



Science Standards Correlation  
SC04-S4C1-01&06, SC04-S4C4-02, SC08-S4C4-01, 05&06, SC07-S3C1-01

## ***DESERT MUSEUM HERP HUNTER'S EXHIBIT GUIDE***

**Instructions:** As you tour the Desert Museum with your students, ask them the following questions at the corresponding exhibit. (See your self-guided visit tour map for exhibit locations.) Encourage students to read signs, make careful observations, and discuss their answers.

### **LIZARD ENCLOSURES (on front patio)**

**Locate and identify any lizards you can find.**

*Answers will vary; see labeled key on signs.*

**Describe what they are doing. How is this affecting their body temperature?**

*Answers will vary depending upon the temperature. Lizards basking in the sun are warming their bodies; those in the shade are cooling down.*

**If you can't find any lizards, explain why.**

*It's either too hot or too cold, and lizards are in rock crevices, shelters, or burrows.*

### **AQUATIC EXHIBIT (FISH & AMPHIBIANS)**

**Observe the leopard frog and woodhouse toad. Observe differences in their body forms and behavior. There are often leopard frog tadpoles in this exhibit; locate and observe them. Notice how they feed.**

*Frogs have longer legs, webbed hind feet, a more streamline body, and smoother skin than toads. Frogs spend more of their life in the water than toads and their long legs help them escape predators and swim. The tadpoles are constantly feeding on algae that they scrape off submerged rocks. Students may be able to observe various life stages.*

**Study the amphibian reproduction diorama. How is the respiratory system of a tadpole different from that of a frog? Name some predators of tadpoles or froglets.**

*Tadpoles have gills and obtain oxygen from the water, where as frogs have lungs and breathe air. Tadpoles and froglets have a high mortality rate and are preyed upon by garter snakes, bullfrogs, and the larva of predacious diving beetles, dragonflies, and giant waterbugs.*

**How are the life cycles of the spadefoot toad and leopard frog similar and different?**

*During mating, the male fertilizes the eggs as the female lays them. The eggs hatch into tadpoles, which undergo metamorphosis before developing into adults. It takes several*

*months for the leopard frog to go from egg to adult, where as it takes the spadefoots less than two weeks. Spadefoot toads are adapted to life in and around temporary pools, as thus, they must mature quicker before the pools dry. Leopard frogs are found in permanent waters.*

**Listen to the sounds of the toad chorus. What is the purpose of these calls?**

*To locate mates*

**What has happened to amphibian populations in recent times? What are some possible explanations?** (See “Vanishing Amphibians” sign)

*Since the 1970’s their populations have been declining worldwide. No one is certain why, however some possible explanations include: habitat destruction including draining riparian areas, water pollution, global warming, competition with non-native species, and possible natural causes.*

### **REPTILES & INVERTEBRATES**

**There is great diversity among the Sonoran Desert Region snake species. Have students observe the snakes and note differences in body form, behavior, and habitat.**

**Which snakes give birth to live young?**

*Rattlesnakes*

**Which snakes may eat other snakes?**

*Kingsnakes eat other snakes including small rattlesnakes.*

**Like the snakes, Sonoran Desert lizards are quite diverse in size, shape, behavior and diet. Have students observe the lizards and note these differences.**

**Locate the fringe-toed lizard. How is this lizard adapted to life in the sand dunes?**

*The fringe-toed lizard is active year round and burrows in sand to keep cool. Its ear flaps and overlapping eyelids help keep sand out and long fringed scales on its toes provide traction on sand. It is well-camouflaged with its light color and body patterns.*

### **EARTH SCIENCES**

**The first vertebrate animal found on land was an amphibian. Find the oldest fossil of an amphibian in this exhibit.**

*The oldest amphibian fossil is that of an ancient salamander. The first amphibians appeared about 400 million years ago.*

**Find the fossilized skeleton of the mesosaurus. When was this mesosaurus alive? How did this fossil help scientists prove that South America and Africa were once attached?**

*The mesosaurus lived about 270 million years ago. Fossils of this creature were found in South America and Africa. Since this creature couldn’t swim across the ocean, scientists use this and other evidence to deduce that both continents were attached*

during this time.

### **DESERT GRASSLANDS**

**Find and name Arizona's only endangered snake. Why is it endangered?**

*Desert-grassland massasauga. The destruction and degradation of grasslands due to agricultural expansion (which has eliminated some populations and threatens others), overgrazing, and other development activities, are the primary threats to these snakes. Mortality on roads and illegal collection are other contributing factors.*

**What is unique about the nose and defense strategies of the Mexican hognose snake?**

*At the tip of its nose, it has one specially adapted scale, shaped like a trowel with which it digs food (mainly toads and lizards) out of loose soil. When threatened by predators, this snake can flatten its head and neck while hissing and striking with either its head or tail. If that doesn't work, it will flop on its back and shake violently, sometimes covering itself with dirt, vomit, excrement, musk, or blood, then lies limp. Presumably, most predators are repulsed!*

**Move the model of a rattlesnake's rattle. Describe how it works.**

*The rattle is made up of keratin (like your fingernails) and the segments loosely interlock. When vibrated, their clashing creates sound.*

### **DESERT TORTOISE**

**What are some threats to the desert tortoise?**

*Threats include off road vehicles, road construction, housing and mining developments, livestock grazing, collecting for pets, raven predation on young hatchlings, malnutrition, respiratory diseases possibly introduced by people releasing captives, and habitat destruction.*

### **LIFE UNDERGROUND**

**Find and name the amphibians in this exhibit. Why do you think they are underground?**

*The tiger salamander and desert spadefoot are underground in order to maintain a safe and constant body temperature and keep moist. They avoid the heat of the summer and cold of the winter by remaining in their burrow. They are primarily active during the summer monsoons.*

**Which reptile has elliptical pupils? Why are they useful?**

*The western banded gecko. They help increase night vision.*

**What is commensalism and which snake in this exhibit practices it?**

*Commensalism is when there is a relationship between two organisms where one obtains benefits from the other without damaging or benefiting it. Night Snake*