Plants and Animals of Red Rock Canyon

Background:
Red Rock Canyon NCA may seem rugged and desolate at first glance, but a closer look reveals an area teeming with flora and fauna. Over 600 different species of plants grow here, many of which are unique to the Mojave Desert. This variety, along with perennial water, provides animals an escape from the desert heat and aridity. There are 38 species of mammals, 44 species of reptiles and amphibians, and 170 species of birds that can be found at Red Rock Canyon NCA.

Due to the extreme conditions of the desert, everything that lives here has varying levels of adaptations to survive. The annual rainfall in Red Rock Canyon NCA is only 4-6 inches, and the combination of heat, wind, and low humidity can create the potential for up to eight times more water to evaporate from the land than falls. Different plants have adapted different ways to deal with this constant lack of water. Some plants, such as Joshua trees, send down long roots to tap water deep below the surface. Others, like cacti, have shallow root systems that stretch just below the desert surface to absorb as much of the water as possible when rain does come. Creosote, the most drought tolerant of our desert plants, has root systems that can spread for thirteen feet, as well as can survive for at least two years with no water at all by shedding its leaves and, if necessary, its branches. Many desert plants will grow and bloom only when there is sufficient moisture. Annual plants escape drought conditions by surviving as seeds, taking advantage of moisture during the rainy season to quickly germinate, grow, and reproduce. Dormant seeds may remain viable for years or decades.

In addition to the lack of water, the temperatures at Red Rock Canyon NCA can be extreme as well. In the summer, temperatures can reach over 110°F. Many desert plants, such as sage, have light-colored leaves that reflect sunlight and help them stay cool. Other adaptations can be seen in the leaf size and shape. Some desert plants, like the desert almond, have very small leaves that grow in overlapping patterns, shading themselves and reducing the exposure to the sun. Leaves can also be covered with fine hairs which help create an insulating layer of air around them. Spines, a very specialized leaf, function not only to protect the plant from being consumed, but can also help to shade their stems.

Many animals here also have physical adaptations that enable them to survive. Desert varieties of animals found elsewhere, like the black-tailed jackrabbit, have slight physical differences to aid them in this environment, such as smaller bodies and longer ears and other appendages. These physical changes increase surface area and maximize the cooling effect of air flowing over the animal's body. Another physical difference amongst desert animals is their paler color. These light colors reflect sunlight, reducing the heat the animal takes in from the environment, as well as help aid them from standing out to predators in their bright, pallid surroundings.

While the physical adaptations may make the abundance of animals here hard to see, animals also have many behavioral adaptations that further decrease the likelihood of viewing them. Many desert animals are nocturnal, coming out at night when temperatures are lower and humidity is higher. This allows them to lose less water through perspiration and breathing. Birds of prey in the desert will soar at high altitudes where temperatures can be 20 degrees cooler than the ground and where the high winds require less exertion to stay aloft. Many animals here also build burrows, holes in the ground that they use to protect themselves from the heat, aridity, and predators. Desert tortoises, for example, may spend as much as 95% of their life in their burrows.

Plants and Animals at Red Rock Canyon NCA:

Mammals
- Antelope Ground Squirrel
- Big Brown Bat
- Bighorn Sheep
- Bobcat
- Cottontail
- Coyote
- Desert Woodrat
- Fox
- Jackrabbit
- Mountain Lion
- Mule Deer
- Ringtail Cat
- Wild Burro
- Wild Horse

Reptiles & Amphibians
- California King Snake
- Chorus Frog
- Chuckwalla
- Collard Lizard
- Desert Horned Lizard
- Desert Iguana
- Desert Tortoise
- Mojave Green Rattlesnake
- Red Racer Snake
- Red Spotted Toad
- Side Blotched Lizard
- Western Banded Gecko
- Western Fence Lizard
- Western Whiptail

Birds
- Anna's Hummingbird
- Cactus Wren
- Chucker
- Chukar
- Golden Eagle
- Kestral
- Loggerhead Shrike
- Mourning Dove
- Phainopepla
- Quail
- Raven
- Red Tail Hawk
- Roadrunner
- Turkey Vulture
- Western Scrubjay

Plants:
- Agave
- Arrowweed
- Blackbrush
- Buckhorn Cholla
- Cottonwood
- Creosote
- Desert Mistletoe
- Desert Trumpet
- Desert Willow
- Honey Mesquite
- Joshua Tree
- Manzanitas
- Mojave Yucca
- Pinyon Pine
- Purple Sage
- Screwbean Mesquite
- Scrub Oak
- Single Leaf Ash
- Utah Juniper
- Velvet Ash
- White Bursage

Suggested Activities:

K-2 grade	3-5 grade	6-8 grade	9-12 grade
• Desert Animals • Plant and Animal Scavenger Hunt • You Help Me and I'll Help You	• Plant and Animal Scavenger Hunt • You Help Me and I'll Help You	• Oh Bighorn Sheep! • Red Rock Relationships	• Oh Bighorn Sheep! • Red Rock Relationships

All activities can be found on the Red Rock teacher resources website. While activities are designed for particular age groups, most can be adapted to fit your class age and needs. Activities can be completed on any of the four trails and include suggested locations for each.