



## *Desert Reptiles*

A forty five Desert Discovery program

### **To the Teacher:**

Thank you for making the *Desert Reptiles* discovery class a part of your curriculum. During this exciting interactive educational program, students will meet live Sonoran Desert animals, handle artifacts, and discover how important reptiles are to our desert ecosystem.

This packet contains pre- and post- program information and activities along with a vocabulary list and suggested resources. These materials were developed so you can extend this class topic with both introductory and follow-up lessons. The pre-visit information will introduce students to some of the basic concepts covered in *Desert Reptiles*, helping to prepare them for the program. We hope you'll find this information useful and easy to incorporate into your science curriculum. For more information on the Desert Museum and the Sonoran Desert, visit our website at [www.desertmuseum.org](http://www.desertmuseum.org).

We look forward to working with you and your students.

Sincerely,  
ASDM Center for Sonoran Desert Studies  
Education Department

### **CLASS OBJECTIVES**

Through the examination of live animals and artifacts students will:

- Identify the characteristics that separate reptiles from other vertebrates.
- Learn about the desert adaptations of several Sonoran reptiles.
- Understand how ectothermic animals function.
- Acquire an appreciation for our desert and the creatures that inhabit it.

## ARIZONA ACADEMIC STANDARDS IN SCIENCE CORRELATION

The Desert Reptile program and supplemental activities correlate to the following Arizona Academic Science Standards. See each activity for specific standards and performance objectives.

**SC03-S4C4-01&03, SC03-S4C3-01&04, SC04-S4C1-01, SC03-S4C4-01&03, SC02-S4C1-03, SC04-S6C3-01&02**

### **Science Standards:**

Strand 1: Inquiry Process

Concept 1: Observations, Questions, and Hypotheses

Concept 2: Scientific Testing

Concept 3: Analysis and Conclusions

Concept 4: Communication

Strand 2: History and Nature of Science

Concept 1: History of Science as a Human Endeavor

Concept 2: Nature of Scientific Knowledge

Strand 3: Science in Personal and Social Perspectives

Concept 1: Changes in Environment

Concept 2: Science and technology in Society

Concept 3: Human Population Characteristics

Strand 4: Life Science

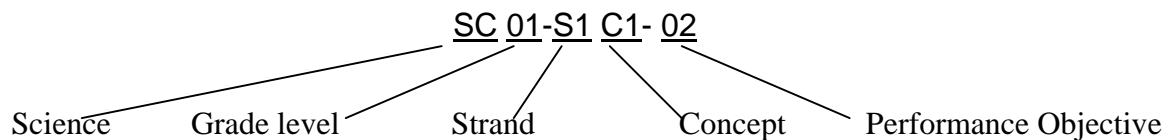
Concept 1: Characteristics of Organisms

Concept 2: Life Cycles

Concept 3: Organisms and Environments

Concept 4: Diversity, Adaptation and Behavior

The shorthand for each standard is read this way:



## RESOURCES

### Literature:

- Arizona-Sonora Desert Museum. *A Natural History of the Sonoran Desert*. Tucson: ASDM Press, 1999.
- Lazaroff, David. *ASDM Book of Answers* (Answers 42 most commonly asked questions by visitors.) Tucson: Arizona-Sonora Desert Museum Press, 1998.
- Parker, Steve. *Revoltin' Reptiles*. Austin: Raintree Steck-Vaughn Co., 1994.
- Warner, Matt. *Reptiles and Amphibians*. Racine: Western Publishing Co., 1974.
- McCarthy, Colin. *Reptile*. New York: Alfred A. Knopf, 1991.
- Braus, J., ed. Ranger Rick's Nature Scope: *Let's Hear it for Herps*. Washington D.C.: National Wildlife Federation, 1987. (For ordering information call: 1-800-722-4726)
- Lawrence Hall of Science. *Outdoor Biology Instructional Strategies*. Berkeley: Delta Education, 1980. (For ordering information call: 603-598-7170)

### VOCABULARY:

Adaptation – Special body features or behaviors that help a creature survive in its environment (i.e. an eagle has sharp talons that help it grab and hold its prey).

Camouflage – An animal's color patterns that help it blend in with the plants or rocks around it.

Carnivore – An animal that eats only meat.

Ectothermic – An animal whose body temperature changes with the environment.

Endothermic – An animal which controls its own body temperature internally.

Evaporation – Water changing into a vapor and going into the air.

Habitat – The place in which an animal or a plant lives that provides the food, water, shelter, and space needed for its survival.

Habitat loss – The use of an animal's or plant's habitat by people, making it no longer usable by those animals and plants.

Herbivore – An animal that eats only plants.

Hibernate – Slowing down of all body processes for the duration of winter, like going into a very deep sleep.

Nocturnal – Active at night.

Omnivore – An animal that eats both meat and plants.

Predator – An animal that kills other animals for food.

Reptile - Animals that have dry scaly skin and are ectothermic.

Venomous – An animal that has a poisonous bite or sting.

## PRE-PROGRAM INFORMATION AND ACTIVITIES

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### Teacher Background Information: THE SONORAN DESERT

This short reading provides you with some background information on the Sonoran Desert Region and an introduction to the topic of your outreach program.

## **THE SONORAN DESERT**

In this activity students study the geographic location of the Sonoran Desert and characteristics of desert environments, plants, and animals.

## **LEAPING LIZARDS**

Introduce students to some characteristics of reptiles including ectothermy, adaptations and feeding habits.

## **LIZARD DASH**

Students need to keep their “thermometer lizards” from getting too hot or too cold.

## **POST-PROGRAM ACTIVITIES**

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### **DESERT TORTOISE: FACT OR FICTION**

Students decide, as a team, if the statements given by their teacher are facts or are fiction. Each statement leads into a teacher-lead discussion on desert tortoise natural history and conservation.

### **REPTILE SURVEY**

This activity can be used as a pre-program activity and then as a post-program activity to measure learning outcomes.

### **REPTILE FACT SHEETS**





## ***A LOOK AT THE SONORAN DESERT***

### Background Information for Teachers

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.



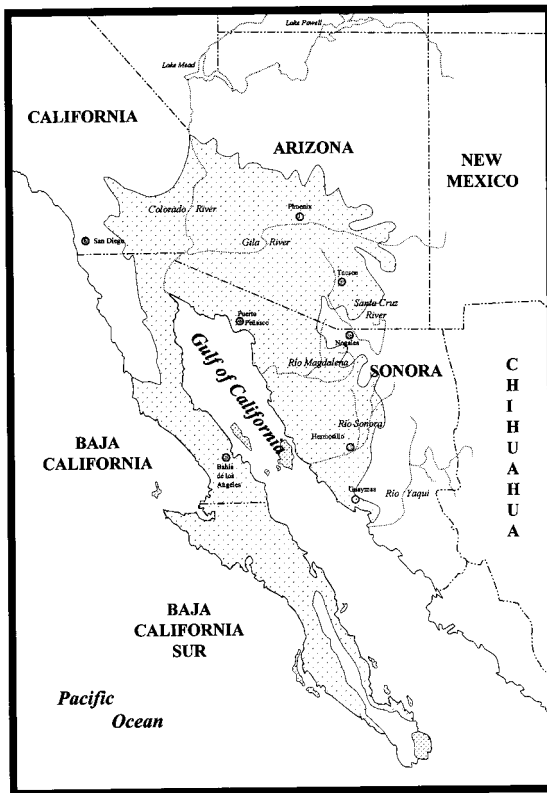
### Major North American Deserts

-  Great Basin Desert
-  Mojave Desert
-  Sonoran Desert
-  Chihuahuan Desert

## 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 dominant the landscape.

*The Arizona-Sonora Desert Museum is a great place to visit to learn more about the natural history of this fascinating region. The Desert Museum displays only the plants and animals of the Sonoran Desert Region. This region includes the desert itself and the non-desert communities found next to, or within, the desert. These other communities include riparian corridors (lush areas along streams), pine-topped mountain islands, and desert grasslands.*

In general, reptiles tend to do better than many other animals in desert climates because they have scaly, water-proof skin. The reptiles that live in the Sonoran Desert also have to deal with very hot summer days and cold winter nights. Many of them hibernate during the winter and rest underground or in shady areas during the summer days.