

# Red Rock Canyon National Conservation Area Environmental Education Program

## Biodiversity Under Siege

Classroom Program

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<b>Grade</b>	Fifth
<b>Subject</b>	Biodiversity at Red Rock Canyon
<b>Theme</b>	Biodiversity acts as an indicator for the health of our planet. It may even provide for future needs. Unfortunately, many species are being lost forever.
<b>Goal</b>	Students will explore the concept of biodiversity and gain an appreciation for the aesthetic, ecological, scientific, political, economic, recreational, and intrinsic value of biodiversity.
<b>Curriculum</b>	Life Science (5) 2.2 Observe ecosystems and investigate and describe interrelationships and interdependence between living things and their environment.
<b>Objective</b>	<b>After this activity, the students will be able to:</b> Describe biodiversity and the importance of preserving biodiversity Define the terms endangered, threatened, and extinct List one Nevada plant and one animal that is currently listed
<b>Vocabulary</b>	<b>Biological community</b> - all living things, both plants and animals, living and surviving in a particular environment. <b>Biodiversity</b> - diversity of life on earth, all living things. <b>Ecosystem</b> - the interaction of the biological community (all living things) and the physical environment (water, air, minerals). <b>Endangered species</b> - species of plant or animal in danger of extinction. <b>Exotic/non native</b> - plant or animals that was introduced by man. <b>Extinct species</b> - species that has vanished from existence. <b>Native species/endemic</b> - plant or animal that evolved or was transported to an area through natural means. <b>Threatened species</b> - a species that is in danger of becoming endangered because of decline in its numbers
<b>Background</b>	Biodiversity is influenced by climate, elevation, and soil composition. Through a combination of these elements plants and animals grow and survive at Red Rock Canyon. Life at the Canyon adapts to different environments and develops

mechanisms for surviving. Each habitat at Red Rock Canyon is home to a different assortment of living things. Destructive activities, whether natural or human affect all species. Sometimes the problems created cause species to become either threatened or endangered.

### **Pre-Site Activity**

- Discuss why students think some species are threatened or endangered.

### **Activity – What Color is my Shirt**

- Discuss clothing of children – compare colors of their shirts or pants. Tally totals on the board. Compare their clothing choices to schools where uniforms are worn or a day everyone wears a particular color. What do the different clothing choices reflect?
- Discuss the environmental factors that would affect the animals and plants (the biodiversity) of the habitat. See the list in the box.

### **Activity – Biodiversity at the Canyon**

- Discuss what biodiversity means – show poster of Red Rock Canyon. Review quantities of plants and animals found at Red Rock. What effects diversity.

### **Activity – Onto the Desert**

- Play the game of survival. The cycle of desert life is played out in this game where animals and plants eat or are eaten and succumb to the elements and age just as they are in the wild. Each child receives one card of a plant or animal found at Red Rock Canyon. Have the student hold the card against their chest. Students will have one minute to find a plant or animal they would eat. This is to show how many animals hunt by “chance.”
- Now spend a few minutes having the student actually “hunt” for other cards (students) that will help he/she survive in the desert. If the student “eats” the other student then they can take their card. If the student makes it back to their desk (shelter) before they are “eaten” they are safe. All students must creep or walk slowly while hunting. At the end of three minutes see how many cards each student has captured and how many students have made it back to their desk safely.

### **Activity – Biodiversity Dilemmas**

Pass out fact cards on species that are threatened or endangered. Have children read cards and then give them scenario’s that might cause a disturbance to the numbers of that particular species. Each student gets marbles that they have to give up if the scenario affects their animal or plant species. See box for more details.

**Conclusion** Biodiversity is important to the species of animals and plants that survive at Red Rock Canyon. They have adapted to a way of life that requires a dependence on one another.

### **Post-Site Activity - Endangered Species**

- Leave Endangered Species worksheet with teacher along with list of protected species.

**Biodiversity Under Siege**  
Classroom Pre Visit Activity  
Why Species Are Endangered

1. Complete the following chart by listing one threatened or endangered organism found in Nevada for each group named below. Why is it considered threatened or endangered? Your teacher will have a list of protected species.

<b>Group Name</b>	<b>Organism</b>	<b>Why it is threatened (reasons)</b>
<b>Reptile</b>		
<b>Fish</b>		
<b>Mammal</b>		
<b>Amphibian</b>		
<b>Tree/Shrub</b>		
<b>Bird</b>		

1. Choose one organism named on your chart. Write a paragraph discussing actions which might prevent it from becoming extinct. (What can be done to help your organism?)