

Frogs: Facts and Folklore: Teacher's Guide

Grade Level: 6-8

Curriculum Focus: Animals

Lesson Duration: Two class periods

Program Description

Frogs turning into princes is pure folklore. But there are some true and amazing facts about these misunderstood amphibians with long, sticky tongues. Whether land-based or water-based, frogs have amazing ways of surviving and breeding in the wild. Leap into the frog world and discover their historical importance and why they're so valuable to the environment.

Onscreen Questions and Activities

- Pre-viewing questions:
 - Think about the characteristics of frogs and toads.
 - What kinds of habitats do they live in?
 - What are some common myths and beliefs about them?
 - As you watch the program, look for ways that humans have revered and slandered frogs and toads throughout history. What facts about these web-footed creatures have contributed to the folklore about them?
 - Post-viewing questions:
 - Summarize how the various chemicals in the frog's skin defend against infection and aid survival.
 - Despite these advantages, frog populations are currently on the decline. Discuss possible causes for this phenomenon.
 - How might frog extinction affect the food chain?
 - Activity: Research frog and toad folklore from different cultures and identify the facts that may have inspired these stories. Collect your class's findings into a bound book of "toad truths, frog facts, and web-footed fiction."
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Lesson Plan

Student Objectives

Students will understand:

- The different types of frog and toad species in their local habitats.
- The importance of frogs in their local habitats.

Materials

- *Frogs: Facts and Folklore* video and VCR, or DVD and DVD player
- Field guides of local flora and fauna
- Books and other resources about frogs and toads
- Computer with Internet access
- Pens, pencils, poster paint, markers
- Paper, poster board
- Scissors
- Glue, tape

Procedures

1. Discuss with students any experiences they have had with frogs and toads. Ask if anyone can explain the difference between the two animals. (*For example, frogs usually live in wet habitats, while toads generally prefer dryer environments.*)
2. If climate and availability of a location permit, take students on a mini-field trip to a nearby pond or wetland area. Have students observe and record any frogs or toads they may see. Have students identify the amphibians using a field guide or other resource. Encourage students to record the characteristics of the animal's habitat. Have them identify any other animals, insects, trees, and plants in the surrounding habitat. Ask students to notice whether the area seems polluted and if the frogs and toads seem healthy. Remind students not to disturb the wildlife in any way. They're there to observe – not to collect – the wildlife.
3. If the weather is too inclement, provide resources for students to research the local frogs, toads, and habitat that they would normally observe. You may also have students conduct research if you are located in an urban area that has displaced the local frog population.
4. After students have done the fieldwork or research, have small groups use the data they've collected to create a fact sheet or informative poster about the local frog species. Encourage students to provide information about the frog's place in the food web – that is, what the frog eats and what eats the frog. They may also want to include facts about declining amphibian populations. The following Web site has helpful information on this topic: www.frogweb.gov.
5. Provide class time for student groups to present their frog fact sheets or posters.



Discussion Questions

1. Explain the frog's role in the food chain. What would happen to the food chain if frog populations were to decline?
2. Discuss what makes a suitable habitat for a frog. Describe the location of your field study and explain why it's a good or poor frog habitat.
3. Currently, frog populations all over the world are in decline. Make a hypothesis as to why frog populations are decreasing.
4. A decline in the world's frog populations is often described as an "early warning sign" for the environment. Debate whether or not this is an accurate statement.
5. Scientists have discovered that frog skin contains antibiotics. Considering where frogs live, explain why they might need their own built-in protection.
6. In many ancient cultures the frog was associated with somewhat negative folklore. Why do you think people might have felt this way? What are some positive cultural myths about frogs?

Assessment

Use the following three-point rubric to evaluate students' work during this lesson.

- 3 points: Student groups collected a sufficient amount of data or research information about local frog species; they transformed their data in a creative way into a fact sheet or poster that illustrated the importance of the frog species to the local ecosystem; group worked cooperatively and each member contributed to the fact sheet or poster.
- 2 points: Student groups collected some data or research information about local frog species; their fact sheet or poster presented the basics about the local frog species; each group member contributed to the fact sheet or poster.
- 1 point: Student groups collected the basic data or research information about local frog species; fact sheet or poster contained incomplete information; each group member did not contribute to the final project.

Vocabulary

amphibian

Definition: Any of the class of cold-blooded vertebrates such as frogs, toads, and salamanders intermediate between fishes and reptiles; they have gilled aquatic larva and air-breathing adults.

Context: Frogs and toads are amphibians because they spend part of their lives in water and part of their lives on land.

displace

Definition: To remove from the usual or proper place; to expel or force to flee.

Context: Large urban areas displace the local wildlife.



ecology

Definition: A branch of science concerned with the interrelationship of organisms and their environments.

Context: Any kind of pollution will have a negative impact on frog ecology.

food web

Definition: The totality of interacting food chains in an ecological community.

Context: The frog is considered nature's "fast food" in the food web, because for many prey it is an easily captured, nutritious source of protein.

habitat

Definition: The place or environment where a plant or animal naturally lives and grows.

Context: A frog's habitat is usually a swampy wetland area.

population

Definition: The total of organisms inhabiting a particular locality.

Context: A decline in the world's frog population is not a good sign for the general health of the planet.

species

Definition: A category of biological ranking made up of related organisms potentially capable of interbreeding.

Context: When a species is extinct, such as the carrier pigeon, it means that there are no longer any animals of that kind alive on Earth.

Academic Standards

Mid-continent Research for Education and Learning (McREL)

McREL's Content Knowledge: A Compendium of Standards and Benchmarks for K-12 Education addresses 14 content areas. To view the standards and benchmarks, visit

<http://www.mcrel.org/compendium/browse.asp>.

This lesson plan addresses the following national standards:

- Science – Life Science: Understands relationships among organisms and their physical environment.

National Academy of Sciences

The National Academy of Sciences provides guidelines for teaching science in grades K-12 to promote scientific literacy. To view the standards, visit this Web site:

<http://books.nap.edu/html/nses/html/overview.html#content>.

This lesson plan addresses the following national standards:

- Life Science: Populations and ecosystems; structure and function in living systems



Support Materials

Develop custom worksheets, educational puzzles, online quizzes, and more with the free teaching tools offered on the Discoveryschool.com Web site. Create and print support materials, or save them to a Custom Classroom account for future use. To learn more, visit

- <http://school.discovery.com/teachingtools/teachingtools.html>
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