



ARIZONA-SONORA  
**DESERT  
MUSEUM**

# *Dinosaur Discovery*

A forty-five minute Discovery Class program  
for students in grades 1- 2

## **To the Teacher:**

Thank you for making the *Dinosaur Discovery* Desert Discovery Class a part of your curriculum. During this exciting educational program, students will see live desert animals, handle artifacts, and perhaps serve as a volunteer for a program demonstration.

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

We welcome and value your comments and suggestions concerning this Desert Discovery Class and the corresponding Teacher Idea Packet. At the end of the program, we will give you an evaluation form and would appreciate your taking the time to complete it within a week and mail it back to us. If you develop lessons or activities related to this topic that work well with your students, we would appreciate your sending us a copy. We will give you credit for any materials we use.

We look forward to working with you and your students at the Desert Museum.

Sincerely,  
ASDM Education Department

## **CLASS OBJECTIVES**

Through the examination of live animals, artifacts and interactive demonstrations students will:

- Piece together fossil evidence that led to the discovery and identification of *Sonorasaurus*, a dinosaur discovered in our region.
- Identify and describe a variety of dinosaur species.
- Recognize and identify similarities and differences in diverse species of dinosaurs, many of which inhabited the Sonoran Desert region millions of years ago.
- Identify adaptations of dinosaurs that allowed them to live in the prehistoric environments of our region.
- Challenge old theories and personal misconceptions about dinosaurs after being presented with evidence from recent scientific discoveries.
- Realize that science theories are constantly changing based on new discoveries and discover that paleontology is an exciting field with lots of opportunities!

## ARIZONA ACADEMIC STANDARDS IN SCIENCE CORRELATION

Desert Discovery Class: 1SC-R3, 4SC-R3, 4SC-F4, 4SC-F3

Pre- and Post-Program Activities: 1SC-R2, 1SC-R3, 1SC-R4, 1SC-R5, 1SC-R6, 2SC-F2, 2SC-R1, 3SC-F1, 4SC-R1, 4SC-R2, 4SC-R3, 4SC-F4, 6SC-F1

## RESOURCES

### Adult Books:

Benton, Dr. Michael. *Dinosaur and Other Prehistoric Animals Fact Finder*. New York: Kingfisher Books, 1992.

Lambert, David. *The Dinosaur Data Book, Facts and Fictions about the World's Largest Creatures*. New York: Avon Books, 1990.

Ratkevitch, Ron. *Sonorasaurus: Dinosaur of the Desert*. Tucson, AZ: Arizona-Sonora Desert Museum, 1997.

### Activity Books:

Braus, Judy, ed. *Ranger Rick's NatureScope - Digging into Dinosaurs*. Washington, D.C.: National Wildlife Federation, 1989. (To order: 800-722-4726)

Lind, Karen K., ed. *Water, Stones and Fossil Bones*. Washington, D.C.: National Science Teachers Association, 1991.

Rao, Anthony. *The Dinosaur Coloring Book*. New York: Dover Publications, Inc., 1980.

Schwartz, D. M. *How Much is a Million?* New York: Scholastic, Inc., 1985.

### Children's Books:

Brandenberg, Aiki. *Digging Up Dinosaurs*. New York: Harper Collins Publishers, 1988.

Lindsay, William. *Eyewitness Books: Prehistoric Life*. New York: Alfred A. Knopf, 1989.

Nolan, D. *Dinosaur Dreams*. New York: McMillan and Co., 1990.

Norman, David. *Eyewitness Books: Dinosaur*. New York: Alfred A. Knopf, 1989.

Penner, L. R. *Dinosaur Babies*. New York: Random House, 1991.

Taylor, Paul D. *Eyewitness Books: Fossil*. New York: Alfred A. Knopf, 1989.

### Organizations and Web Sites:

**American Museum of Natural History:** [www.amnh.org/exhibitions/fightingdinosaurs/resources.html](http://www.amnh.org/exhibitions/fightingdinosaurs/resources.html)  
(List of dinosaur web sites. Especially good for general dinosaur information and ready-made classroom activities: **[www.ZoomDinosaurs.com/](http://www.ZoomDinosaurs.com/)**)

**Arizona-Sonora Desert Museum:** [www.desertmuseum.org](http://www.desertmuseum.org)

**The Dinosaur Interplanetary Gazette - 245 Million Years of News at Dinosaur Central:**  
[www.users.interport.net/~dinosaur/frontpage.html](http://www.users.interport.net/~dinosaur/frontpage.html)

## VOCABULARY

**Adaptation** - 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.)

**Backbone** - Bones of the spine; the vertebrae that protect the spinal cord.

**Bird** - An egg-laying animal that has feathers and maintains a steady body temperature internally.

**Cold-blooded** - an animal that does not maintain its body temperature internally. Its body temperature changes with the environmental temperature.

**Carnivore** - a meat-eating animal.

**Continent** - A large mass of land, such as Africa, North America.

**Dinosaur** (“terrible lizard”) - A large, land-living creature of the Triassic, Jurassic or Cretaceous periods of the Mesozoic era.

**Era** - A long period of geological time, such as the Mesozoic era. The Earth’s history is divided into four eras.

**Erosion** - The wearing away of sediments, minerals and rock by the action of wind, water or chemicals.

**Extinct** - When a group of plants or animals are no longer living anywhere on earth.

**Fossil** (“dug up”) - The remains or traces of ancient life.

**Geologist** - A scientist who studies rocks, minerals and the history of the Earth.

**Habitat** - The “home” of a plant or animal where it finds food, water, shelter and space.

**Herbivore** - A plant-eating animal.

**Ice Age** - A time, lasting thousands of years when large parts of the earth were covered by ice. Several Ice Ages during the Pleistocene epoch from 1.7 million to 10,000 years ago.

**Mammal** - A warm-blooded animal with hair or fur which bears live young and produces milk to feed them.

**Paleontologist** - A scientist who studies fossils to learn about prehistoric life.

**Replica** - A realistic copy of the original object.

**Reptile** (“crawler”) - A cold-blooded, scaly, animal that lays eggs (usually) on land and has lungs when born.

**Skeleton** - Bones that provide structural support for animals’ bodies.

**Scales** - Small, flattened plates that cover reptiles. Made of keratin, the same substance that forms human fingernails and hair.

**Sonoran Desert** - The desert that extends throughout southwestern Arizona, southeastern California, northwestern Sonora, Mexico and parts of Baja, California.

**Sonorasaurus** - A large, sauropod (long-necked) dinosaur that lived about 100 million years ago. Some of the bones of this new species of dinosaur were discovered in southeastern Arizona.

**Warm blooded** - An animal whose body maintains a constant internal temperature.

## **PRE-PROGRAM INFORMATION AND ACTIVITIES**

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### **Activity 1: HOW OLD IS OLD? (p. 5 )**

Students sequence objects according to their relative age and discuss the meaning of one million.

### **Activity 2: DINOSAUR QUIZ (p. 7)**

Before the Museum *Dinosaur Discovery Class*, students take a pre-quiz to determine their knowledge about dinosaurs. After the class, they re-take the quiz and complete an activity sheet to review new information learned about dinosaurs and other prehistoric creatures.

### **Activity 3: DINO FOSSILS (p. 14)**

Students learn about the process of fossilization and sequence pictures illustrating the formation of a fossil.

## **POST-PROGRAM INFORMATION AND ACTIVITIES**

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After your class, tour our new, interactive *Ancient Arizona* exhibit! Ask your instructor for more information.

### **Activity 4: WHO'S REALLY THE DINOSAUR? (p. 17)**

By looking at pictures of prehistoric animals, students determine which ones are dinosaurs by observing their characteristics.

### **Activity 5: INVENT-A-SAURUS (p. 18)**

Students learn the meanings of prefixes and suffixes relating to dinosaur names, create and name their own dinosaur and then draw this new species in its habitat.

### **Activity 6: WHAT'S FOR DINNER? (p. 21)**

Students review how dinosaur teeth indicate that types of food they were adapted to eat. They examine drawings of dinosaurs' skulls and then match these drawings to food the dinosaurs ate.

### **Activity 7: SIZING UP DINOSAURS (p. 23)**

Students compare dinosaur skeletons with their own and create life-size outlines of dinosaurs. They also determine the shape and appearance of a dinosaur based upon their skeletons.

