



Wild Kids

Ciénegas

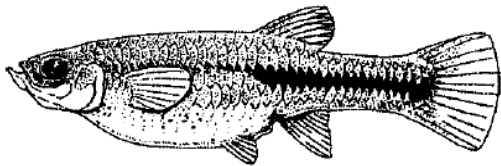
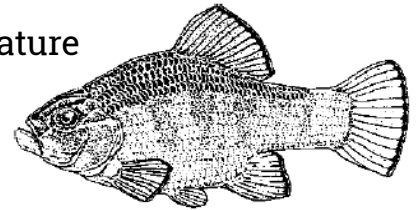
STUDENT GUIDE

Ciénegas are small, shallow wetlands, found in southern Arizona. The word ciénega comes from the Spanish word *cieno* which means mud. Ciénegas provide habitat for aquatic insects, birds, amphibians, reptiles, mammals, and a few types of fish.

Ciénegas play a very important role in the environment. When runoff from rains and snow melt is high, ciénegas absorb excess water until it gradually drains away. In drier periods ciénegas hold moisture, even after open bodies of water have disappeared. Ciénegas help mix nutrients and oxygen into the water, and can filter out and neutralize sewage and toxins. For wildlife, ciénegas provide nutrient-rich food and a resting place. Sometimes ciénegas are referred to as “nurseries” because many animals breed and raise their young there.

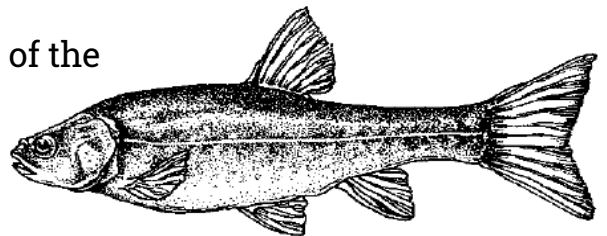
CIÉNEGA FISH

The Desert Pupfish lives in ciénegas, where the water temperature may exceed 100 degrees. Pupfish can also survive in small ciénegas where the water may be three times saltier than ocean water.



The Gila Topminnow is about two inches long and feeds on insects and vegetation at the surface of the water. Scientists are studying topminnows to learn how they can tolerate intense exposure to sunlight without developing skin cancer.

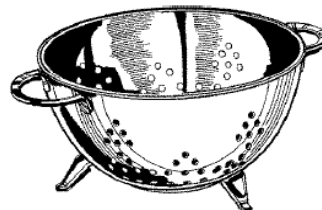
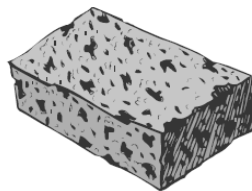
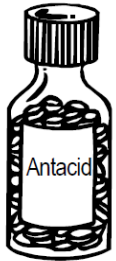
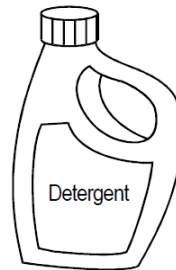
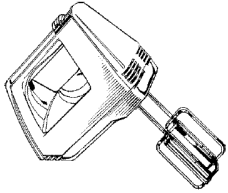
The Gila Chub is a secretive fish that spends much of the day under cover of aquatic vegetation. It is an omnivore that feeds in the evening on insects, plants, and other fish.



Why are ciénegas important? What services do they provide to the environment?

WETLAND METAPHORS

Using metaphors can be a fun way to compare two different things. A metaphor is a figure of speech for which one thing is spoken of as if it were another. An example of a metaphor is "A tree is a home." A tree is not actually a home, but it can be thought of as a home because it provides shelter for wildlife. Look at each of the drawings below. How does each represent a metaphor for a *ciénega*? Explain your thoughts in the space next to each picture.





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TEACHING GUIDE

Overview

In this activity, students will read a short passage about ciénegas and answer a critical thinking question. Then, they will assess their understanding of the role of ciénegas by comparing the function of these wetlands to common household items.

Suggested Procedures

1. Print the worksheet above. If possible, print it double sided.
2. Have the students read the first page of the article and answer the question at the bottom.
3. Discuss the student responses to the question.
4. Have students complete the "Wetland Metaphors" activity on the second page. They must identify the item in each picture, determine what that item is used for, and then determine how that relates to ciénegas. For example, the mixer is a metaphor for how wetlands help mix and circulate nutrients and oxygen through the water.
5. Discuss the student answers as a class.
6. To recap, ask the following questions:
 - How are ciénegas important for nutrient and energy cycling in an ecosystem?
 - What might happen if ciénegas removed or built over for roads, buildings or other developments?

Grade

6th

AZ Science Standards

- 6.L2U1.14

Science and Engineering Practices

- Develop and use models

Crosscutting Concepts

- Energy and Matter
- Systems and System Models