

CANYON CONDOR STUDY GUIDE



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Your students will enjoy CANYON CONDOR at the Great Arizona Puppet Theater as an entertaining story based on true facts. This study guide is designed to supplement learning and addresses Science, Arizona studies and Arts standards. Please use the activities that are appropriate for your students and let us know which activities you find useful for your age group.

THE STORY:

CANYON CONDOR is about a baby condor named Boo who hatches in the Grand Canyon. He learns from his parents how long condors have inhabited the Grand Canyon area, their role in the ecosystem and how they nearly became extinct. One day his father goes missing. When he finally returns, Boo learns of the dangers still facing condors today and what people can do to help assure their survival.

THE PUPPETS:

Two types of puppets are used in the production.

ROD PUPPETS are puppets that are operated from below with sticks or rods.

SHADOW PUPPETS are flat puppets that are seen against a screen. Sometimes shadow puppets are held against a screen with the light shining from behind. In this production, the puppets are operated on an overhead projector, with the projection shining onto the screen.

All of the puppets were designed and built at the Great Arizona Puppet Theater.

ABOUT CALIFORNIA CONDORS

There are two types of condors: California condors and Andean condors. Both are endangered species, meaning there are very few left in the world. Andean condors are found in Argentina, Chile and Colombia. They are the largest flying land bird in the world with a wingspan of 10'. California condors are slightly smaller, but are the largest land bird in North America. Adults weigh about 23 pounds and have a wingspan of about 9.5 feet.

Forty thousand years ago, condors ranged across most of North America. They ate from the carcasses of large animals such as woolly mammoths and giant ground sloths during the last Ice Age. In the early 1800's condors still ranged in the western United States but as more people came to the area, condor numbers dropped dramatically. Before the reintroduction of condors in northern Arizona, the last recorded wild condor in Arizona was near Williams, Arizona in 1924.

In 1987 there were only 22 California Condors left in the world, and only one wild pair. After much discussion it was decided to bring in the last of the wild condors to protect them and to join a captive breeding program already in progress to see if the species could be saved. In the wild, condors find a hollow tree or cave on a cliff to make a nest. They do not construct a nest like most birds, but instead may push some pebbles around to form a ring to keep the egg from rolling around. Only one egg is laid and both parents share in the responsibilities of keeping the egg warm and caring for the chick once it has hatched. Condors have been seen squabbling over whose turn it is to care for the egg. The chick is carefully watched while it is young. One parent will stay with

the chick while the other flies off to look for food.

Condors are carrion eaters. They eat from the carcasses of large animals that are already dead. Carrion eaters help the earth by removing dead carcasses from the environment. Their featherless heads allow them to get inside the carcass and still keep clean. A parent condor will store food in its crop and regurgitate it to feed the chick. A young condor will depend on its parent to bring it food until it is old enough to fly on its own. Condors may fledge, or fly for the first time, when they are about six months old. Once they are competent fliers, they will fly with their parents.

Since wild condors lay only one egg at a time and spend so much time raising a single chick before they lay another, they are said to have a low reproduction rate. Biologists discovered if they removed an egg soon after it was laid, the mother would often lay a second egg. This is called double clutching. If that egg is removed, sometimes a third egg will be laid (triple clutching). Biologists used double and triple clutching to speed up the reproductive process on captive condors. Eggs removed from their mothers were kept warm in incubators. Once the tiny birds hatched, they were fed with condor puppets so they would not learn to depend on humans for food.

The captive breeding program was very successful and in 1992 condors began to be released into the wild again. The recovery plan was to establish two separate wild populations - one in California and one in Arizona. Later, it was decided to release condors in Mexico as well. Vermillion Cliffs in northern Arizona was selected as a release site and the first condors were released in Arizona in 1996. From Vermillion Cliffs, the condors soon found the Grand Canyon. The high inaccessible cliffs and soaring updrafts make it an ideal place to establish a nest. There are now more than 70 condors flying over northern Arizona and southern Utah and the Grand Canyon is one of the best places in the world to see a condor flying free.

Condors change dramatically as they grow. A new hatched California condor has soft white downy feathers and a bald pink head. At about one month old he has fuzzy grey feathers and his skin turns a grey color. The condor grows rapidly and is almost adult sized at 6 months old. At that time, he is mostly black and is known as a juvenile. Gradually, his skin turns pink. Adult condors have pink or orange heads and crops. You can't tell males from females by looking at them. Biologists do a blood test to determine the sex of a condor.

Condors are easily identified by their large size and steady flying pattern. They can soar without flapping for 100 miles and from a distance may be mistaken for a small plane. There are triangular patches of white under their wings. Since the California condor is so seriously endangered, all condors in the wild have identifying numbers and radio transmitters on their wings. The only exception to this is condor chicks or young juveniles who have not yet been tagged. The numbers and transmitters help wildlife biologists keep track of their movements and alert them if a condor goes missing. If the biologists are able to find a sick condor in time, they might be able to save its life. If it has died, they try to determine what killed the bird.

HOW DID CONDORS BECOME ENDANGERED

In the early 1800's condors could be found along the western United States and into northern Mexico. Many factors contributed to their decrease in numbers. People shot them, sometimes to get their feathers. Their large hollow feathers were used by gold miners to keep their gold dust safe. People poisoned pests, such as coyotes, that condors ate and thus became poisoned themselves. People took eggs for collections. The most serious threat to condors today is lead poisoning from lead bullets. Lead bullets fragment when they enter the body of an animal. If a condor eats from an animal that was not recovered by a hunter, or from a gut pile left on the ground, it can eat the lead. This leads to paralyzation of the digestive tract. If the bird is not treated it will die. It is not known if this lead can also result in brain damage as it does in people. Lead poisoning is the largest threat to condors today. Condors are captured and tested twice a year to be tested for lead poisoning. If a bird has high lead levels it goes through a series of chelation (key-lay-shun) treatments to remove the lead from its bloodstream. If the lead poisoning is treated in time the bird can be released into the wild again but it may need weeks or months of treatment first. If the bird was an adult with a young chick, the remaining parent would have a very difficult time caring and feeding its baby alone.

WHAT CAN PEOPLE DO TO HELP CONDORS

Condors will sometimes pick up shiny objects to eat. It is thought they do this because it resembles bone that they eat to get calcium in their diet. Condor chicks have died because their parents accidentally fed them bottle caps and coins. People can help by being careful to dispose of trash properly, and by not throwing "wishing coins" in places like the Grand Canyon or anywhere in condor country. Never try to approach or feed a condor. Hunters should use non-lead bullets to reduce the threat of lead poisoning to condors.

FIND OUT MORE

Condors are fascinating birds. Many organizations are involved in the recovery of the California Condor and have established excellent websites for those who want to learn more. Here are a few good websites:

Arizona Game & Fish - www.azgfd.gov

Peregrine Fund - peregrinefund.org

San Diego Zoo - sandiegozoo.org

National Park Conservation Association - npca.org

California Condor Conservation Organization - cacondorconservation.org

Great Arizona Puppet Theater - azpuppets.org (includes some links to videos)

TOPICS FOR DISCUSSION (before and/or after the show)

(RELATED TO ENDANGERED SPECIES & CONDORS)

What does "endangered" mean?

What does "extinct" mean?

Are condors endangered?

What do condors eat?

How many chicks do condors have?

How can you tell a male condor from a female?

How can you tell a juvenile condor from an adult?

Why do you think the Grand Canyon is a good place for condors to live?

Why do condors have numbered tags on their wings?

What is the biggest threat to condors today?

How can people help condors survive?

(RELATED TO ARTS STANDARDS)

Below are some questions to help students assess the production and performance:

For **productions** as a whole, some important elements to consider are:

THE SCRIPT:

Who were the characters in the story? Did any of them remind you of anyone you know? Who? In what way?

What problem(s) did they have?

How were problems resolved?

What were your feelings at the end of the show?

PUPPETS:

What was the advantage of doing this show with puppets?

What type of puppets were used? Did their design fit their character? Did the design of

the puppets seem to match each other in style and fit within the show?

MUSIC:

How was music used to advance the story and influence the mood?

SET DESIGN:

What did the set look like? Did it try to create a sense of "realism"? Did it set the play in a time or place? What impression did the set create?

LIGHTING:

Were the puppets lit well so you could see them? Did the lighting change during the show? How did that affect the show?

For **individual performances**, you can consider how they might have been done on a different day or for a different audience. Some elements to consider are:

PUPPETEER PERFORMANCES:

Voices: Was the voice of each puppet appropriate to its character? Could you hear and understand what the puppets were saying? Were their lines spoken in a believable fashion? Did the singing voices fit with the speaking voices? How did the voices of the puppets affect the performance?

Manipulation: Manipulation is the way that the puppet is moved, and can be used to assess the performance of a puppeteer. Were the puppets moved in a way that made them seem "alive"? What did an individual puppet's movement tell you about how it felt? Did the way that the puppet move fit with its character? How did the puppets enter and exit the stage? Were entrances and exits appropriate for the characters and believable? Was the height of each puppet consistent throughout the performance? Were puppets with moving mouths in sync with their voices? Did the puppets move in ways that are impossible for humans? If so, was this appropriate for the production? How did the movement of the puppets affect the production?

AUDIENCE REACTION: Were audience members respectful of each other and the performers? Was there applause? How did the audience affect your impression of the show?

We'd love to hear your students' reactions to CANYON CONDOR and suggestions from teachers on improving the program and accompany study materials. Please send to:

Great Arizona Puppet Theater
302 W Latham St
Phoenix AZ 85003

SUGGESTED READING:

CONDOR: SPIRIT OF THE CANYON by Robert Mesta, 2007, Grand Canyon

Association, Grand Canyon, AZ - a children's book about a young Indian boy who learns to help a condor from his grandfather. Includes interesting facts about condors, a map showing historic and current range, and a full-size photo of a primary flight feather

CONDOR'S EGG by Jonathan London, 1994, Chronicle Books, San Francisco, CA - children's book about a pair of condors and the hatching of their chick. Dramatic poetic text and pictures with a "Reader's Guide" for parents and teachers.

CONDORS IN CANYON COUNTRY: THE RETURN OF THE CALIFORNIA CONDOR TO THE GRAND CANYON REGION by Sophie A H Osborn, 2007, Grand Canyon Association, Grand Canyon, AZ - for older students and adults, written by a field biologist who was involved in the Arizona recovery program. Beautiful photographs and captivating text helps readers understand the extraordinary efforts of those involved.

RETURN OF THE CONDOR:THE RACE TO SAVE OUR LARGEST BIRD FROM EXTINCTION by John Moir, 2006, The Lyons Press, Guilford, Connecticut - for older students and adults. Inspiring book about the controversy and efforts to save the California condor from extinction. Includes color pictures, and an appendix entitled "Where to View Condors."

ON THE BRINK OF EXTINCTION:THE CALIFORNIA CONDOR by Caroline Arnold, 1993, Harcourt, Brace, Jovanovich, Orlando, Florida. This book for intermediate level students is about the early days of the California Condor Recovery program, through the release of the first birds back into the wild in 1992. Includes many good photos, including pictures of chicks being fed by condor puppets.



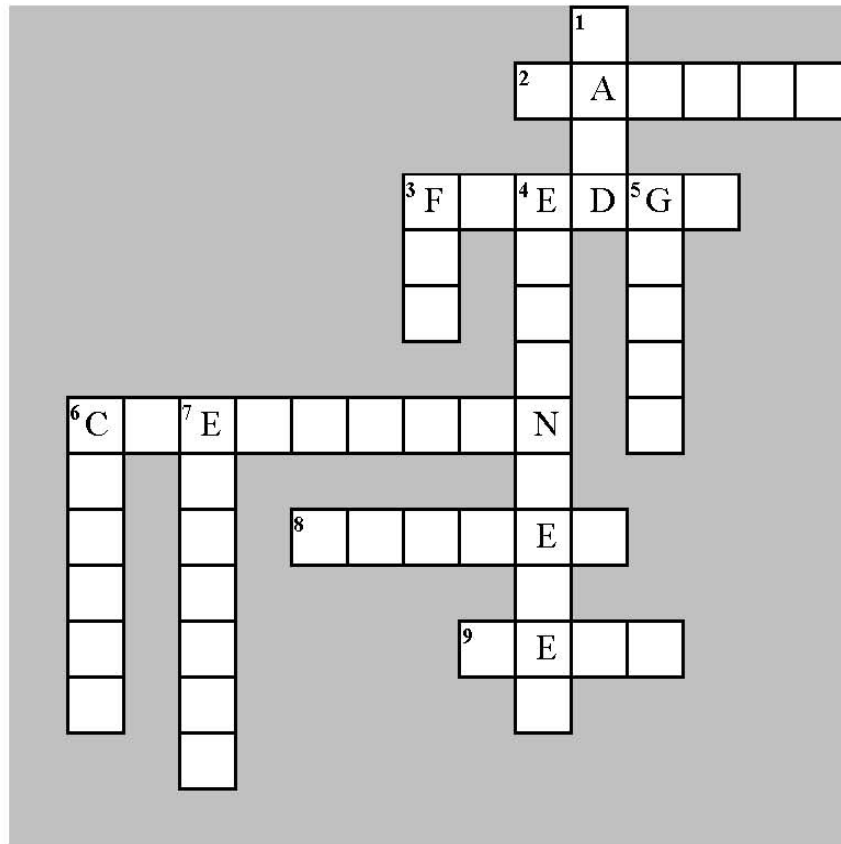
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Date _____

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CANYON CONDOR

Complete the crossword puzzle.



Across

- 2 a deep place with steep sides
- 3 when a bird first learns to fly
- 6 a treatment to remove lead from an animal's bloodstream
- 8 Great Arizona _____ Theater
- 9 a soft heavy metal often used to make bullets

Down

- 1 condors have _____ heads with no feathers
- 3 birds and planes do this
- 4 when there are very few of these left an animal is said to be _____
- 5 very large or magnificent
- 6 large flying bird with vast wingspan

- 7 if no more of these exist, the animal is said to be _____



CANYON CONDOR

Complete the crossword puzzle.

