



## **Animals of the Desert**

(NatureScope Discovering Deserts page 26-27)

### **Third Grade Core: Standard 2 Objective 2**

**Describe the interactions between living and nonliving things in a small environment.**

Teach a lesson on how animals adapt to scarce water supplies and heat in the desert (how temperature and low water affect animal survival).

Put students in groups of five or so and give them the list of ways animals adapt to dryness or heat—but only give them the bolded titles (handout for the students is below). Then, in their groups they can try to figure out what the title means, which animals would use this adaptation, and how the adaptation would help. Some are much easier than others! Pictures of animals that use these different adaptations are also provided.

### **Adapting to Dryness**

- 1. Drinking what you eat:** Some desert animals “drink” by eating juicy cactuses and other plants that contain a lot of water. And some animals—like snakes—get all the moisture they need from the mice and other small animals they eat.
  - a. Kangaroo rats
  - b. Pocket Mice
  - c. Jerboas
  - d. Pack rats
  - e. Snakes
- 2. Moving:** To get all the moisture they need, most of the bigger animals in the desert have to drink water. So in order to find ponds, rivers, and other sources of water, many types of large desert animals wander great distances. In the course of a year some Asian and African desert antelope and other desert animals may wander hundreds of miles, from water hole to water hole.
  - a. Desert antelope
  - b. Camels
- 3. Fog:** In some deserts the only source of water is the fog that rolls in from the coast. Some of the animals that live in these deserts have special ways of taking advantage of their foggy surroundings. For example, in the Namib, a fog desert in Africa, certain species of darkling beetles perch on the tops of dunes with their abdomens pointing upward. Fog moving in from the coast condenses on their cool bodies and trickles down into their mouths.
  - a. Darkling beetles
  - b. Snakes and lizards drink fog that condenses on their bodies
- 4. Sleeping:** Some desert animals can escape drought. They do this by “sleeping” through the dry times. Much the same way as some non-desert animals hibernate through the winter. This dry weather “sleep” is called *estivation*.
  - a. Spadefoot toads wait out dry periods in underground burrows for months or even years, covered with a jellylike substance that keeps them moist.

Vibrations caused by heavy raindrops hitting the ground wake up the toads. Then they quickly dig to the surface, find a mate, and lay eggs in the pools created by the rain!

5. **Kidney Power:** One of the ways animals can keep from drying out is by saving water that would otherwise be used to make wastes. For example, kangaroo rats have efficient kidneys that use as little water as possible to produce urine.
  - a. Kangaroo rats



### **Adapting to the Heat**

1. **Out of the Sun:** Many animals avoid the burning daytime heat by foraging at night (nocturnal). Others are active only in the cool morning and late afternoon. But in the middle of the day, when ground temperatures can rise to 190 degrees, most desert animals find a place to rest out of the scorching sun. Rodents, lizards, snakes, and insects have cool, humid burrows; dig down into the sand; or crawl under rocks. Other animals find shade under bushes and trees.
2. **Soaring:** Some birds soar high above the earth, where temperatures are much cooler.
  - a. Hawks
  - b. Eagles
  - c. Vultures
3. **Storing fat:** Fat layers keep heat from leaving the body—not an ideal situation for an animal that lives in a hot desert. To keep from retaining any more heat than they have to, a lot of desert animals concentrate fat supplies in certain areas. This strategy leaves them with plenty of fat-free areas to lose heat from.
  - a. Camel's hump
  - b. Fat-tailed gecko
4. **Big ears and long legs:** Oversized ears do more than pick up sound waves. They also help to cool their owners by radiating heat. Blood vessels in the ears are located just under the skin, and as air flows around them it cools the blood. The cooled blood helps to cool the body. (e.g. when you are hot, you don't curl up into a ball to cool off—you stretch out so more heat can be dissipated)
  - a. Jackrabbits
  - b. Jerboas
  - c. Desert Foxes
  - d. Camel (long legs)
  - e. Gazelle (long legs)

**Life in the Desert**  
**Adapting to Dryness and Heat**

1. **Drinking what you eat**

2. **Moving**

3. **Fog**

4. **Sleeping**

5. **Kidney Power**

6. **Out of the Sun**

7. **Soaring**

8. **Storing fat**

9. **Big legs and long ears**

Kangaroo Rat



Pocket Mouse





Jerboa





Pack Rat



Snake





Desert Antelope



Darkling Beetle











Lizard



Spadefoot Toad

Red-Tailed Hawk



Turkey Vulture





Fat-tailed Gecko







Desert Fox





