Wild Kids

Deserts of Arizona

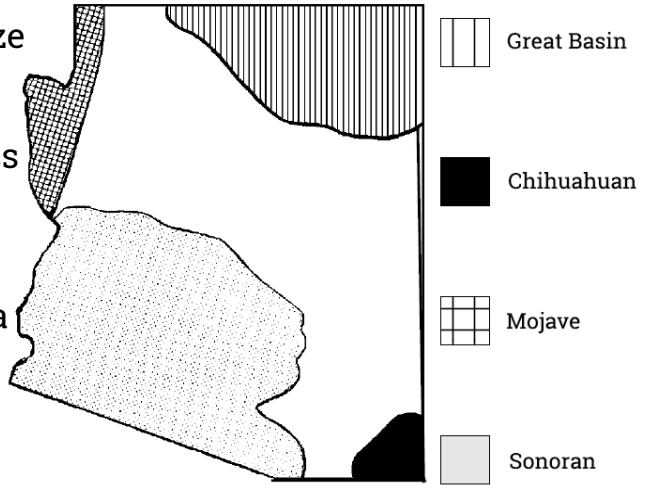
STUDENT GUIDE

There are about 21 different deserts in the world. Many people think that all deserts are hot. This is not true. Some are considered cold because snow falls regularly in the winter. So then, what makes a desert a desert?

All deserts have different plants and animals, size and location. But they share two common characteristics. All are dry and all have a high rate of evaporation. Deserts generally receive less than 10 inches of rainfall a year, but evaporate more than that. So they are considered dry.

There are four deserts in North America. Arizona is the only state in the United States where parts of all four can be found.

General Boundaries of the 4 Deserts in Arizona



MOJAVE DESERT

The Mojave desert (also spelled Mohave) in Arizona covers a small portion of the northwestern corner. It is the driest of the North American deserts. The summers are very hot and the winters are cold (it sometimes snows). Nearly all the rainfall comes in the winter. Because the winters are cold, most plants are inactive so they won't use or waste water. So even though there is water, plants are not able to use it.

Despite the harsh climate, many species of plants and animals live there. About one-fourth of the plants are endemic to the Mojave desert. This means they are found nowhere else in the world, including the Joshua tree (which is actually a yucca, not a tree. There are also many animals that live in this desert like the Mojave desert tortoise, tarantula, Gila monster, scorpions, bighorn sheep, hummingbirds, and kangaroo rats.

GREAT BASIN DESERT

The Great Basin desert in Arizona lies north and east of Flagstaff. The Grand Canyon is ifound here. This is a cold desert that gets lots of snow. The summers are warm, only occasionally getting over 100° F. It rains a little throughout the whole year. Because winters are so cold, most plants are dormant and cannot use the winter rainfall.

The Great Basin desert has fewer types of plants and animals than the other three North American deserts. The most common type of plants are shrubs such as sagebrush and saltbush. You can stand in parts of the Great Basin desert and see nothing but sagebrush for miles around — no trees, no cactus, or anything else but sagebrush! Animal species that are found here include the golden eagle, coyote, spadefoot toad, pronghorn antelope and the Great Basin rattlesnake. Arizona's two introduced buffalo herds occur on ranches in the Great Basin desert.

CHIHUAHUAN DESERT

The Chihuahuan desert is the largest desert in North America. It is found in the extreme southeastern corner in Arizona. It is covered with shrubs and grasses like the Great Basin desert. There are also many types of cacti, succulents, wildflowers, and short trees. The Chihuahuan desert is generally found above 3,500 feet in elevation and gets frost. It also receives more rainfall than the other three North American deserts. Agave, yuccas and creosote are the most common plants. Other plants include prickly pear, agave and mesquite. Some animal include the Swainson's hawk, black-chinned hummingbird, javelina, ringtail and the western diamondback rattlesnake.

SONORAN DESERT

The Sonoran desert is the largest in our state. It is the desert that surrounds Phoenix, Tucson, Gila Bend and Yuma. With over 2,500 different flowering plants, it supports the most types of plants and animals of the four North American deserts.

Winters are mild (rarely snows) and the summers are hot. The Sonoran desert gets both winter and summer rains. Most plants do not go dormant in the mild winters. However, a number of plants do go dormant in the hottest part of summer. Summer rains tend to be brief but very heavy and most of that rain is lost to runoff. The Sonoran desert supports many types of trees, grasses, cacti, shrubs and wildflowers. The saguaro cactus only grows in the Sonoran desert. The Gila monster, roadrunner, horned lizard, javelina, desert mule deer, and kangaroo rat are but a few of the animals that live in the Sonoran desert.

Use the following clues to find the words hidden in the puzzle. Words can be found forward, backward, or diagonal. The unused letters spell out a special message.

1. Not all deserts are hot, some can be this.
2. The two most common types of shrubs in the Great Basin Desert.
3. The largest North American desert.
4. The largest desert in Arizona.
5. Deserts have a high rate of this.
6. Only state where all 4 North American deserts can be found (Abbreviation).
7. Two correct ways to spell this desert (find both).
8. This plant is not a tree but a yucca.
9. The most common plant in the Chihuahuan Desert.
10. Three cities and one town that are surrounded by the Sonoran Desert.
11. This cactus grows only in the Sonoran Desert.
12. The Sonoran Desert gets rain in both of these seasons.
13. This National Park is in the Great Basin Desert.
14. A word meaning "not found anywhere else."

G	I	L	A	B	E	N	D	S	N	C	S
A	R	E	M	M	U	S	K	E	S	R	A
C	S	A	G	E	B	R	U	S	H	E	L
H	L	I	N	Z	R	Z	A	R	D	O	T
I	C	O	L	D	A	E	S	A	R	S	B
H	I	N	O	S	C	U	T	A	N	O	U
U	M	D	B	I	R	A	U	N	D	T	S
A	E	S	A	R	U	G	N	E	I	E	H
H	D	M	O	H	A	V	E	Y	F	W	O
U	N	U	S	S	X	I	N	E	O	H	P
A	E	O	N	D	I	N	O	U	R	N	A
N	J	D	E	V	A	J	O	M	E	S	M
N	O	I	T	A	R	O	P	A	V	E	U
S	O	N	O	R	A	N	E	R	T	S	Y

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TEACHING GUIDE

Overview

In this activity, students will read an article about the four desert found in North America and Arizona. Then, they will complete a word search puzzle to assess their understanding of the reading. Finally, with the teacher as a guide, they will discuss adaptations are necessary for animals to live in the different deserts and what might happen to species moved from one desert to another.

Grade
5th

AZ Science Standards
- 5.L3U1.10

Science and Engineering Practices
- Construct explanations and design solutions

Crosscutting Concepts
- Patterns

Suggested Procedures

1. Print the worksheet above. If possible, print it double sided.
2. Ask students to read the entire article (both pages).
3. Have students complete the word search puzzle. Discuss as a class.
4. Ask students to think about and answer the following questions. They could do it individually or in small groups and then share as a class, depending on your preference.
    - What characteristics define all deserts?
    - What adaptations would be necessary for an animal to survive in deserts (in general)?
    - What adaptations would be necessary for an animal to survive in the Great Basin desert? Sonoran desert?
    - What might happen if you took an animal that was adapted to survive in the Great Basin desert and move it to the Sonoran desert?
    - Which deserts seem to be the most similar to each other? Do you think an animal from one of these deserts could survive if it moved to the similar one? Why or why not?