



ARIZONA-SONORA  
DESERT  
MUSEUM

## AMPHIBIANS AND REPTILES

A 90 minute life science laboratory program  
for students in grades six through nine.

### TO THE TEACHER:

Thank you for making the ASDM *Amphibians and Reptiles Lab* a part of your curriculum. We look forward to working with you and your students.

The following materials were developed so you can extend this lab topic with both introductory and follow-up lessons. This packet contains pre- and post- lab information and activities along with a vocabulary list and suggested resources. The pre-visit information will introduce students to some of the basic concepts covered in the lab, helping to prepare them for the class.

**Please make sure students are aware that this lab is an in-depth, hands-on, 90 minute session that will require their utmost cooperation to complete successfully.** We recommend that you make it a part of their science grade. **During the lab session it is very important that you stay in the classroom to assist with the lab activities and class discipline. A teacher's key will be provided to you on the day of the class so you can evaluate student lab booklets and follow-up with any post-lab discussion. Please collect the completed lab booklets from each student at the end of the session.**

Sincerely,  
ASDM Center for Sonoran Desert Studies  
Education Department

### LAB OBJECTIVES

Through the examination of live animals, preserved specimens and artifacts (skeletons, eggs, etc.), students will:

- Compare the characteristics of reptiles and amphibians to those of the other three major groups of vertebrate animals.
- Differentiate between reptiles and amphibians.
- Identify and describe adaptations herps have for growth, movement, sensing and obtaining food, protection, and reproduction.
- Analyze specific adaptations local herps have for success in the Sonoran Desert environment.
- Determine some of the effects of human choices on reptile and amphibian populations.

## ARIZONA ACADEMIC STANDARDS IN SCIENCE

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

**SCHS-S3C2-02, SCHS-S3C1-02, SC04-S4C1-02, SCHS-S4C5-05, SC02-S4C1-03, SC03-S4C3-01&04, SC04-S4C4-02, SC04-S4C4-02, SC03-S4C3-05, SCHS-S4C3-02, SCHS-S1C3-05, SC05-S3C1-01, SCHS-S3C1-02, SC04-S4C1-02, SC03-S4C3-01&04, SC04-S4C4-02, SC03-S4C3-05**

### 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

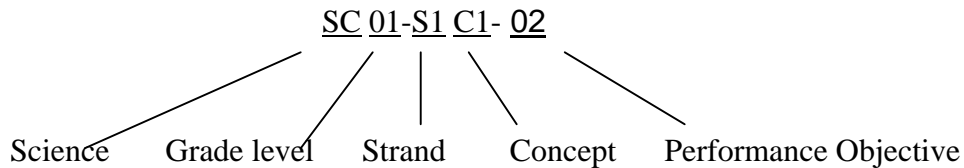
#### Strand 3: Science in Personal and Social Perspectives

- 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:



### VOCABULARY:

|             |                      |                  |
|-------------|----------------------|------------------|
| vertebrate  | ectothermic          | Jacobson's organ |
| amphibian   | endothermic          | pit vipers       |
| reptile     | metamorphosis        | venom            |
| herpetology | pineal eye           |                  |
| herptile    | nictitating membrane |                  |

## READ MORE ABOUT IT!

### Literature:

- 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)
- Brown, David E. and Neil Carmony. *Gila Monster: America's Aztec Lizard*. Silver City, New Mexico. High Lonesome Books, 1991.
- Hanson, Jonathan and Roseann Beggy Hanson. *Fifty Common Reptiles and Amphibians of the Southwest*. Tucson, Arizona. Southwest Parks and Monuments Association, 1997.
- Mc Carthy, C. *Eyewitness Books: Reptile*. New York: Alfred A. Knopf, 1991.
- Regents of the University of California. *Outdoor Biology Instructional Strategies (OBIS): Cool It*. Berkeley, 1978.
- Stebbins, R.C. *Peterson Field Guides: Western Reptiles and Amphibians*. New York: Houghton Mifflin Company, 1985.
- Western Regional Environmental Education Council. *Project Aquatic Wild*. U.S.A., 1987. pp. 153-157. (contact AZ Fish & Game @ 602-789-3220 for information)

### Organizations & Websites:

- **Arizona-Sonora Desert Museum:** [www.desertmuseum.org](http://www.desertmuseum.org)
- **California Turtle and Tortoise Club:** Website: [www.tortoise.org](http://www.tortoise.org)
- **Desert USA:** [www.desertusa.com/animal.html](http://www.desertusa.com/animal.html) [This site contains information including photos on a variety of desert amphibians and reptiles.]
- **Journey North Signs of Spring Everywhere:** [www.learner.org/jnorth/search](http://www.learner.org/jnorth/search)  
Search for "amphibians" or "frogs" to access different information.
- **National Turtle and Tortoise Society:** P.O Box 66935 Phoenix, AZ 85082-6935
- **Tucson Herpetological Society:** PO Box 709 Tucson, AZ 85702-0709

## PRE-LAB ACTIVITIES

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### HERP SURVEY: FACT OR FICTION

By completing and discussing this survey, students explore some common misconceptions about herps and learn some surprising new facts.

### MEET THE HERPS

"Meet the Herps" introduces students to the fascinating world of herps and associated vocabulary, and helps prepare students for the lab at the Desert Museum. Make a copy of the handouts for each student and have each complete the reading and corresponding questions. Discuss content and review questions.

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## **POST-LAB ACTIVITIES**

### **DESERT MUSEUM HERP HUNTER'S EXHIBIT GUIDE**

Learn about the many variety of herps that reside at the Desert Museum. This activity will lead students through the many exhibits and encourage exploration and investigation.

### **CONSERVATION CARTOONS**

Students read and create cartoons about reptile and amphibian species and discuss ways they can help protect species in their own lives.

