



Many faces of the desert



Background

Deserts are not all hot, flat, and sandy. Some are cold, mountainous, and rocky. But all deserts have one thing in common — they are dry! Any place where rainfall is less than 10" per year is called a desert. About one-fifth of earth's land is desert. All desert plants and animals have special survival methods to deal with the drought. When rain does come to the desert, it comes quickly and can cause flooding in dry river beds (called playas). There are many deserts around the globe, each with special characteristics and wildlife. The North American desert has four major areas: the Great Basin, the Mojave Desert, the Sonora Desert, and the Chihuahuan Desert. Another face of the desert is the one hiding beneath the living desert. Archaeological digs reveal that parts of the Great Basin Desert, which covers 158,000 square miles in Nevada, Utah, Idaho, Oregon, and California, were once gigantic lakes. Fossil remains of fish, shells, and underwater plants provide information about the changes on the earth's surface.

Objectives

Students will...

- Research the many faces of the North American desert
- Create three-dimensional models of several living deserts with plant and animal life
- Create an archaeological dig which reveals fossils of aquatic life that lived under the Great Basin Desert

Introduction

Have each group research the environmental conditions, location, plant and animal life found in their assigned desert. As they learn about desert plants (greasewood, sagebrush, shadscale, horsebrush, and other plants of the Great Basin; or the saguaro and creosote bush or mesquite of the Sonora Desert), have them explore how these plants survive the extreme conditions. What animals are indigenous to each of these deserts? What type of precipitation is typical here? How do desert animals deal with the extreme temperatures? What would the scene look like at night, when it is cooler?

Instructions

Step 1

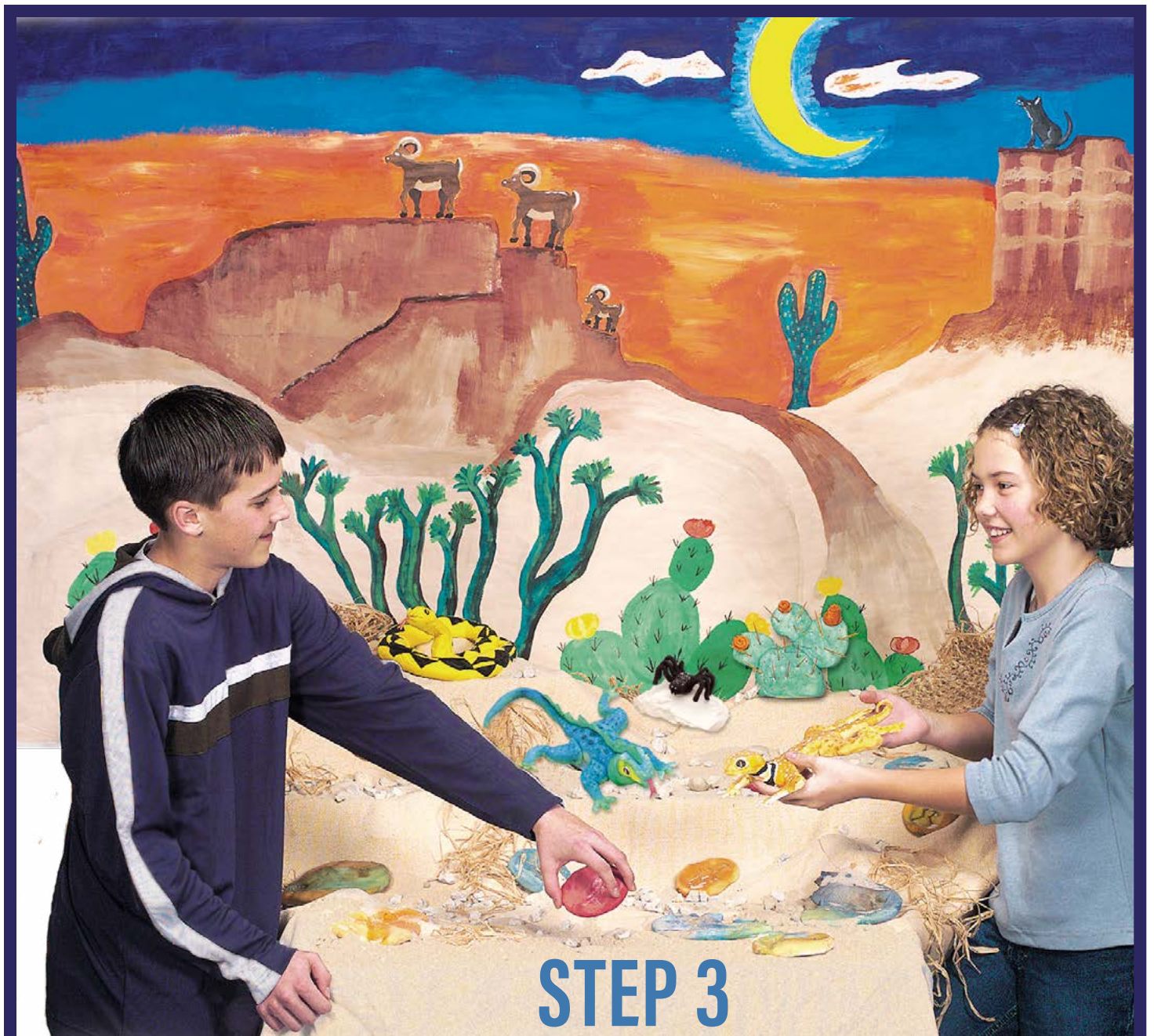
Divide the class into several groups. Assign one of the following activities to each group:

- Create a background mural — either a map of the North American desert lands or an illustrated desert scene backdrop
- Study the characteristic features of various deserts
- Create a three-dimensional scene including plants, animals, and environment
- Create an archaeological dig beneath the surface of the Great Basin Desert including fossils

Step 2

Have students use their research to create three-dimensional desert scenes (simulated environments with models of appropriate plants and animals). Crayola® Model Magic® modeling compound can be used to make molds from sea shells and fish replicas. Students can also create wildlife or fossil models freehand with Crayola® Model Magic®, using photographs for guides. Use Model Magic® to create models for the living deserts or fossils for the archaeological dig. Models can be decorated with various paint (watercolors were used on models in photos on opposite page) or colored Model Magic® can be used.

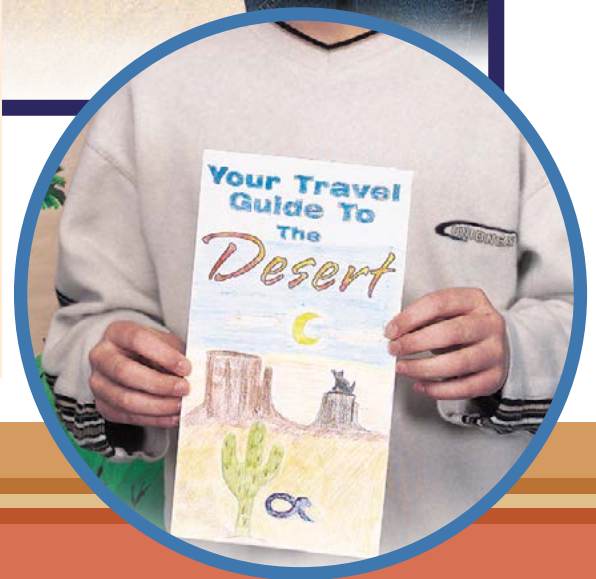




STEP 3

Extensions

Have students write travel brochures describing the unique beauty and special conditions of the assigned desert. Advise travelers of the clothes to bring and information on temperature variations. Excite your visitors with the potential plant and animal life they will observe. Consider the types of lodging and transportation their team would make available to tourists. As students design their imaginary accommodations, urge them to be the least disruptive to the natural environment as they can and yet attractive to tourists. Describe those accommodations and attractions. Prepare the full-color brochure using colored pencils or markers.





Perch



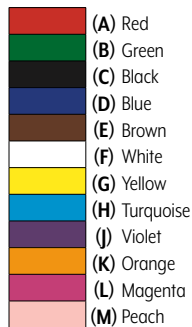
Blue gill



Sea star



Freshwater drum



Materials list

- 4 oz. colored Crayola® Model Magic [9714825(A-E)]
- 2 lbs. assorted colored Crayola® Model Magic®, 8 oz. each of white, red, blue, and yellow (9715579)
- 2 lbs. white Crayola® Model Magic® (four 8-oz. pkgs.) (9708619)
- 6 lbs. white Crayola® Model Magic® (9716528)
- Nasco perch replica (9712122)
- Nasco blue gill replica (9712120)
- Nasco sea star replica (9712121)
- Nasco freshwater drum replica (9711405)
- Crayola® Artista II® Washable Tempera, pints [9700471(A-M)]
- Crayola® Artista II® Watercolor Set of 16 (9711006)
- Crayola® Portfolio® Series Acrylic Colors, pints [9714725(A-X)]
- Wyland™ Paint-it-Yourself Classroom Mural Canvas; large, 5' x 10' (9703954) or mini, 63" x 32" (9731262)

- Markers or colored pencils
- Glue
- Straw
- Toothpicks
- Dirt/rocks
- Sand or sandpaper

Additional fish replicas can be found at nascoeducation.com