

REPTILES, AMPHIBIANS, AND FISH

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 his or her 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

2. *On the back of the second page of this extension, summarize how each group of animals takes in oxygen, noting the similarities and differences among each.*

Sample answers:

Reptiles usually breathe using lungs, but sometimes they breathe like amphibians do, using their skin.

Most fish use gills instead of lungs or their skin to breathe. Gills help them absorb oxygen from the water that surrounds them. Then the oxygen diffuses into the fish’s blood. Some fish breathe differently, using both lungs and gills.

Amphibians breathe in many ways, and this may depend on their current stage of life. All amphibians breathe using their skin. Some also have gills or lungs.

3. *Look at the animals pictured under the “Lungs, Gills, or Skin?” heading and write beneath each image whether they are likely to use lungs, gills, or skin to breathe.*

Sample answers:

- A. lungs
- B. lungs and gills
- C. skin and gills
- D. skin

Lesson 2

2. *In your student journal, list the parts of the turtle shell and give a brief description of each part’s form and function.*

Sample answers:

Scutes—These make up the top layer of the shell, are a little bit flexible, and help protect the carapace.

Epithelium—The epithelium lies just under the top layer and creates new scutes.

Carapace—The carapace is the hard part of a turtle shell and is made up of bones. It protects the ribs and backbone of the turtle.

Plastron—This is the underside of the turtle, and it is made of bones. It holds up the carapace and in some turtle families is hinged, allowing those turtles to pull their heads and legs inside and seal off the openings.

Bridge—The bridge has two parts, the anterior bridge strut and the posterior bridge strut, and it connects the carapace and the plastron.

Lesson 3

1. Read the following information. Summarize the interesting behavior of python mothers in your student journal.

Sample answer:

Python mothers brood like chickens and turkeys do, which is unusual for snakes. The mother lays her eggs, then brings them together into a group. Then she wraps her body around the eggs to hide them and keep them warm. She protects them so well that she will not even leave for food or water. The mother stays with the baby snakes for a little while after they hatch. Then she leaves them to take care of themselves.

2. With permission, research to discover another reptile or amphibian that shows maternal behaviors. Take notes in your student journal. Share what you've learned with a family member or friend.

Answers will vary.

Lesson 4

2. If you were a scientist in a laboratory studying the effects of exendin-4 on patients with diabetes and Parkinson's disease, what questions would you want to answer with your research? In your student journal, write these questions and some possible ways you could set up an experiment to test related hypotheses.

Answers will vary.

Lesson 5

No answers required.

Lesson 6

2. In your student journal, tell why island-endemic species are more susceptible to extinction.

Sample answer:

Animals that are island-endemic depend on the unique environments of their islands. If the specific foods and shelters found on the islands are destroyed, or if other species invade, it is easier for island-endemic animals to become extinct.

Lesson 7

2. In your student journal, create a compare-and-contrast chart, develop a Venn diagram, or write a few sentences comparing the processes the wood frog and water-holding frog go through in order to survive their extreme habitats.

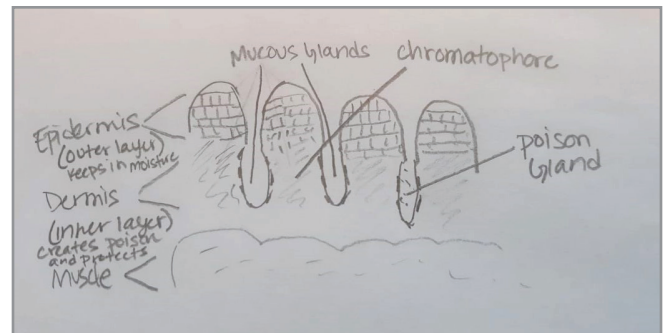
Sample answer:

To survive very cold environments, the wood frog hibernates under leaf litter. Its body then creates a substance that keeps it from freezing. Its internal organs also stop working until the frog thaws in warmer weather. The water-holding frog survives with no water by burrowing into sandy ground and surrounding itself with skin and mucus. Here, it uses water from inside its body for up to five years.

Lesson 8

2. In your student journal, sketch a diagram of the layers in frog skin and label the parts. Under each label, briefly describe its function.

Sample answer:



Muscle—makes movement possible

Mucous glands—hold and secrete mucus

Chromatophore—pigment cell that gives frogs color

Poison gland—makes poison that protects the frog

Lesson 9

1. Read the following article and, in your student journal, write your theory for the cause of the population decline of the southern dusky salamander.

Answers will vary.

2. What do you think can be done to protect southern dusky salamanders?

Answers will vary.

Lesson 10

2. In your student journal, write the definition of herpetology. Then write a short description of what career might interest you if you were to become a herpetologist.

Sample answer:

Herpetology is the scientific study of reptiles and amphibians.
 The remainder of the answer will vary.

Lesson 11

2. In your student journal, briefly explain in your own words how fish hear, adding any diagrams desired. Share what you learned with a friend or family member.

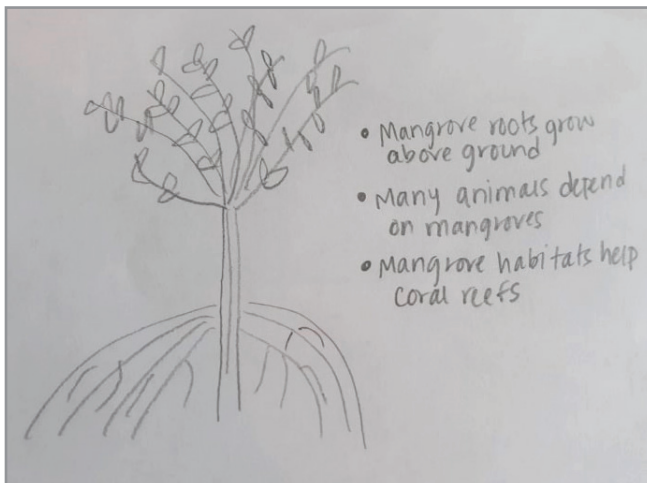
Sample answer:

Fish don't have outer ears like humans do, but they can still hear. They have inner ears that contain otoliths, which are made of calcium carbonate. Sound waves travel through these otoliths and then through little hairs called cilia that send information to the fish's brain.

Lesson 12

1. In your student journal, sketch a mangrove tree and write down at least three to five facts you learned from the following article.

Sample answer:



2. In your student journal, make a list of reasons why red mangrove forests should be preserved.

Sample answer:

- They create homes for many fish.
- They help land not to wash away.

- They provide resting places for birds.
- They are vital to the health of coral reefs.

Lesson 13

1. Read the information below, and then write one paragraph in your student journal about the features of a piranha that make it a unique fish.

Sample answer:

Piranhas are unique fish because they will eat just about anything they can find, including other animals. Some of them, though, eat mostly plants. They are native to South America, where they live in lakes and rivers. These fish have sharp teeth specifically for tearing up their food. These teeth are called tricuspid. Piranha jaws can bite with incredible force.

2. In your student journal, brainstorm about the impact on an ecosystem when a predatory species is introduced by human means. You may write or draw your theories, then discuss them with your parent or teacher.

Answers will vary.