

# **Wildlife Kids Club December 2005 Curriculum**

## **Teacher's Guide Contents:**

[Outline of the Four Curriculum Sections](#)

[Curriculum Timeline](#)

[About the Reading Quiz](#)

[Reading Quiz Answer Key](#)

[Adaptation Quiz](#)

[About the California Species Report](#)

## **Handouts For Students:**

[Word of the Month](#)

[Species Report Questions](#)

[Species Fact Sheet](#)

[Reading and Concepts Quiz](#)

## **Outline of the Four Curriculum Sections**

This curriculum is divided into four major sections, providing one unique activity for each week of the month. The content is easily adapted to suit individual teaching needs.

The major goal of this month's unit is to provide students with an introduction to some common reptiles and amphibians that are found throughout much of California. Students acquire tools for identifying and researching the lives of these fascinating animals, and gain exposure to the greater ecological web of which they are a part. Reading, writing, and research are all core components in this curriculum.

First, students are introduced to the amazing variety of local species through the Wildlife Kids Club E-Magazine. Next, a quiz tests their reading comprehension of the articles. The monthly Concept Definition Handout can then be given to students. Through this, students gain understanding of a monthly biological concept related to the overall topic. A brief quiz on the Concept Definition is provided. Finally, students will gain a focused knowledge of one local species of reptile or amphibian through a Species Report and presentation. All of these components can be adapted for use with a variety of ages.

## **Curriculum Timeline:**

Week 1: Assign reading of the 3 E-Magazine Articles.

Week 2: Quiz on the E-Magazine. Assign reading of the Concept Definition: Adaptation.

Week 3: Concept Quiz. Introduce and assign the Species Report.

Week 4: Species Report presentations.

## **About the Reading Quiz**

We have supplied a short quiz to help students focus on learning concepts found in the E-Magazine. The reading and questions introduce students to several species of California amphibians and reptiles, including a look at a few of their interesting behaviors. Also, links are shown between these animals and others species in their ecosystem, such as the gray fox. Finally, the importance of habitat preservation is also mentioned.

Together, the readings and the quiz can serve as an introduction to the world of reptiles and amphibians, which can later be deepened through the Species Report.

## **Reading Quiz – Teacher Answer Key**

(Based on November 2005 Wildlife Kids Club E-Magazine articles: A Look at Wildlife; Toads in the News; Animal Communication and Behavior)

1. A. True. *Amphi* means “both” and *bios* means “live;” generally, amphibians spend part of their time on land, and also part in the water. However, certain species do spend most of their time in the water.
2. B and C are both correct. Toxic salamanders generally have bright warning colorations, and many non-toxic look-alike species also exist.
3. C. “Big Night” is the first night when warm spring rains impel many amphibians to travel en masse to mate and lay eggs in shallow pools of water.
4. B. Pacific Giant salamanders occasionally make barking noises.
5. A. Insects are the primary food of Western Fence Lizards.
6. C. Fence lizards are common throughout much of California, except for highland and desert areas.
7. A. Some salamanders use strange motions to confuse predators, or flip over to reveal a brightly-colored belly as a warning signal.
8. C. Foxes mark their territory with scent and scat.
9. A. Toads can only hop in short jumps, whereas frogs can jump much further.
10. True. Each salamander species has its own kind of habitat where it makes its home. To protect salamanders, we need to protect their homes.

## **Word of the Month Quiz:**

The Word of the Month Sheet can be handed out for students to study.

Test students on their knowledge and understanding of the monthly concept by asking them three questions:

- 1) Spell the word “adaptation.”
- 2) Correctly use the word in a sentence.
- 3) In one paragraph, write the definition of the word and give an example of adaptation.

## **About the California Amphibian Species Report**

### **Learning Goals:**

Students will become familiar with a local common amphibian species, to the point where they can identify it in the wild and remember something about its life history. Further, children will practice asking some basic observational questions that will help guide their research into the lives of the amphibians and other animals. Depending on the class’s needs, teachers can adapt the research report into a short assignment or a more in-depth project.

We have selected the Pacific Treefrog as a focal species, because it is found throughout much of California. We also encourage students to research different local amphibians, but we cannot at this time provide detailed fact sheets beyond the one offered here for the Pacific Treefrog.

### **Procedure:**

1. Give the students the list of research questions from below (or adapt the questions as needed). Have them spend some time researching the questions.(The Pacific Treefrog reference sheet that is provided can be used; we also recommend resources such as the Peterson or Audubon Field Guides series. There are also helpful resources on the Internet, such as the free E-Nature electronic field guide. Consider having your students use at least three sources, to enhance project depth and to provide practice with research skills).
2. Have the students compile their research into a 1-2 page creative presentation. The presentation could be a poster showing a color drawing of the frog and its habitat, along with all the information from the question list.
3. Depending on the needs of your class, modify this project as necessary. Use the research report as a starting point for discussions of related concepts, such as water and wetland conservation. Students can also integrate their new knowledge through a creative writing piece depicting “24 hours in the life of a treefrog.”

## **Word of the month for November 2005**

***Adaptation*** (add-app-tay-shun)

Definition: Animals and plants can change over time. Changes that help plants and animals to better survive and reproduce are passed on to future generations. Over time, all the members of a species may come to share the same change, or adaptation.

Some examples of interesting adaptations in reptiles and amphibians include:

-Wood frogs and certain other species can withstand freezing temperatures for weeks at a time. Their whole bodies can freeze solid, yet their cells remain undamaged. These species can live in cold climates where many others cannot.

-Salamanders can leave behind part of their tail if they need to escape from a predator.

-Some kinds of salamanders and frogs have toxic chemicals in their bodies. Most predators cannot eat them. However, some kinds of snakes have adapted to eat them without being harmed.

-Most kinds of frog tadpoles quickly grow into adult frogs within a few months. Bullfrog tadpoles, though, remain in the water through the following winter. The next spring, they grow quickly as they eat the eggs and tadpoles of other species.

## **Amphibian Species Report Questions**

**Name:** What is the common name of the animal?

**Identification:** What does the frog look like? Describe the frog and its unique appearance. Draw a picture with labels describing the frog's identifying features.

**Range:** In what geographic area does the treefrog live?

**Habitat:** What features does the frog's home have: water, shade, places to hide? What features attract the animal, and what features does it avoid?

**Adaptations:** How does the frog's body help it survive?

**Eating Habits:** What does this frog eat? Are there differences in diet between tadpoles and adults?

**Sounds:** Does this species make any sounds, and what do they mean? When are they used? Can you learn the frog's calls?

**Other Behaviors:** What does the frog do? Does it have any special hunting strategies, or special ways of avoiding danger? Where are the eggs laid, and how long does it take for them to develop into tadpoles? How long do treefrogs remain as tadpoles?

**Predators:** What animals might eat this species?

**Environmental Needs:** What does this species need to be healthy and survive? What is a threat to this species?

**Odd or Exceptional Facts:** Is there anything unique about this species that doesn't fit into the other categories?

**Questions:** What are some questions you have about this frog that you wonder about?

**Putting it all Together:** Using your frog-knowledge, write a paragraph about the life of the frog - pick a time of day or night to write about, telling the story of what you think the frog would be doing at that time.

**Sources:** List your works cited.

## Wildlife Kids Club: Treefrog Fact Sheet

Common Name: Pacific Treefrog

Scientific Name: (*Hyla regilla*)

Family: Treefrog Family (Hylidae)

**Identification:** This treefrog has rough skin that can be green, reddish, or light brown. Dark stripes or patches may occur on the frog's back. The belly is usually pale. There is a brown "mask," a stripe that goes from its nostril through and past its eye; there is a yellowish area below the brown stripe. The toes have little webbing. Females are slightly larger than males, reaching 2" from the nose to the rear-end. Males have a dark throat patch.

**Range:** All of California below 11,000 feet, except the deserts. Also, other parts of the Pacific Coast, extending up in Canada.

**Habitat:** In early spring, treefrogs breed in shallow, often temporary pools of water that dry up by summer, preferring water that is filled with plants for cover and protection. The rest of the year they may travel far from water, into meadows, forests and urban areas. They even hang out in flower pots on people's porches and in gutters.

**Adaptations:** Treefrogs have special discs on their toes that help them to climb trees and other things. By laying eggs in temporary pools of water, treefrogs avoid the fish and bullfrogs that would otherwise eat their eggs and tadpoles. Treefrogs "throw" their voices like a ventriloquist, making it hard for predators to locate them.

**Eating Habits:** Tadpoles eat algae and decaying plant matter. Adults eat spiders and insects.

**Sounds:** The breeding call of male treefrogs is a two-syllable "crek. . .ek" sound. The rest of the year, the males call with a one-syllable "Cr-r-ek" sound, often calling on rainy days.

**Other Behaviors:** After mating, female treefrogs lay clusters of eggs, attaching them to plants that grow in the water. There are up to 70 eggs in a cluster; about two weeks pass before the eggs begin to hatch. The tadpoles are grayish-green and a half-inch in length. They use their tiny mouths to scrape up algae. They grow quickly. Two months after hatching, the tadpoles will already be turning into small frogs!

**Predators:** Bullfrogs, snakes, raccoons, mink, striped skunks and various birds will eat the frogs and eggs. Tadpoles also have to beware of water bugs and diving beetles.

**Environmental Needs:** Like other frogs, treefrogs have sensitive skin. They require very clean water to live in during the breeding season, and also require rain to fill up the temporary ponds that they breed in. Acid rains may harm treefrogs.

**Odd/Exceptional Facts:** Treefrogs can quickly change colors from light to dark, possibly in relation to temperature and humidity levels. The time when frogs begin singing in the spring is related to the weather. So, some scientists think that keeping track of frog-song is a way to help understand climate changes. Also, tadpoles create large amounts of droppings that fertilize the pond plants they feed on. Another notable fact is that this species is federally protected and cannot be legally collected without a permit.

## Reading Quiz

(Based on “A Look at Wildlife,” “Toads in the News,” and “Animal Communication and Behavior” From *So What is Up With Nature?* November 2005 Emagazine)

1. Amphibians spend part of their lives on the land, and also partly in the water.

- A. True      B. False

2. Why do some salamanders have bright colors on their bodies?

- A. So they can easily see and greet each other in the dark  
B. To warn predators that they are toxic and should not be eaten  
C. To pretend that they are a toxic salamander so nothing will eat them

3. What is “the Big Night”?

- A. The darkest night of the year, during a new moon.  
B. The first night of meteor showers every August  
C. A rainy night when thousands of frogs, toads, and salamanders migrate towards fresh water to mate and lay eggs

4. Fill in the blank: The \_\_\_\_\_ may bark at predators.

- A. Ensatina salamander  
B. Pacific Giant salamander  
C. Rough-skinned newt

5. Western fence lizards mostly eat \_\_\_\_\_.

- A. insects  
B. algae  
C. small mammals

6. Fence lizards:

- A. live only on mountain peaks and desert areas
- B. are incredibly rare
- C. live throughout much of California and you are very likely to see one if you live there

7. Many salamanders will try to hide from danger by staying still. To confuse or scare away predators, some salamanders may also:

- A. flip their bodies over or wiggle around like a snake
- B. stand up on their hind legs like a T-rex
- C. spit poisonous saliva towards the predator

8. Why do foxes often leave their scat on prominent objects?

- A. To lure flies and other prey
- B. To distract predators that may pass through the area
- C. To mark their territories

9. Why did the toads in the story have trouble getting to the pond?

- A. A curb on the side of the road was too tall for most of them to hop over
- B. Raccoons and other predators chased them away
- C. It was too cloudy and the toads lost their sense of direction

10. True or false: “To protect salamanders, we must protect their habitat.”

**Sources:**

Alden, Peter and Heath, Fred. *National Audubon Society Field Guide to California*. Random House, NY. 2004.

Stebbins, Robert C. *Peterson's Field Guide to Western Reptiles and Amphibians*. Houghton-Mifflin, NY. 1998.

World Wide Web. <http://wlapwww.gov.bc.ca/wld/frogwatch/whoswho/factshts/pactree.htm>. Internet site.

World Wide Web. [http://www.bear\\_tracker.com/treefrog.html](http://www.bear_tracker.com/treefrog.html). Internet site.

World Wide Web. <http://www.naturepark.com/treefrog.htm>. Internet site.