

2018 Herpetology Answer Key:

Herpetology Answer Key ID Section (p1)

1. A
- 2a. Emydidae Malaclemys
- 2b. shrimp, clams, crabs, mussels and other marine invertebrates, periwinkle snails
- 2c. Atlantic and Gulf coasts of the United States, close to shore
- 3a. Testudines Testudinidae
- 3b. List available (common examples: Galapagos Giant Tortoise, Gopher tortoise, leopard tortoise, African Spurred Tortoise, Red-footed tortoise)
- 3c. grasses, weeds, leafy greens, flowers, and some fruits
- 4a. Squamata Helodermatidae
- 4b. State law in Arizona
- 4c. Southwestern United States and Mexico, a range including Sonora, Arizona, parts of California, Nevada, Utah, and New Mexico
- 5a. Anguidae Ophisaurus
- 5b. Arthropods, snails, smaller mammals
- 6a. Caudata (Urodela) Cryptobranchidae
- 6b. Their metamorphosis from the larval stage is incomplete
7. Caudata (Urodela) Ambystomatidae
8. Anura (Salientia) Scaphiopodidae
- 9a. Squamata Colubridae
- 9b. Worldwide except Antarctica, extremely high latitudes of Eurasia and North America, and central and western Australia
- 10a. Squamata Hydrophiidae
- 10b. paddle-like tails, laterally compressed bodies, eel-like appearance, no gills and must surface regularly to breathe
- 10c. warm tropical waters of the Indian Ocean and the western Pacific Ocean, into Oceania, east coast of Africa, northern coast of New Zealand, northern Peru in the south (including the Galápagos Islands) to the Gulf of California, as far north as San Clemente in the United States.

Herpetology Answer Key Station Section (p2)

Station 1

1. Chicken turtle
2. Chicken turtles were once found in the food markets of the southern United States for their meat. Their common name, "chicken" turtle, refers to their taste.
3. 20-24 years
4. Chicken turtles use their well-developed hyoid apparatus to create suction that pulls food items into their throat
5. Some possible answers: eastern moles, raccoons, snapping turtles

Station 2

1. Viperidae, Sistrurus
2. Wet areas including wet prairies, marshes and low areas along rivers and lakes, riverine bottomlands, floodplains, bogs, swamps
3. Heat sensitive pits near the snakes' eyes alert it to the presence of prey as well as its sight, feeling vibrations, and detecting odors
4. An area ranging from central New York to southern Ontario, southcentral Illinois, and eastern Iowa
5. Bear live young

Station 3

1. Box turtle
2. The bottom of the domed shell, or the plastron, is hinged at the bottom and can be closed tightly to keep predators out
3. The United States and Mexico
4. Possible answers: insects, slugs, cockroaches, crickets, worms, sometimes larger creatures like small rodents and birds, greens, lettuce, moss, grass, fruits, berries, fungus, mushrooms
5. Possible answers: automobile traffic, hibernation in the winter, being relocated by humans and not being able to find their home

Station 4

1. Caudata
2. The number of toes
3. Swamps, bayous, marshes, drainage ditches, streams,
4. Despite their aquatic lifestyle, they breathe air through lungs by periodically poking their nostrils above the surface of the water
5. They hide in vegetation during the day and become active hunters at night.

Station 5

1. Trionychidae
2. Approximately 25
3. Most species are primarily carnivorous, so the long neck allows them to ambush prey. It also helps them breathe and court mates.
4. Carnivores
5. It uses its long neck to breathe surface air, and the movements of the mouth cavity and throat can absorb oxygen.

Station 6

1. Possible answers:
 - The bones are connected by elastic ligaments that allow a lot of stretch
 - The joint of the upper and lower jaws is very far back in the skull which allows the mouth to open as wide as possible
 - The bones of the lower jaw are not fused together at the front and can move apart
 - The quadrate bone provides a double hinge at the joint and "walks" the prey into the mouth
 - The teeth are curved backwards to prevent live prey from wiggling loose

2. A type of system where blood from the animal's tail passes through the kidneys first before returning to the general body circulation
3. Thyroid gland
4. Heart
5. Cloaca

Station 7

1. Sirenidae; Definitions that follow along the line of the following are accepted: Expressing juvenile or larval characteristics at an adult stage.
2. Possible Answers:
 - Non-pedicellate teeth
 - No pelvic girdle
 - No maxillary or pre-maxillary teeth
 - Maxillae reduced to tiny free elements
3. Hindlimbs
4. Shallow waters in areas like swamps, lakes, ponds, and ditches; coastal areas

Station 8

1. Answers
 - a. Predators are more likely to avoid the harmless species due to the similarities in coloring between the dangerous and harmful species. The coloring of the dangerous species serves as a warning sign to predators and the similar look causes predators to also avoid the harmless snake.
 - b. Batesian mimicry
 - c. Scarlet Kingsnake
2. Right
 - a. Elapidae
 - b. Pine and scrub oak sandhills; sometimes hardwood areas and pine flatwoods

Station 9:

1. Agkistrodon – copperhead
2. Viperidae
3. The venom causes red blood cells in its prey to break down. Thus subdued, the prey is easy for the snake to swallow whole.
 - a. Hemotoxic
4. Choice A: live birth

Station 10:

- A. Hemidactylium – four-toed salamanders
- B. Cnemidophorus – racerunners and whiptails
- C. Eumeces – skinks
- D. Sauromalus – chuckwalla
- E. Diadophis – ringneck snakes

- F. Acris – cricket frogs
- G. Chrysemys - painted turtles
- H. Deirochelys – chicken turtle

(D is first tiebreaker; H is second tiebreaker)