

# Pre-visit Activities

## Diversity of Life Field Trip



### Getting Ready

Prepare the following materials:

Copies of the reading: A Look at the Sonoran Desert – 1 per student

Butcher paper – 1 per group;

Markers;

Map of Sonoran Desert (accessible at [http://desertmuseum.org/images/csds/sonoran\\_map-lg.jpg](http://desertmuseum.org/images/csds/sonoran_map-lg.jpg))



### Doing the Activity

#### Day 1: Introduction of Sonoran Desert

Teacher: “To help prepare us for our field trip to the Desert Museum, we are going to investigate some background information about the Sonoran Desert. Please write down what you know about the Sonoran Desert and be prepared to share your responses with the class.”

*Students write responses in Science Notebooks or on small white boards or notebook paper.*

Teacher allows volunteers to share their responses, makes comments when appropriate, and records answers. Teacher shows students map of Sonoran Desert and briefly discusses its boundaries.

Teacher: “Today we will be working in small groups (3-4) to brainstorm ideas about what the Sonoran Desert is like in regards to terrain, plants, animals, climate (temperature and rainfall), and land forms. Each group will have butcher paper to record the characteristics they come up with.”

*Students brainstorm and record characteristics of the Sonoran Desert.*

Teacher asks students to show their responses. Teacher looks for and emphasizes common characteristics mentioned by all the groups and generates summarizing chart.

Teacher: “Let’s read about the Sonoran Desert and evaluate some of our ideas.”

Teacher instructs students to read “A Look at the Sonoran Desert”. (This can be done individually or in groups). Students answer the 7 Review Questions. Teacher then leads discussion with whole class to review the answers. Teacher should also ask if anything needs to be changed in their previous brainstorming responses. (Correct/add to generated summarizing chart)

Teacher: “Write one thing you have learned today, and list some plants and animals you think you will see at the desert museum during our visit.”

## **Day 2**

### **Getting Ready**

Prepare the following materials:

Copies of the survivor game – one copy per group of 4 students; butcher paper; markers

### **Doing the Activity:**

Teacher begins by reviewing information from yesterday.

Teacher: “What did we learn yesterday about the Sonoran Desert?”

*Student responses are shared.*

Teacher: “I have great news for all of you! You have won positions on the new TV reality show based out of Tucson, Desert Survivor. Each of your groups will be taken to a remote desert area for 2 weeks. Each group will be supplied with sufficient water and food (very basic food items) to share. Each of you will be allowed to take ONLY a small backpack of clothes, shoes, and toiletries. Each group will be able to choose 8 additional items (from a list of 18) to take with them. The group that survives the entire 2 weeks or the longest wins \$10,000 per person! Good Luck....”

Teacher assigns groups and distributes list (or pictures) of the 18 additional items. Students must choose only 8 of these items to take with them and must justify why.

*Review and share group choices. Discuss their choices...ask: “ Why or what was the importance of your choosing \_\_\_\_\_?”.*

Teacher may ask whole class which group they think would have survived the longest and why?

Teacher: “We have been focusing on human needs for survival. Now let’s focus on plant and animal needs for survival in the desert. Each group will now brainstorm how plants and animals living in the desert acquire the resources necessary to main life. Write your group’s responses on the paper provided. Make 2 columns, one for plants and one for animals. Keep in mind what we discussed in our Living/Non-living activity regarding what all living things need to survive.”

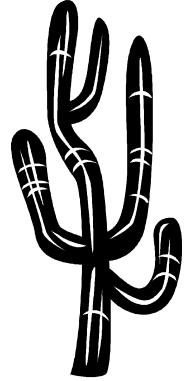
*Once students are done, allow the students to visit other group's responses and note differences/similarities.*

Teacher asks students to share some of the differences and similarities they observed and explains that they will observe how plants and animals obtain their resources to survive at the Sonoran Desert Museum. Teacher explains and assigns expert groups for field trip the next day.

## SONORAN DESERT SURVIVAL GAME

Congratulations! You have all been selected as contestants for the new TV reality show based out of Tucson, Desert Survivor. Each of your groups will be taken to a remote desert area for 2 weeks. Each group will be supplied with sufficient water and food (very basic food items) to share. Each of you will be allowed to take ONLY a small backpack of clothes, shoes, and toiletries. Each group will be able to choose 8 additional items (from list of 18) to take with them. The group that survives the entire 2 weeks or the longest, wins \$10,000 per person!

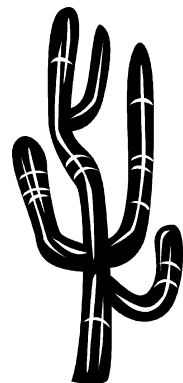
- |                         |                   |
|-------------------------|-------------------|
| Aerial map              | Raincoat          |
| Jack Knife              | Jacket            |
| Sunglasses - each       | 24 sodas          |
| Blue Tarp               | Umbrella - Large  |
| Magnetic Compass Shovel | First Aid Kit     |
| Snacks – small bag/each | Cotton Sheets - 2 |
| Flashlights             | 50 feet of Rope   |
| Radio                   | Pistol            |
| Small mirror            |                   |



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## A LOOK AT THE SONORAN DESERT

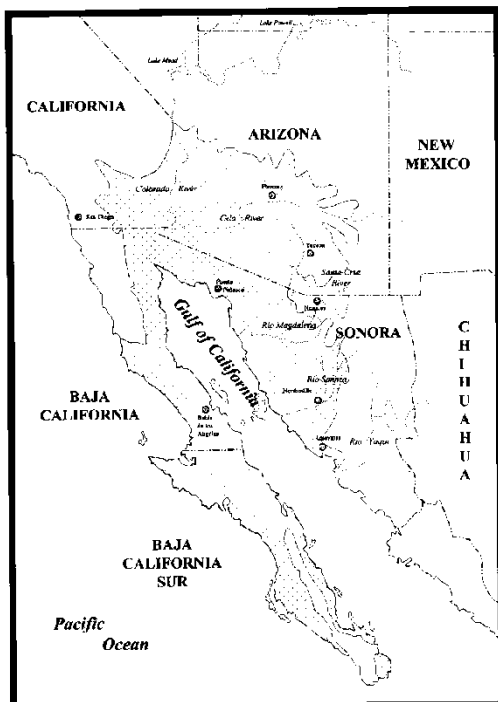
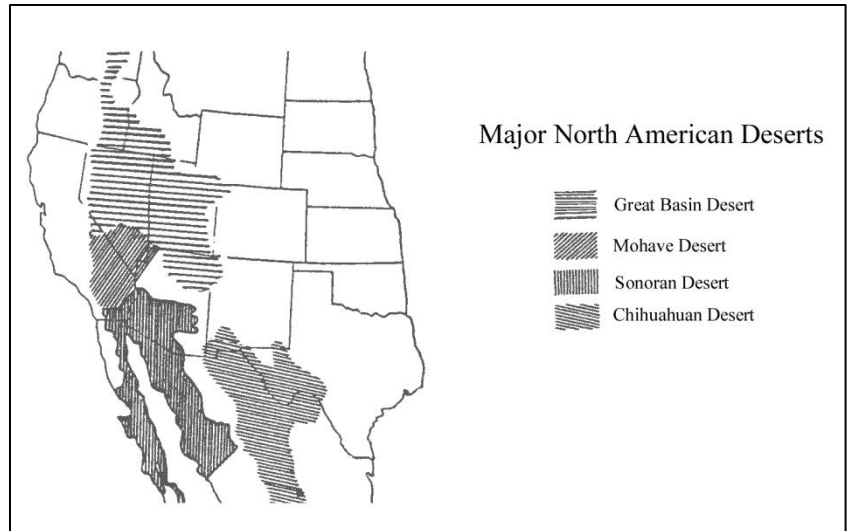
### Background Information

The Arizona-Sonora Desert Museum is located in the Sonoran Desert. This desert is one of four that occur in North America. The other three are the Great Basin, Mojave and Chihuahuan deserts. Arizona is the only state in which all four deserts can be found.

### What Is A Desert?

All deserts share a common factor – they are dry! Little rain falls in the desert, often less than 10 inches per year. The rain that does fall may come in sudden large bursts from a violent desert thunderstorm. Much of this water runs off the soil into washes or evaporates before it has a chance to soak into the ground. This leaves little water for plants and animals.

Other characteristics of deserts include windy conditions, intense sunlight, unpredictable and changing amounts of annual rainfall, and great differences between day and night temperatures (days may be hot, but nights may be much cooler).



### The Sonoran Desert

The Sonoran Desert, for the most part, is a low, hot desert. Parts of this desert get less than 3 inches of rain a year! Winters are mild and summers are hot. Summertime temperatures may reach 120°F. Tucson and the area surrounding the Arizona-Sonora Desert Museum get an average of 11.4 inches of precipitation per year. Rainy seasons vary throughout the desert, but in our area, the rainy seasons usually come twice a year, in the late summer and winter.

The Sonoran Desert is quite lush when compared to other deserts of the world. It contains over 2,000 different species of flowering plants alone. *Columnar* cacti (such as saguaro and organ pipe) and *legume* trees (such as mesquite, palo verde, acacia) visually dominate the landscape.

## PEOPLE

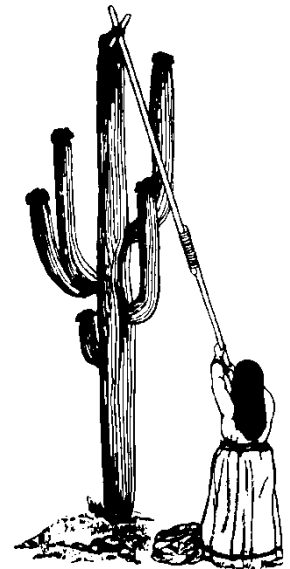
Different groups of people have lived in the desert for thousands of years. The Hohokam culture is thought to have emerged from the desert sometime before 300 B.C. The Hohokam built villages along rivers where they raised corn, squash, beans and cotton. They gathered much food from the desert including cactus fruit and mesquite pods, and hunted many desert animals.

The Tohono O’odham (Papago), Hia ced O’odham (Sand ~~Papago~~), and Akimel O’odham (Pima) have lived in the Sonoran Desert for hundreds of years. In the past, they gathered all their food, medicine and water from the desert. Today, many tribal elders still know which plants are good to eat and good for medicine. Some O’odham still use traditional methods to grow desert-adapted crops, including squash, tepary beans, dippergourds, corn, watermelon, and devil’s claw. Basket weavers still gather beargrass, yucca and other plants to weave baskets.

The Seri Indians currently live in two villages by the Gulf of California in Sonora, Mexico. They are a fisher-gatherer people, traveling between seasonal camps during different times of the year. Tribal fisherman have an extensive knowledge of the animals and plants of the sea. Women still gather some food from the desert. Like O’odham baskets, Seri baskets made from local plants are valued world-wide.

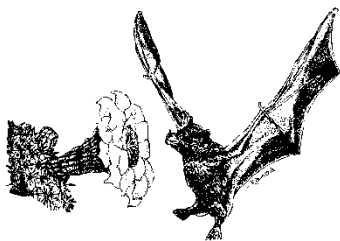
For thousands of years, many other tribal groups have lived and traveled through the Sonoran Desert, and many still live here today. Many tribal members still visit sacred Sonoran Desert sites and important resource gathering areas as their ancestors had done for hundreds, perhaps thousands, of years.

*Throughout the Museum, you can rest under traditional shade ramadas, built from desert plants. You can find more information on Desert People in the Earth Sciences Cave, Hohokam Agave Field, Mammoth Kill-site, and from various docent interpretations.*



## PROTECTING THE SONORAN DESERT

The Sonoran Desert region is home to many native plant and animal species. Some, like the desert pupfish and giant saguaro are not found anywhere else on earth! Most species of Sonoran Desert plants and animals are protected or regulated by law.



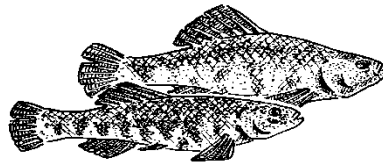
*Lesser long-nosed bat (Endangered)*

The federal Endangered Species Act was written to protect America’s wildlife. When the population of a species begins to drop a lot, the species may be listed as a **Threatened Species**. If its numbers become so low that it is in danger of becoming extinct, it will be listed as an **Endangered Species**. Threatened and Endangered species are protected by this law.

Sonoran Desert plants are also protected by the Native Plants Act. In most cases, it is against the law to remove native plants, including their flowers, fruits and seeds, from the desert. It is even illegal to take dead cactus skeletons from the desert.

One of the major reasons why animals and plants become Threatened, Endangered and extinct is because the areas in which they live are destroyed or changed. This is called **habitat** destruction. Habitat destruction occurs as more wilderness is turned into cities, housing developments, ranches, farms or mines, and as people drive off-road vehicles through the undeveloped desert. As groundwater is pumped out of the ground for drinking water or irrigation, streams and water holes become dry. Fish, amphibians, and other animals that depend on these wet areas lose their habitat and may disappear.

Desert pupfish  
(Endangered)



In Pima County, new development is guided by the Sonoran Desert Conservation Plan, which includes leaving open spaces for wildlife. Water conservation is another important step we can all take to conserve ground and surface water. When we hike and picnic in the Sonoran Desert Region, we can help plants and animals by not disturbing them or destroying their habitat. Can you think of other ways you can help protect our beautiful desert?

*The Desert Museum has some Threatened and Endangered species on display. When you visit, look for signs identifying these animals. The Museum also has established successful captive breeding programs for some of these species.*

**For more information on the Sonoran Desert and Desert Museum, visit our web site: [www.desertmuseum.org](http://www.desertmuseum.org).**

### **REVIEW QUESTIONS**

1. In which countries can the Sonoran Desert be found? In which states?
2. Describe the characteristics of a desert climate.
3. Would you expect to see giraffes at the Desert Museum? Why?
4. What non-desert communities can be found within or near the Sonoran Desert?
5. True or False. The desert is a harsh place for plants and animals to live. Explain your answer.
6. Explain some reasons why some species of native plants and animals are Threatened or Endangered in the Sonoran Desert Region.
7. What is being done to protect native plants and animals? What can you do to help?

### **Extension Activities**

1. Today we can go to the grocery store, mall, hardware store and doctor's office to meet our needs for food, clothing, shelter, and medicine. How did Native Desert People meet their needs 250 years ago?