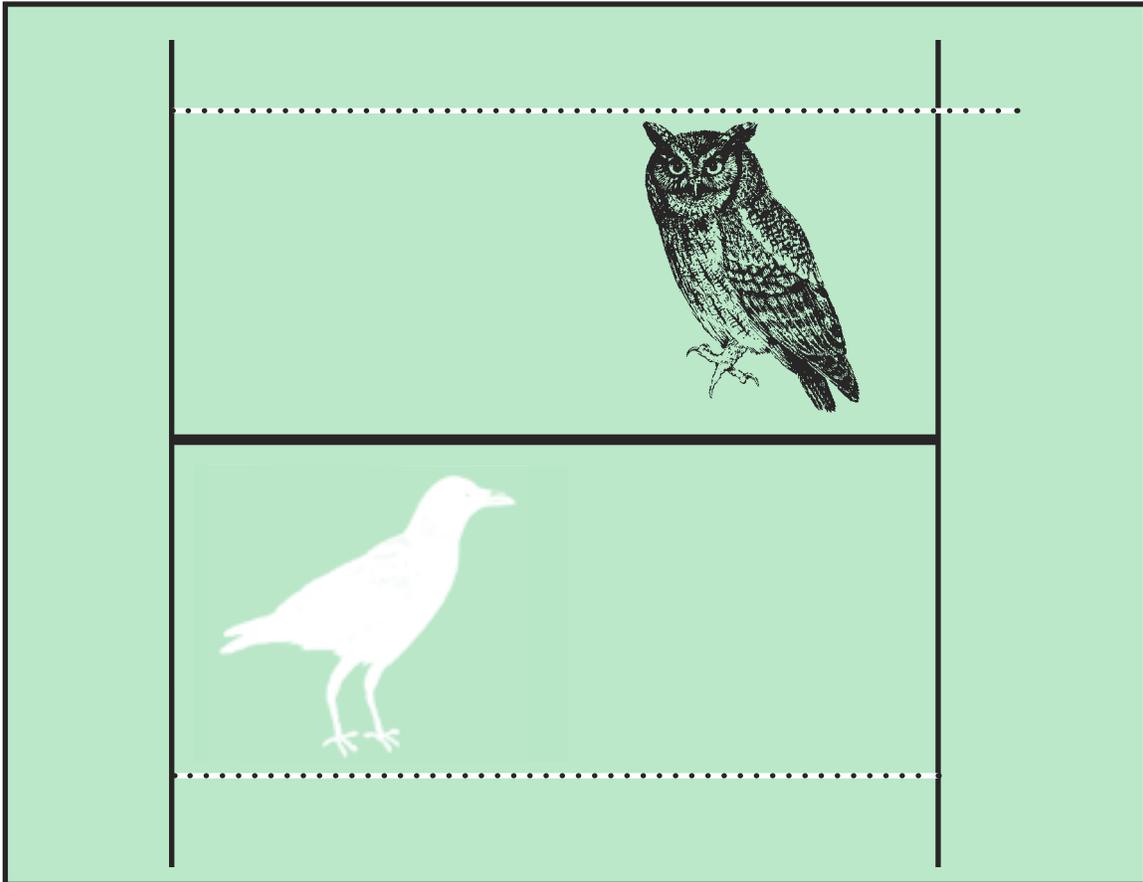


LESSON 9

OWLS AND CROWS



Through playing a physically active quiz game, students will demonstrate their knowledge gained of the river, the environment and local, present-day cultures.



9

LESSON OVERVIEW

Through playing a physically active quiz game, students will demonstrate their knowledge gained of the river, the environment and local, present-day cultures.

Subjects

Science, Social Studies, Physical Education

Standards

Life Science

Objectives

Students will:

1. Evaluate and answer questions related to the environment and cultures the Santa Cruz River.

Preparation

Delineate a playing area that has three parallel lines 20-30 feet apart (see the diagram this page); Make one copy of *Page 9.3* to use in the activity.

Time

15 to 30 minutes.

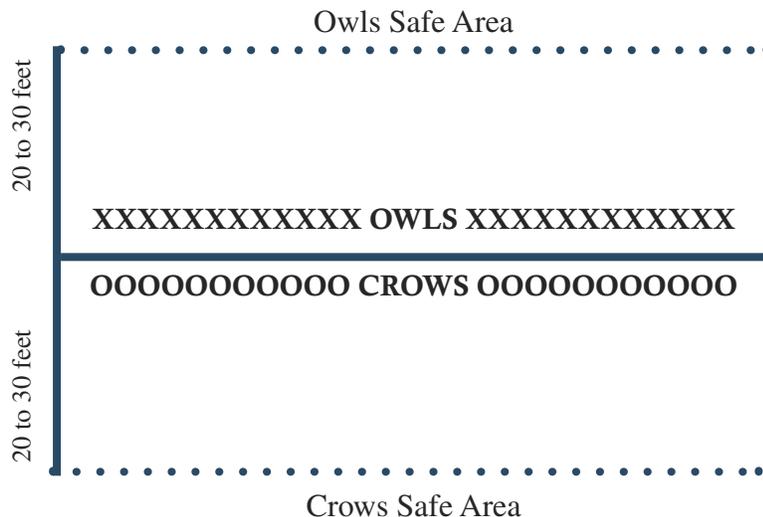
OWLS AND CROWS

TEACHER BACKGROUND INFORMATION

Owls and Crows is a fun way to enforce concepts and evaluate students' knowledge. The questions listed on *Page 9.3* are examples that pertain to the river. However, any question may be substituted, whether pertaining to this unit or to any other subject you might wish to use such as math, science, etc.

Owls and Crows is adapted with permission from *Sharing Nature with Children* by Joseph Cornell.

1. Designate and delineate a playing area with three parallel lines approximately 20-30 feet apart where students can run. (See diagram below)
2. Review themes, content and concepts learned.
3. Split the class into two teams (owls and crows) with teams facing each other on either side of the center line. Each player must have one foot within 12 inches of the center line.



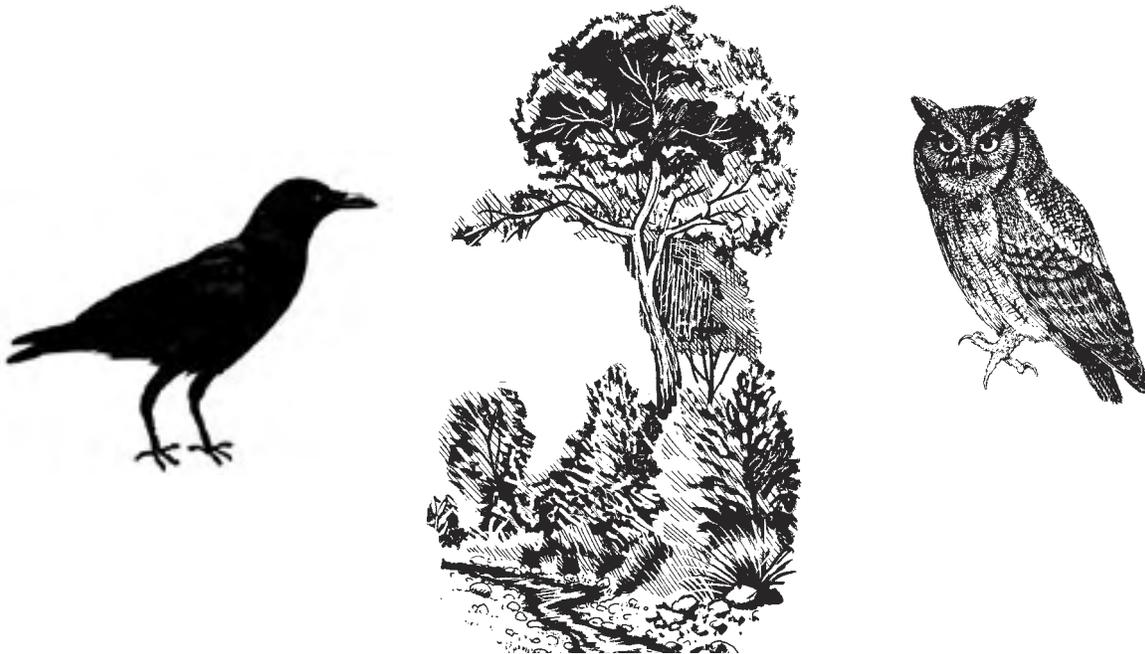
LESSON 9 - OWLS AND CROWS

Explain that the owls are the wise team that always tells the truth whereas the crows can be deceptive and may lie.

4. Tell students that you will read various statements that they will have to determine to be either true or false. They will be given time to think about the answer and may not start until you say “**GO.**” If the statement is true, the owls (the wise ones) will chase the crows towards the owl “Safe Area.” If an owl touches a crow before getting to the safe zone then that crow must join the owl team for the next statement. If the statement is false, then the crows chase the owls towards the owl “Safe area,” again dragging any caught owls back to the crows team.

5. Start by demonstrating instructions with an easy statement such as “Today is Christmas” or “We live in the United States of America.” The first example is false, today is not Christmas! After giving students time to think about the question, say “Go.” (They may not run until you say so.) The crows then chase the owls towards the owl safe area, dragging any caught owls back to the crow team.

6. Using the statements listed on Master Page 9.3, read one statement (**BOLD AND CAPITALIZED**) per round, each time regrouping and discussing the correct answer. (*The answer is written below each question in italics.*) Make each statement progressively harder. Make up your own statements!



Enrichment

- Study individual species to determine why some animals survive better than others.
- Activity: “How many trees in a forest,” Project Learning Tree.
- Take a field trip to the Santa Cruz River. (Call Tumacácori National Historical Park or Friends of the Santa Cruz River for more information)

THE SANTA CRUZ RIVER FLOWS BOTH SOUTH AND NORTH (True)

The river flows from the San Rafael Valley south into Mexico, then hangs a U-turn heading north back into Arizona. Historically it flowed into the Gila River but today is dry at about Amado, with the exception of when there are heavy rains.

GROUNDWATER IS THE WATER THAT WE SEE ON THE GROUND (False)

What we see is surface water. Ground water is underground, below the surface.

POLLUTION AFFECTS WILDLIFE THAT DRINKS FROM THE RIVER (True)

Various diseases and parasites are found in polluted water that affect wildlife and humans. In 1999, for example, high ammonia content was found to kill some of the fish.

**THE SPANISH WERE THE FIRST PEOPLE TO LIVE ALONG
THE SANTA CRUZ RIVER (False)**

First came the Mammoth hunters, then the Hohokam who disappeared in the 1400s. The O'odham showed up shortly after. Archeologists claim that they don't know where the Hohokam went. The O'odham believe that the Hohokam are their ancestors.

**THE SANTA CRUZ RIVER ONCE WAS SO LARGE THAT STEAM POWERED
PADDLE BOATS WERE USED FOR TRANSPORTATION (False)**

The Santa Cruz River never has been and probably never will be big enough to carry large boats, especially not a paddle boat! This false belief comes from a real estate promotion that fooled people by publishing a picture of a paddle boat on the Santa Cruz.

**A RIPARIAN AREA IS A PLACE WHERE FRUIT IS STORED
AND LEFT UNTIL IT IS RIPE (False)**

Riparian refers to the area along a body of water. Along the Santa Cruz it is referred to as the Southwest Cottonwood-Willow Riparian Area.

**TODAY THE SANTA CRUZ RIVER FLOWS YEAR-ROUND FROM RIO RICO TO
TUMACÁCORI BECAUSE TREATED WATER IS RELEASED INTO THE RIVER
FROM THE NOGALES WASTEWATER TREATMENT PLANT (True)**

Because of large scale agriculture, the river was pretty much dry on the surface by 1970. The Nogales International Wastewater Treatment Plant in Rio Rico processes more than forty million gallons of sewage daily from both sides of the border.

**IN THE EARLY 1900s, MANY OF THE NATIVE TREES AND PLANTS WERE
CUT DOWN TO GROW COTTON AN OTHER CROPS (True)**

Better water pumps in the 1940s, allowed large-scale farms to operate. Much of the area along the river was heavily cultivated up to the 1970s.

**UNTIL RECENTLY, THE SANTA CRUZ RIVER WAS A
GREAT PLACE TO GO FISHING (False)**

Although it is true that there are three types of native fish in the Santa Cruz (Long-finned Dace, Desert Sucker and the endangered Gila Topminnow), all are very small, about the size of a minnow. There never were trout or bass.

**UNCONTROLLED DEVELOPMENT ALONG THE SANTA CRUZ RIVER
CAN BE A POTENTIAL THREAT AND PROBLEM (True)**

Uncontrolled development, ATVs (All Terrain Vehicles), over-pumping of groundwater and over-population pose a potential threat to the river. If left unchecked, the Santa Cruz River Valley could become a city between Nogales and Tucson.

LESSON 9 - OWLS AND CROWS