LEAPING LIZARDS

This activity introduces students to some characteristics of reptiles including ectothermy, adaptations, and feeding habits.

OBJECTIVES

Students will:

· describe lizard strategies for maintaining a safe body temperature.

· become familiar with some Sonoran Desert lizard species and variations in feeding habits.

· compare the activity of a lizard to a human at various temperatures.

ARIZONA SCIENCE STANDARDS

SC04-S4C1-01,

SC02-S4C1-03

VOCABULARY

Adaptation

Camouflage

Carnivore

Ectothermic

Herbivore

Predator

Reptile

Venomous

BACKGROUND

An important characteristic of reptiles is the fact that they are **ectothermic.** Ectothermic means that an animal's body temperature changes with the outside environment.

This term is used instead of "cold-blooded" as "cold-blooded" incorrectly implies that a reptile's blood is always cold. The term "cold-blooded" is not incorrect, it is just less accurate. Use whichever term you prefer with your students. Although most reptiles lay eggs, there are some exceptions. In our region, rattlesnakes, garter snakes, and some horned lizards are among the few reptiles that give birth to live young.

GETTING READY

Make a copy of *Handouts 1* and *1A* for each student.

DOING THE ACTIVITY

SETTING THE STAGE

1) Ask students if they've watched lizards near their homes. Have them share their observations.

2) Pose the question to the class, "What do you think might eat a lizard?" Possible answers include roadrunners, snakes, owls, centipedes, scorpions, small mammals, and other lizards, too.

ACTIVITY: LEAPING LIZARDS

1) Ask students to read *Leaping Lizards.*

2) Discuss the reading, introducing new vocabulary.

3) Compare a lizard's body temperatures to our own, reviewing concepts outlined in the reading.

4) Pass out *Lizard temperatures (handout 1A)* and review the directions with students. Go over how to read the thermometer before students begin. Have students work together in small groups to answer the activity questions. Once the students are finished, review answers.

ANSWER KEY TO *LIZARD TEMPERATURES*:

1. 120°F, move into the shade.
2. 80°F
3. Moves very slowly and hides from predators.
4. Looking for a place to cool off.
5. At 50° we might be wearing warm clothes, but we would be active since our body temperature would be 98.6°F; a lizard, however, would hardly be able to move as its body temperature would be 50°F. (Point out that species that live in the cooler mountains may use the heat accumulated in rocks to stay somewhat active.)

EXTENSION ACTIVITY

Ranger Rick's NatureScope: Let's Hear it for Herps contains an excellent outdoor activity called "Hot 'n Cool Herps." Students must keep model lizards within a predetermined safe temperature range throughout the game. For ordering information call 1-800-722-4726.

NAME_____ **STUDENT HANDOUT 1**

LEAPING LIZARDS

What would your life be like if…

… you could hardly move whenever it got cold?

… you had to bask under the sun on a bed of hot rocks?

… you couldn't eat until your body warmed up?

That's how most lizards live here in the Sonoran Desert. During the hot summer months they must be careful not to get too hot. They move back and forth from sun to shade in order to control their body temperature. Then, in the winter when it gets too cold, they **hibernate.**

Lizards are **reptiles**. Like most reptiles, they have dry, scaly skin and most lay eggs. All reptiles are **ectothermic.** This means their body temperature changes with the outside temperature. Sometimes ectothermic animals are called cold-blooded, but this is misleading, because their blood is warm on warm days and only cold on cold days. Unlike lizards, our body temperature stays at about 98.6◦F and doesn't change unless we are sick. (Have you ever had a fever?) So we don't have to lie in the sun before we can start moving each morning!

All lizards have teeth. A few are **herbivores**, eating only plants. Most are **carnivores** that catch and eat animals such as insects. The Gila monster and the Mexican beaded lizard are the world's only **venomous** lizards. Unlike snakes, this venom is mostly used as a defense and probably not to help sedate or digest food. These large lizards eat small birds, lizard eggs and small rodents.

Most lizards blend in well with their surroundings. This is because the color of their skin is similar to the rocks or plants on which they rest**.** This is called **camouflage** coloration and is an important **adaptation** that helps lizards stay hidden from **predators**. What do you think might eat a lizard?

NAME_____ **STUDENT HANDOUT 1-A**

LIZARD TEMPERATURES

Directions: Look at the thermometer below. Use this thermometer and the information on it to help you answer the questions.

1. On cool mornings, zebra-tailed lizards need to warm their bodies in the sun in order to get moving and eat. But when the temperature reaches ____ a zebra-tailed lizard may overheat and die. What do lizards do to prevent this from happening? _____

_____

2. How warm must a zebra-tailed lizard be before it can eat and run from predators? _____

3. If it's 60°F outside, what might a zebra-tailed lizard be doing?

_____

4. Find your body temperature on this thermometer. (Hint: Although 98.6°F is not on the scale, you can estimate that it is just below 100°F.) What would you be doing if you were a zebra-tailed lizard?

_____

5. How does your activity compare to a zebra-tailed lizard's when the outside temperature is 50°F?

_____

Reptile Activity on a Summer Day