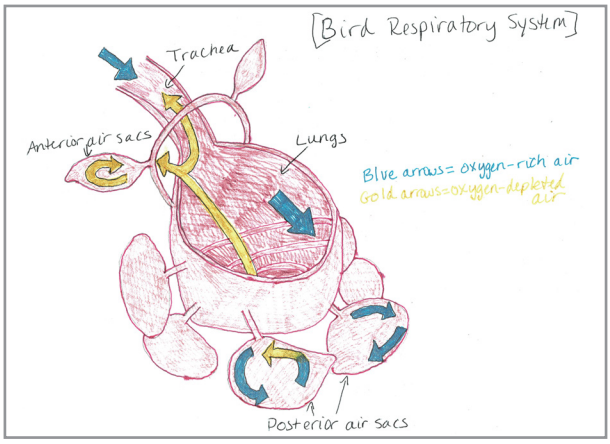
Sample image:



Lesson 4

2. In your science journal, draw a simple diagram of a bird's trachea, lungs, and air sacs, and label it with the steps of a breath of air.

Sample image (see next column):



Lesson 5

1. In your science journal, summarize the different ways that birds attract a mate.

Sample answers:

—show off their plumage
—draw attention to their body shape or special features
—sing songs ranging in complexity from simple to intricate
—perform dances alone, as a pair, or in a group
—offer to feed potential mate
—initiate preening of potential mate
—build a nest for potential family

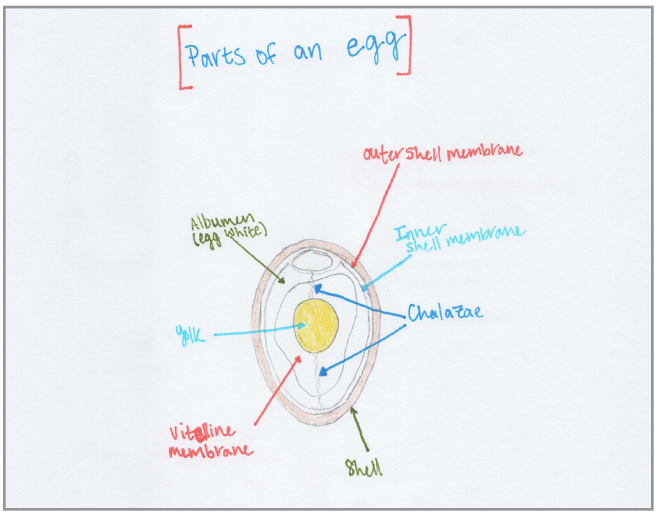
2. Teach a family member or peer what you learned in this lesson.

Answers will vary.

Lesson 6

1. In your science journal, draw and label the parts of an egg.

Sample image:



Lesson 7

1. Using a computer (with a parent's permission) or other resources, research the territorial behavior of one of the following birds: northern cardinal, wood thrush, European robin, house sparrow, mute swan.

Sample answers:

a. northern cardinal: fiercely defends territory from other males and will even fight its own reflection

b. wood thrush: defends territory by singing

c. European robin: attacks other robins that come into its territory; may attack other small birds without obvious provocation

d. house sparrow: pairs defend small area around nest

e. mute swan: uses threat posture (raised wings and back feathers) to scare away intruders

2. In your science journal, write 3–5 interesting facts you learned about how your chosen bird claims and defends territory.

Answers will vary based on the bird chosen.

Lesson 8

2. In your science journal, write a paragraph describing the importance of scavengers, especially vultures, to the ecosystem.

Sample answer:

We need vultures! By eating dead animals and diseased wildlife, vultures slow the spread of disease caused by rotting flesh, and they help return nutrients to the ecosystem more quickly to help grow new plants.

Lesson 9

1. Write a short paragraph in your science journal about why so many bird species are found in wetlands.

Sample answer:

Wetlands attract many bird species, including herons, egrets, and birds of prey. Herons do not have many natural predators, and they are able to live on the abundant fish present in the wetlands. Birds of prey eat the wide variety of fish, reptiles, and amphibians that can be found in and around the water. Migratory species, such as egrets, use wetlands as resting points along their journey. Finally, the landscape of the wetlands provides many nesting sites for birds such as ducks, geese, and swans, as well as predatory birds.

2. With a parent's permission, go online to research a wetland bird of your choice. In your journal write at least two interesting facts about that bird.

Answers will vary based on the bird chosen.

Lesson 10

2. In your science journal, explain why grooming and preening are important to the health of a bird.

Sample answer:

Birds use grooming techniques for a few functions. They take water baths to cool down because they are not able to sweat like other animals. If water isn't as available, birds use dust instead. Dust baths help remove mites and regulate the birds' ability to produce the right amount of oil on their feathers. Birds also do something called preening, which is when they stretch out their wings and use their bills to release and distribute oil from the uropygial gland at the base of the rump onto the feathers. This keeps the feathers flexible, waterproof, and aerodynamic and removes parasites and lice that carry disease and ruin feathers.

Lesson 11

2. With a parent's permission, further research the kiwi bird and answer the following questions in your science journal:

a. What is the average temperature of a kiwi bird, and how does this compare to other birds?

Sample answer:

The average temperature of a kiwi bird is 38 °C (100 °F). This is lower than other birds and is closer to that of some mammals' average body temperatures.

b. Where does the kiwi bird get its name from?

Sample answer:

The kiwi bird might have been named after its call by the indigenous people of New Zealand, or by the Polynesian people after a bird that looks similar.

Lesson 12

No answers required.

Lesson 13

1. In your science journal, explain the differences between a non-native species and an invasive species.

Sample answer:

Non-native species of birds are birds found in locations throughout the world where one could not naturally find them. Some non-native species have been imported by humans for pest control, and some have been brought to a location to be used as exotic pets. Not all non-native species of birds are invasive. Invasive species of birds might bring diseases that are new to the native species. Invasive species can cause native species to leave the area because they are competing for nesting sites, which causes the native species not to be able to reproduce as easily. Invasive species of birds also eat the local food sources, damage crops, and leave little for the native species, which affects the ecosystem of the area.

2. In your science journal, explain at least two reasons why invasive species need to be controlled.

Sample answer:

Invasive species of birds need to be controlled because they can cause the native birds to leave the area, and they can affect the native birds' ability to eat, nest, and reproduce. Invasive species of birds can also carry diseases to birds and humans, cause crop damage, cause other animals in an ecosystem to die off, or even knock down power lines or cause plane crashes.

Lesson 14

1. Look up two of the birds mentioned on this page using a field guide or a computer (with a parent's permission).

2. In your science journal, compare and contrast the two birds, making sure to include at least one similarity and at least one difference.

Answers will vary based on the two birds chosen.

