

Santa Fe College Teaching Zoo Teacher Activity Guide

Grades 4-5

Ocelot



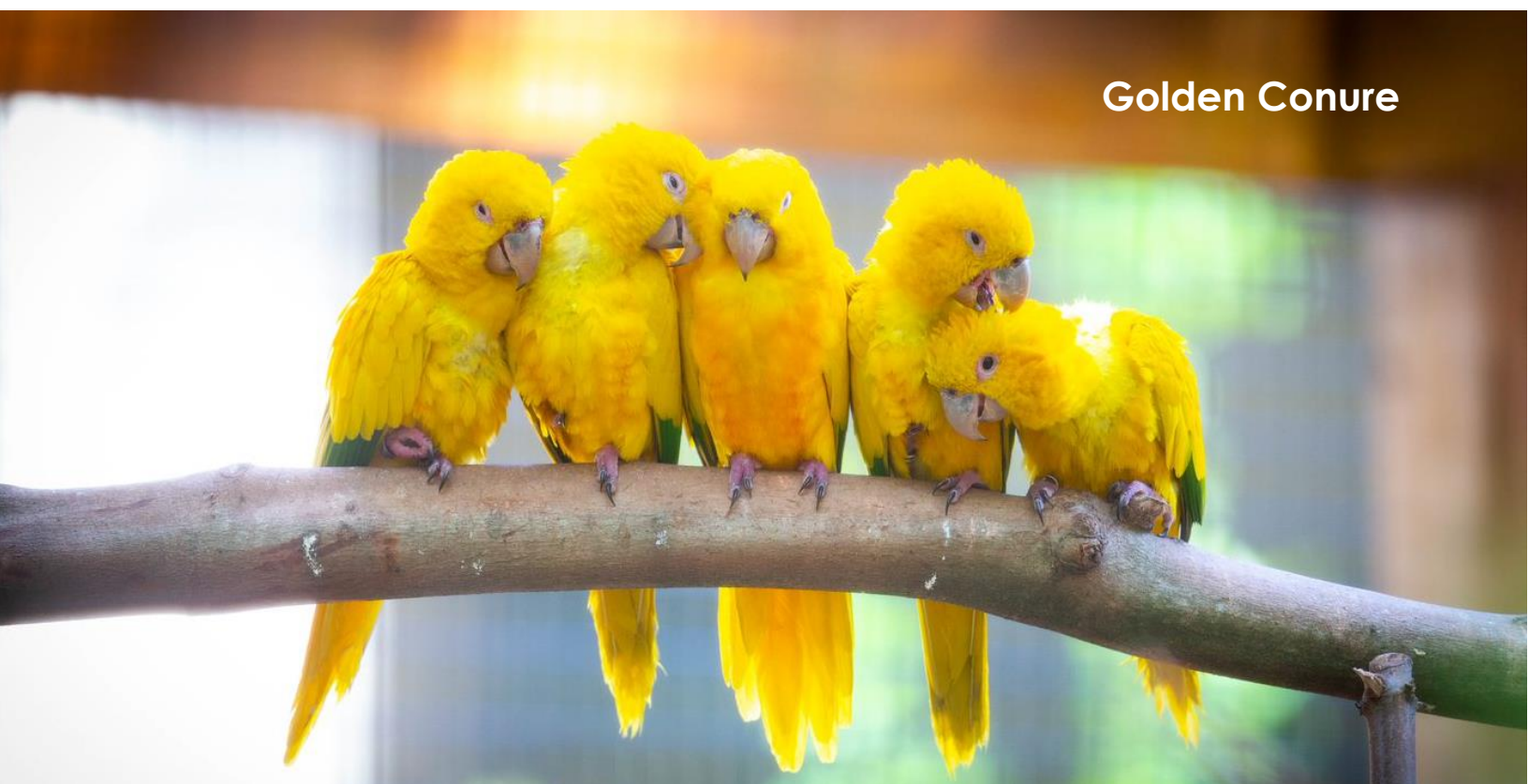
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How to Use This Guide

This guide is intended to be used as a supplement to help you focus your self-guided tour around the zoo. It is separated into pre- and post-trip classroom activities, as well as activities that can be performed at the zoo. You will also find a variety of talking points and questions to bring up at different animal habitats. The suggestions in this guide are aimed at meeting the Sunshine State Standards listed below:

- **SC.4.L.17.2-** Explain that animals, including humans, cannot make their own food and that when animals eat plants or other animals, the energy stored in the food source is passed to them.
- **SC.4.L.17.4-** Recognize ways plants and animals, including humans, can impact the environment.
- **SC.5.L.15.1-** Describe how, when the environment changes, differences between individuals allow some plants and animals to survive and reproduce while others die or move to new locations.
- **SC.5.L.17.1-** Compare and contrast adaptations displayed by animals and plants that enable them to survive in different environments such as life cycles variations, animal behaviors and physical characteristics.



Golden Conure

Planning Your Trip

The Santa Fe College Teaching Zoo consists of a winding mulch trail, nearly half a mile long that is naturally shaded by trees. Bathrooms are located in front of the zoo, and there are water fountains located both in front of and inside of the zoo. A playground is located inside the zoo as well.

Consider Bringing...

- Closed-toe shoes
- Sunscreen
- Bug repellent
- Hand sanitizer
- Umbrellas or ponchos
- Reusable water bottles
- Cameras



American Alligator

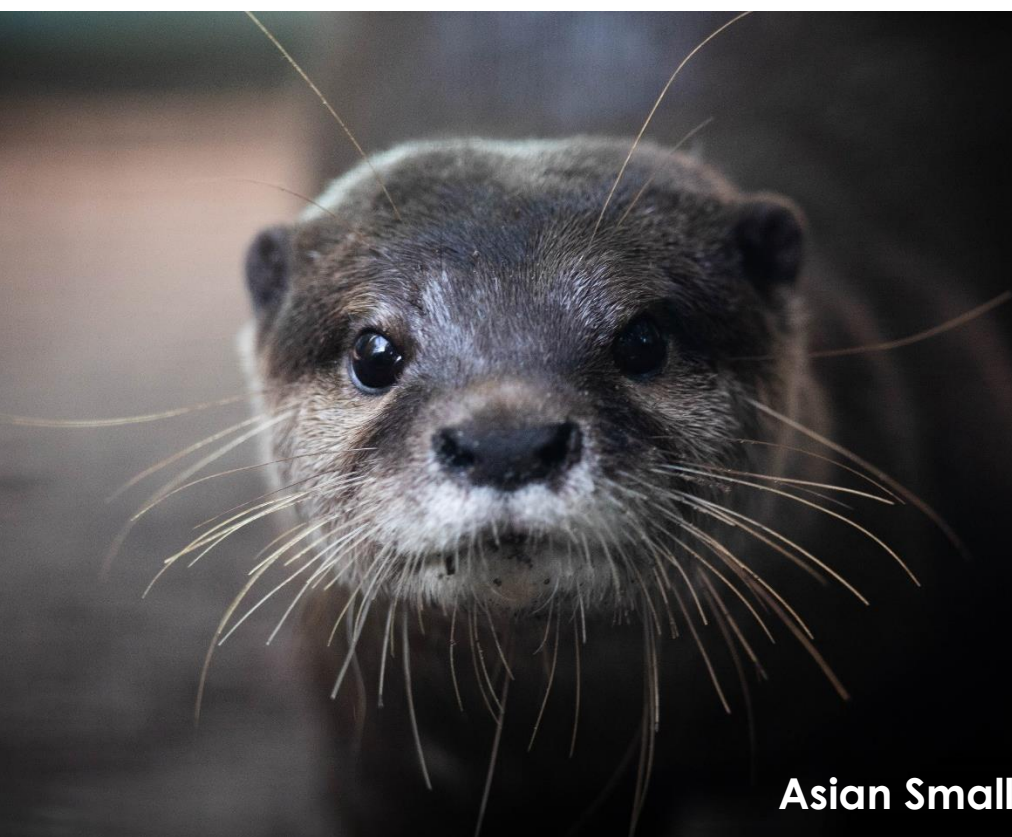
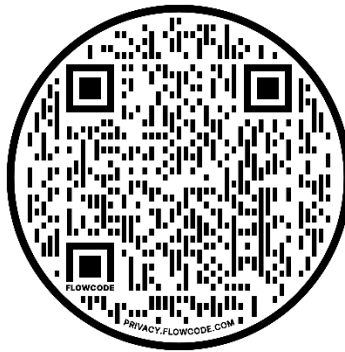
Bus Parking: Buses must park in **LOT #10**. Please do not allow buses/vehicles to block parking at the Zoo or in front of the Little School. In case of emergency, these areas should not be blocked at any time.



Parking for Chaperones: The Zoo shares the parking lot with the Little School and acts as overflow for the SF main campus. Guests can park in any parking space as long as it's NOT outlined in blue paint or has signs posted for the Reserved Parking. Handicap spaces are available next to the restrooms close to the entrance of the Zoo. Overflow parking is available across from the street (North Road) in LOT #9

Lunch: There is a Pepsi machine located in front of the zoo, but there are no hot or cold food options available for purchase. There are several picnic tables located in front of the zoo, as well as a covered picnic area inside of the playground. Groups are welcome to use the picnic tables in front of the zoo for lunch or snack time. All lunches and coolers must be kept on the bus or vehicles as the Zoo does not have storage and cannot be responsible for items. Picnic tables are first come-first served.

Map of the Zoo: Request a map of the zoo at the admissions window – don't forget to recycle them when you're done! Want to know before you go? You can view, download, and print the Santa Fe College Teaching Zoo map with legend using the QR code below:



Asian Small Clawed Otters

Pre-Trip Activities

Pre-trip activities are a great way to help students get excited about their upcoming field trip to the zoo! Here are some suggested activities to get started:

- **Being a Respectful Zoo Guest (page 6):** Using this worksheet, students can brainstorm how to be respectful to animals and visitors while at the zoo.
- **Noisy Neighbors Activity (page 7):** Students will identify noise levels and how they can negatively affect people and animals. Then they will recommend ways that people can change behaviors to decrease sound levels.
- **Food Web Activity (page 9):** Using this worksheet, students can visually see a food web and how the animals within the food web interact with one another.
- **Zoo Word Search (page 10):** This word search includes vocabulary terms to help prepare students for what they will be learning about at the zoo.
 - **Zoo Word Search Answer Key (page 11)**



Indian Peafowl

Being a Respectful Zoo Guest

Remember that when you visit a zoo, you are a guest in the animals' home. To give yourself and the animals the most fun experience possible, it is important that you be a respectful zoo guest. How can you be a respectful zoo guest? Here are some ideas:

- **Please**, practice using your inside voice, even when you are outside. Loud noises can be startling and might cause the animals to hide. The quieter you are, the more likely the animals will stay where you can see them.
- **Please**, avoid tapping on the window of glass exhibits. This can be very scary to the animals on the other side of the glass! Can you imagine if you had strangers banging on your bedroom door all day long? Instead, practice looking at the animals without using your hands.
- **Please**, make sure your trash makes it into a garbage can or recycling bin.
- **Please**, keep human food for humans only – Our animals are on special diets, and outside food might make them very sick. Thank you for helping us keep our animals healthy!

What are some other ways you can think of to be a great guest at the zoo? (Hint: Think about how you can be respectful to other visitors, not just the animals.)

Noisy Neighbors

Objectives

Students will (1) identify noise levels that can adversely affect people, domesticated animals and wildlife; and (2) recommend ways in which people can change some behaviors in order to reduce negative effects from noise for people, domesticated animals, and wildlife

Method

Students conduct an investigation of noise levels in their community, generate and test hypotheses, and make recommendations.

Materials

Writing materials

OPTIONAL – Decibel meter

Background

People and wildlife are subject to similar environmental stresses. Loud noises, such as those from a motorcycle or snowmobile, a noisy group of hikers, or a new construction project, can affect both humans and wildlife. People, domesticated animals, and some wild animals living in city areas frequently learn to live with many loud noises. When animals in their natural habitat hear these and similar noises, they may react by running away, dying from consequences of stress, or learning to adapt to such noises. For example, many animals living in national parks have learned to adapt to the loud noises of the surrounding city.

Many students may know that animals have hearing ranges different from humans. They may know from personal experience that dogs and cats can hear things that humans cannot. Loud music is easier for humans to hear than a machine's high-pitched whine, which may reach beyond our normal hearing range. Both sounds are real; although only one of them may be audible to us, both may be audible and disruptive to wildlife.

The major purpose of this activity is for students to recognize the effects that human-made noises can have on wild animals and to consider alternative behaviors that might have less-damaging consequences.

Procedure

1. Initiate a discussion about noise. What seems loud? What noises hurt your ears? Do any noises frighten or bother you? What even is noise? Noise to one person may be music to another. Ask one or two students to research the questions and report back to the group.

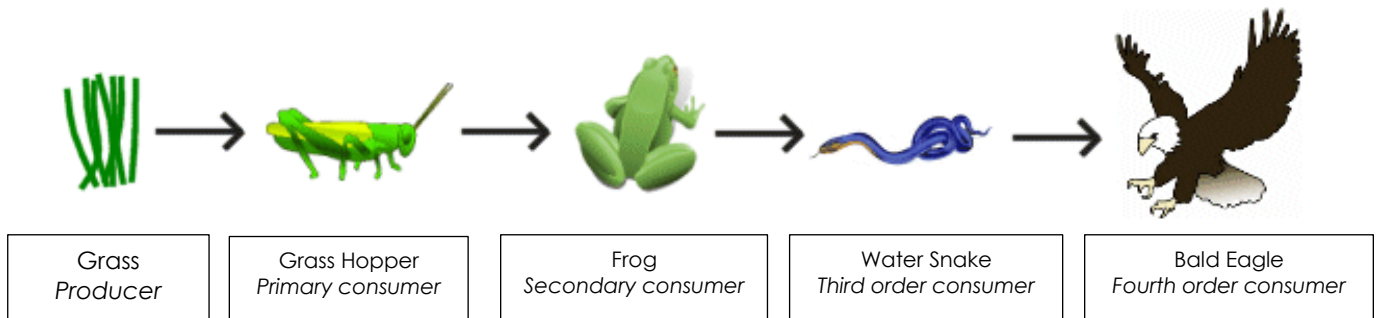
2. Find out about noise ordinances, some communities have regulations about allowable noise levels. Find out about recommended health standards for sound levels. What levels are considered harmful to human ears and with what consequences?
3. With this information about allowable and recommended noise levels, students can do a “sound search” of the community. If possible, get a decibel meter to record decibel levels around the school, shopping center, residential area, city park, and any other areas students are curious about. Is there any correlation between noise levels and the number of people, domesticated animals, and wildlife in each area? If there are large numbers of people or animals in an area with high noise levels, are they experiencing negative consequences like stress? How are they coping and with what effects? Ask students to predict the impact of noise levels on people, domesticated animals, and wildlife. Consider the sources and consequences of human-made noise on wildlife. Here are a few examples to get you started:
 - **Recreation** – backpackers, hunters, woodcutters, motorcycles, dune buggies, snowmobiles, all-terrain vehicles
 - **New Development** – heavy construction equipment, automobiles
 - **Mining** – drilling, explosions, construction traffic.Generate a few hypotheses, and check them through research or by consulting local authorities
4. Generate a set of recommendations: What is the individual's responsibility for noise control? Society's responsibility? What can students do personally – as individuals, groups, or families – to help increase and maintain an informed awareness and responsible behavior concerning the effects of noise on people, pets, and wildlife?

Evaluation

1. Identify four sources of noise that often negatively affect wildlife. Describe the possible adverse effects.
2. Describe the process used to formulate and test one hypothesis concerning the effects of noise.
3. Explain three things that people can do to reduce the noise levels caused when they are visiting wildlife habitats.

What's for Dinner?

Background knowledge: A *food chain* shows the feeding relationship between different living things in a particular *habitat*. Often, a plant will begin a food chain because they can make their own food. Organisms, like plants, that can make their own food are called *producers*. Consumers on the other hand are animals that eat producers or other consumers. There are different levels of consumers, the *primary consumer* eats producers. The *secondary consumer* eats the primary consumer and this continues up to *third order consumers* and higher.



The direction of arrows between the organisms shows who eats what.

Science activity: look at the two food chains below. Identify the producer, primary consumer, and secondary consumer in each food chain. Write your answers in the table.

A Plant plankton → Water flea → Dragonfly larva → Minnow → Pike

B Water plant → Water snail → Water-beetle larva → Frog → Heron

Food Chain	Producer	Primary consumer	Secondary consumer
A			
B			

Looking at the food chains above answer the following questions:

1. What is the Heron's prey? _____
2. What is the Water snail's predator? _____
3. What order consumer is the Pike? _____

Zoo Word Search

*Find each of the words found at the bottom of this page.
Words can be forward and backward, diagonal, or up and down.*

F S K L I G T W L J C F H Y Y O P G D W
Q H P M A T R I E K D J H C Z M C F L F
F T D V C E L Q Y F U U F A R D N U T D
M U R U O W R W Y J O Y E R K Y X J V P
A N P Q E N D O T H E R M I C M Y Y I D
M M E D A C S T B V V A E V I K R B X C
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A V N H X D N O E J A G Y F T C F V V O
L X N Y I K N P T Q N Q K Q B R A T Y B
A Z H F U B O G K H A H T Z S A E X I Y
C C C A S W I H R Q E O W A G J H S I F
R U R U B L T A U A D R X I E C I R E D
W B X T H I A A N U S J M T F P V E D D
F L Y C J Y T M L O X S O I Y I L P M N
L T S M X I P A I R I L L K C N A T V O
F D I U C G A B T N B N U A D B X I U P
F L D W P P D Q C E A N P D N Z O L Y X
J V R D P A A B S T P A C C L D K E N I
N M I H L K D Y F Z R B P S U W R S C S
S L B W W Y G P E L Z E D B T B D U X W

ADAPTATION
AQUATIC
DESERT
FISH
HABITAT
TUNDRA

AMPHIBIAN
ARBOREAL
ECTOTHERMIC
FOREST
MAMMAL

ANIMALS
BIRD
ENDOTHERMIC
GRASSLAND
REPTILE

Zoo Word Search

*Find each of the words found at the bottom of this page.
 Words can be forward and backward, diagonal, or up and down.*

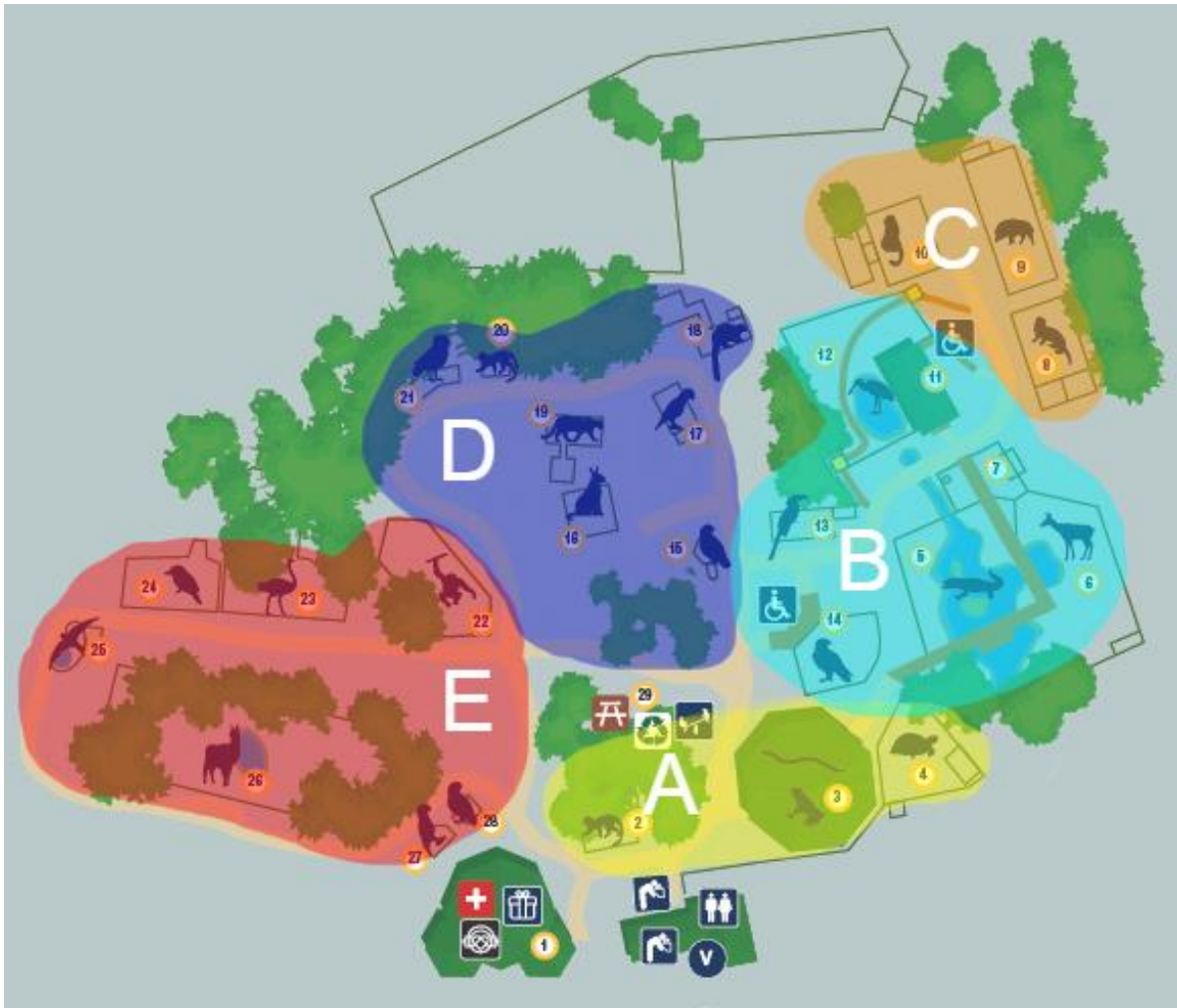
F	S	K	L	I	G	T	W	L	J	C	F	H	Y	Y	O	P	G	D	W
Q	H	P	M	A	T	R	I	E	K	D	J	H	C	Z	M	C	F	L	F
F	T	D	V	C	E	L	Q	Y	F	U	U	F	A	R	D	N	U	T	D
M	U	R	U	O	W	R	W	Y	J	O	Y	E	R	K	Y	X	J	V	P
A	N	P	Q	E	N	D	O	T	H	E	R	M	I	C	M	Y	Y	I	D
M	M	E	D	A	C	S	T	B	V	V	A	E	V	I	K	R	B	X	C
M	T	P	E	V	B	T	V	G	R	A	G	R	S	G	G	Y	S	V	G
A	V	N	H	X	D	N	O	E	J	A	G	Y	F	T	C	F	V	V	O
L	X	N	Y	I	K	N	P	T	Q	N	Q	K	Q	B	R	A	T	Y	B
A	Z	H	F	U	B	O	G	K	H	A	H	T	Z	S	A	E	X	I	Y
C	C	C	A	S	W	I	H	R	Q	E	O	W	A	G	J	H	S	I	F
R	U	R	U	B	L	T	A	U	A	D	R	X	I	E	C	I	R	E	D
W	B	X	T	H	I	A	A	N	U	S	J	M	T	F	P	V	E	D	D
F	L	Y	C	J	Y	T	M	L	O	X	S	O	I	Y	I	L	P	M	N
L	T	S	M	X	I	P	A	I	R	I	L	L	K	C	N	A	T	V	O
F	D	I	U	C	G	A	B	T	N	B	N	U	A	D	B	X	I	U	P
F	L	D	W	P	P	D	Q	C	E	A	N	P	D	N	Z	O	L	Y	X
J	V	R	D	P	A	A	B	S	T	P	A	C	C	L	D	K	E	N	I
N	M	I	H	L	K	D	Y	F	Z	R	B	P	S	U	W	R	S	C	S
S	L	B	W	W	Y	G	P	E	L	Z	E	D	B	T	B	D	U	X	W

ADAPTATION
 AQUATIC
 DESERT
 FISH
 HABITAT
 TUNDRA

AMPHIBIAN
 ARBOREAL
 ECTOTHERMIC
 FOREST
 MAMMAL

ANIMALS
 BIRD
 ENDOTHERMIC
 GRASSLAND
 REPTILE

Zoo Map



Refer to this map in conjunction with the suggested talking points below as you discuss important themes pertaining to different animals at the zoo.

***Until further notice for the safety of our animals, the Southwest corner of the zoo is closed.**

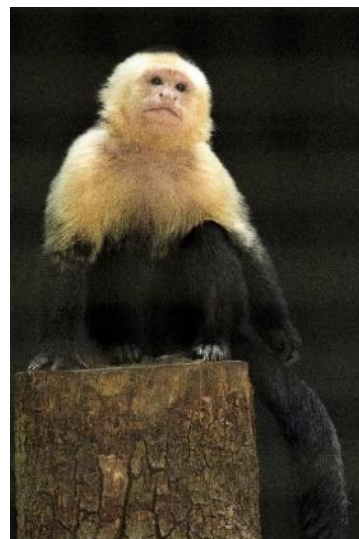
Suggested Talking Points

Use the following talking points and the map (found on the previous page) to guide discussion about our animals. Consider how each habitat meets the animals' basic needs, and how each animal has adapted to live in its natural environment.

Area "A"

White-Throated Capuchin Monkeys: These mammals live in the rainforests of South America. Capuchins have several adaptations that make them suited to living high up in the trees. Do you notice any?

- A *prehensile* tail to give them added grabbing power. Prehensile means "capable of grasping". They can use their tails just like a third arm – they can pick things up with it, and they can use it to grab onto branches for extra stability.
- They get their energy from eating fruits and other plant materials, as well occasionally eating smaller animals like bird, frogs, and lizards.
- How do humans affect the white-throated capuchin's survival in their natural range? *Deforestation* does affect the available habitat of these monkeys. But unlike other species of monkey that share their range with the capuchins, the white-throated capuchin is not yet in danger of becoming extinct.



Eastern Indigo Snake: Eastern Indigo snakes play a crucial role in the food web of their ecosystems. Not only do they help control rodent populations they also eat *venomous* snakes! They usually live in sandy areas with a lot of pine trees.

- This threatened species of snake is the largest snake **native** to Florida. They can grow up to 8 ft long!
- Eastern Indigo snakes are commonly found cohabitating in Gopher tortoise burrow, which are also an threatened species. If there aren't gopher tortoises around, they will live in abandoned armadillo or rodent burrows. Why do you think they need to live in other animals' burrows? A: They cannot dig themselves and need them to stay warm during the winter.

- Humans have had a negative impact on the amount of Eastern Indigo Snakes left in their natural range. Humans have moved onto the land that the Eastern Indigo Snakes use. One way that you can help the Eastern Indigo snake is when you see a snake in your natural habitat or theirs, simply observe with your eyes from a safe distance and let them continue on their way.

Green and Black Poison Arrow Frogs: Like reptiles, frogs are *ectothermic*. But frogs are not reptiles, they are amphibians. This means that they have two very distinct life stages – one that requires water, and one that lives on land. Another difference between amphibians and reptiles is that reptiles have scales, and amphibians do not – their skin is smooth.

- Animals can only live-in habitats that meet their basic needs. Why do frogs need to live in a damp environment? They actually breathe through their skin! For this to happen, their skin has to be moist.
- Some animals use camouflage as an adaptation to hide from other animals that might want to eat them. These green and black poison arrow frogs have a different tactic! Their bright colors are an advertisement to predators that says, “Don’t eat me, or you’ll regret it – I’m poisonous!” So how would a green and black poison arrow frog, which is *poisonous*, pass on its poison? (Another animal would have to try to eat it!)

Area “B”

American Alligator: Can you all see if you can spot one of the adult alligators! There are two that live here at the Zoo. American Alligators have been on Earth since the time of the T-rex. Can you see some characteristics that have helped alligators survive for so long?

1. Alligators have Strong powerful tails to help them swim really well.
2. They also have thick scales on their back called osteoderms. Osteo means bone and derma means skin. These boney scales help protect the alligator like built in armor.
3. The American alligator also has a large mouth and teeth with one of the strongest bites in the animal kingdom!

Florida Aviary: This habitat is home to eight species of birds that live year-round or migrate in Florida. Can you find all eight species? (Roseate Spoonbill, Black capped Night Heron, Cattle Egret, White Ibis, Fulvous whistling Duck, Redhead Duck, Blue-winged Teal Duck, Wood Duck). Each species is usually found near water. As you look at them take note of the unique characteristics of each bird species. What do you think the purpose of their individual adaptations?

- White Ibis have their long, curved beaks that they use like tweezers to pick up insects.
- Cattle egrets look very similar to white ibis but rely on their good eyesight and shorter pointy beak to hunt for food. They get their name because they are often found around cattle waiting for the cows to stir up insects in the tall grass and worms out of the soil.
- Roseate Spoonbills are the most noticeable with their bright pink feathers and an interestingly shaped bill. The paddle shaped bill is very sensitive to touch. They will sweep their bill back and forth in the shallow water trying to feel for invertebrates. This is where their pink color comes from!
- Night herons are darker in color and have red eyes because they hunt at night! They wait for all the other birds to go to sleep so they don't have to compete for their meals during the day.
- You will notice that all four of these species have long legs and large feet so they can walk through shallow water without getting their feathers wet.
- Fulvous whistling duck get their names from the characteristic whistle call they make when communicating with one another. Ducks have a special way of finding their food in a process known as dabbling, where they tip their upper body into the water and their duck behinds stick up out of the water.
- Red Head ducks get their names from that dark red head they possess. Unlike the whistling ducks, red heads are diving ducks. Instead of just submerging their heads, they use their big strong paddle feet to dive to the bottom of the water and search for food in the muck.
- Wood Ducks have a unique body shape, if you compare the two wood ducks to some of the other duck species in the aviary you will notice that wood ducks are much rounder than ducks of other species. This rounder shape allows the wood ducks to sit higher in the water as they are more buoyant, meaning they float better.



Conservation Message for both American Alligator and Florida Aviary

- The animals we just talked about in the Florida Aviary, as well as the American Alligator rely on wetlands for survival. As humans, it is important we all do our best to keep our waterways clean in Florida. A few things we all can do to help keep Florida's water clean is to:
 - Clean up after our dogs when they use the bathroom outside
 - Tell friends and family all about the amazing animals you learned about and how humans can do their part to save them
 - Always pick up your trash when you are done with it and if you have gloves or are with a parent, you can also help pick up other people's trash they have left behind outside.

Area "C"

Asian Small-clawed Otters: The smallest of all 13 species of otter, Asian small-clawed otters are a freshwater species that spend most of their time in small streams or shallow rivers. Otters are well adapted for life in the water, with a special waterproof coat and webbed toes and fingers for swimming,

- One special adaptation Asian small-clawed otters have is that the webbing on their toes and fingers is only partial, this allows them to still be able to grab things with their hands and gives them more stability when walking on land.
- They have adapted the ability to seal up their nasal cavity when diving under the water to avoid getting water up their noses. Something us humans would benefit from.
- They find their food through touch, using sensitive paws to find food in the murky waters they live in. One other adaptation they have for finding food, is highly sensitive whiskers that also help them find food in the murky water they live in.

Matschie's Tree Kangaroo: This is a kangaroo that lives in the trees! This unique species of kangaroo is native to the island of Papua New Guinea. Because they live high in the trees, they have developed some special characteristics to help them survive.

- They have long claws on their front paws to help them grasp and hold on to tree branches, bark and foliage.
- They have powerful legs to help them get around in the trees. They also use their legs to absorb the impact if they fall from the tree. They can jump down 60 feet to the ground without injuring themselves!
- Their fur has a unique coloration to help them blend in with their surroundings, but it also acts as a built-in raincoat. Their fur is so densely packed that water rolls right off their back.

*The Tree Kangaroo Conservation Program is great example of conservation that helps the animals, habitat, and the local people. The delicious YUS Conservation Coffee or "The Wonderous Cloud Forest" story book sold in the gift shop are part of that program!

Area “D”

Red-Ruffed Lemurs: Lemurs are very special, because they only exist on one island called Madagascar. They spend most of their time up in the trees.

- Red-ruffed lemurs have very long tails – their tails are longer than their whole body! These super long tails help them keep their balance when they're up in the trees, similar to us putting our arms out when we're trying to keep our balance.
- Red Ruffed Lemurs are the largest pollinators in the world! They help many of the trees in their area reproduce. This means that many other species rely on the red ruffed lemur to help make more trees!



Squirrel Monkeys: Though very tiny, these are not the smallest monkey.

- Squirrel Monkeys have very long tails – their tails are longer than their whole body! Unlike the monkeys we met earlier, the Capuchin, their tails are not prehensile. Instead, they use their long tails to help them keep their balance when they're up in the trees, similar to us putting our arms out when we're trying to keep our balance.
- Communicate through chirping sounds – have over 26 different communication calls making them the most vocal of all the primates. If you listen closely, you might hear them communicating to one another. They use these calls to communicate with their troop, troop sizes can consist of more than 100 monkeys.
- One way that we can help protect squirrel monkeys is to never purchase a pet that has been taken from the wild. Squirrel monkeys are greatly impacted by the pet trade that takes them out of the wild and into people's homes. This is not where these monkeys belong, they are wild animals that do not make good pets!



Area "E"

White-Handed Gibbons: Like lemurs, gibbons are also mammals that are built for life in the trees, but they have very different adaptations. While lemurs have long tails for balance, gibbons don't have tails at all! This is one of the ways that you can tell gibbons are apes, and not monkeys – monkeys have tails, and apes do not. (Lemurs are neither monkeys nor apes, they are in a family all their own.) What adaptations do gibbons have that allow them to live in the trees?



- Gibbons have very long arms – their arms are much longer than their legs. This is because their main method of transportation is swinging through the trees; they hardly ever walk on the ground. When they do walk on the ground, they have to lift their arms up over their heads so that they don't drag on the ground.
- Gibbons are also light weight compared to their other primate relatives (think of big gorillas or orangutans). Life in the trees is a lot easier for animals that are lighter in weight.
- One way that we can help protect the gibbon's natural habitat is buying products made with sustainable palm oil. The home forests of the gibbons are taken down and replaced by palm trees to harvest their palm oil. Apps, like the Sustainable Palm Oil Shopping app, can help you and your family at the grocery store make choices that protect forest animals living in Asia and South America.

Emu: Emus are the second largest flightless species of bird behind the ostrich. Like an ostrich, emus have long strong legs accompanied by sharp talons on their feet. Emus are very fast runners and can sprint up to a speed of 35 miles per hour.

- The reason the Emu can run so fast is the way their legs are designed. Looking at them you might think they have backwards knees, BUT that is actually their ankle you are seeing and not their knee. Emus walk on their toes, and this allows them to grip into the ground as they run, like they are wearing soccer cleats.
- In Australia where Emus are from there are a lot of endangered animals, however the Emu is not one of them. They are currently of least concern for animals going extinct. Why might this be? One reason is that as humans have taken the land they use; Emus have been able to adapt to new areas in Australia because they are able to eat lots of different types of plants.

Hawk-Headed Parrot: This bird's most defining characteristic is in their name

- They have developed a head that looks like a hawk, which is a bird of prey. This allows them to poke their heads over the treetops and scan their surroundings without attracting actual birds of prey which might otherwise try to attack them.
- They also have long, bright red and blue feathers around their neck that they can raise up into a “fan” (similar to how a peacock can spread out his tail feathers). This makes them look bigger and can scare off potential predators, as well as attract mates.
- These beautiful parrots are taken from the wild to be kept as pets, this has greatly decreased their populations in their natural range. This is another reason why we should never take animals from the wild to be pets, as it can cause a species to go extinct.



In-Zoo Activities

Make the most of your visit to the zoo with some of these suggested activities!

- **Finding Food Webs in the Zoo (page 20):** Have students create a food web using the animals they have met at the zoo.
- **Animal Adaptation Activity (page 21):** Your students just discovered a new species of animal! They need to name it and make observations to determine what adaptations it has to survive!



Squirrel Monkey

Finding Food Webs at the Zoo

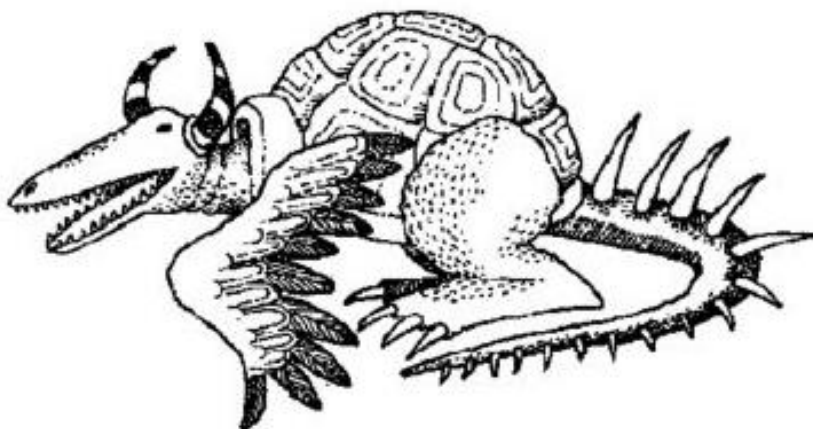
*As you walk through the zoo, think about whether the animal you see is a predator or prey.
Afterwards create your very own food web.*

Predator	Prey

Build your Food Web here

Animal Adaptations

You have discovered a new animal! Scientists think it is the most adapted animal to its habitat in the world (it is in the picture below)! It has picked up tactics from many different animals to help it survive in its habitat. First, decide what habitat your animal lives in. Next, you need to give this new creature a name. Finally, study the image below and think about how the animals you saw at the zoo used their adaptation to list at least 5 adaptations and how they may help this animal survive in its natural habitat.



Animal Name : _____

Adaptation	Use for Survival

Post-Trip Activities

Help your students make sense of what they saw and retain the knowledge they gained by using some post-zoo activities.

- **Animal Report (page 23):** Have students write up an Animal Report of one of the animals they met at the Zoo.
- **Threats to the Gopher Tortoise Freeze Tag (page 24):** This activity is designed to allow students to visually see the impacts humans can have on the gopher tortoise populations.

Link to activity: <http://gophertortoisedayfl.com/wp-content/uploads/2016/03/FieldActivitiesGuide.pdf>

Hornbill

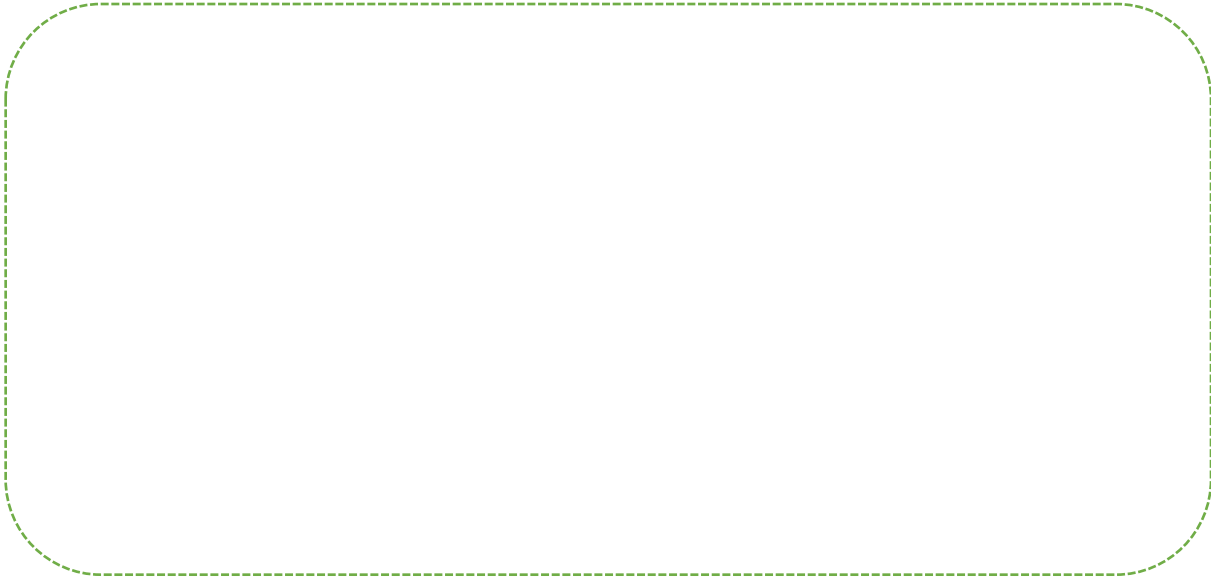


Zoo Field Trip Animal Report

Chose an animal you met at the Zoo and answer the questions below.

By: _____ Date: _____

Draw a picture of the animal here



Animal Name: _____

Animal Eats: _____

Animal Lives: _____

Animal Observations

1. _____
2. _____
3. _____

New Facts I Learned

1. _____
2. _____
3. _____

Threats to the Gopher Tortoise Freeze Tag

Background

The gopher tortoise is a very important native species in Florida. Gopher tortoises dig burrows that provide safe homes for hundreds of other animals. This makes them critical for maintaining an area's health and biodiversity. Today, the gopher tortoise is, unfortunately, a Threatened species. They face many dangers, most of them caused by people.

Humans are having severe effects on gopher tortoises. People influence habitat loss, the spread of disease, and the possibility of tortoises coming into contact with dogs. All of these factors have harmful effects in gopher tortoises. People may be the problem, but we can also be the solution. We can reverse the harmful impact we are having on gopher tortoises by promoting responsible practices like prescribed burns, green spaces, and not handling wild tortoises. In this game you will see how threats can harm gopher tortoise populations, and how responsible practices can reverse the effects of those threats.

Directions

This is a game of freeze tag. If a "freezer" tags a "tortoise", the tortoise is frozen. A frozen tortoise is unable to move and must remain in the place it was when it was tagged until it is unfrozen. Only the "unfreezers" may unfreeze any frozen tortoises. Once unfrozen, the tortoise can move around freely once more. The "freezers" should actively try to tag the tortoises. The "tortoises" should try to evade the "freezers". "Unfreezers" should attempt to unfreeze any frozen tortoises as quickly as possible.

The placards: For this activity, six placards have been provided. Three of them describe threats to the gopher tortoise. The other three describe positive actions that aid in tortoise conservation. Print them out, punch holes in the tops of each, and string them with a yarn/thread so that they may hang like loose necklaces on the players.

The freezers: The freezers will wear placards that describe threats to the gopher tortoise (indicated with the color red). The threats include habitat loss, domestic dogs, and disease. Habitat loss is a threat to the gopher tortoise because it results in a lack of healthy space for the tortoises to live. Domestic dogs are a threat to the gopher tortoise because they often prey on tortoises. Disease, especially Upper Respiratory Tract Disease, is a common threat because it is easily spread from tortoise to tortoise and there is no known cure. The freezers representing these threats will tag gopher tortoises, resulting in the tortoises being frozen. The tortoises must stay that way unless conservation efforts (unfreezers) are able to save (unfreeze) them.

The unfreezers: The unfreezers will wear placards that describe responsible practices that can help reverse the damaging effects of the threats (freezers). The responsible practices include prescribed burns, green spaces and hands off. Prescribed burns are necessary for promoting the growth of low-growing, leaf plants and grasses for the gopher tortoises to eat. Green spaces are places that are set aside and not developed, allowing animals like the gopher tortoises to have areas of undisturbed habitat. "Hands off", meaning not handling wild tortoises, is important for disease prevention and the animal's safety. These responsible actions can help reverse the damage caused by threats. During the game, unfreezers are able to unfreeze any frozen tortoises.

The tortoises: Each of the players that are not a freezer or unfreezer is a gopher tortoise. Collectively, they represent Florida's resident population of wild gopher tortoises. Their job is to avoid the threats and try to survive. See what happens as they attempt to evade habitat loss, disease, and domestic dogs, with the help of responsible conservation actions. Will this population be conserved?

***For variations in the game, try changing the rules up a bit. For example:**

- Allow the freezers to freeze the unfreeze. In other words, allow the threats to stop sustainable practices. This will demonstrate a shift in the balance of conservation that may occur if the effects of a threat outweigh the benefits of a sustainable activity.
- Remove some of the unfreezers. This will demonstrate how hard it is to save the gopher tortoise when little conservation efforts are being made.
- Remove some of the freezers. This will demonstrate how the tortoise population might benefit from the removal of some of the things that threaten it.

Keywords

Biodiversity: the variety of species within an environment. Habitats with numerous different species have high biodiversity. Habitats with few different species have low biodiversity. Habitats with high biodiversity tend to be healthier than those with low diversity. Gopher tortoises help habitats have higher biodiversity.

Conservation: The preservation of natural resources through responsible management and sustainable practices.

Habitat loss: The physical loss in available space for a species to live in. The gopher tortoise is experiencing habitat loss due to destruction, fragmentation, and degradation. Essentially, tortoise habitats are being destroyed, broken up into species, and declining in quality.

Native: belonging to a certain place. The gopher tortoise is native to Florida, meaning that it is part of Florida's natural environment.

Prescribed burns: A planned fire applied to a specific area under safe weather conditions in order to maintain the health of the area. Prescribed fires in

Florida are important to maintain the short, leafy plants and grasses the gopher tortoises eat.

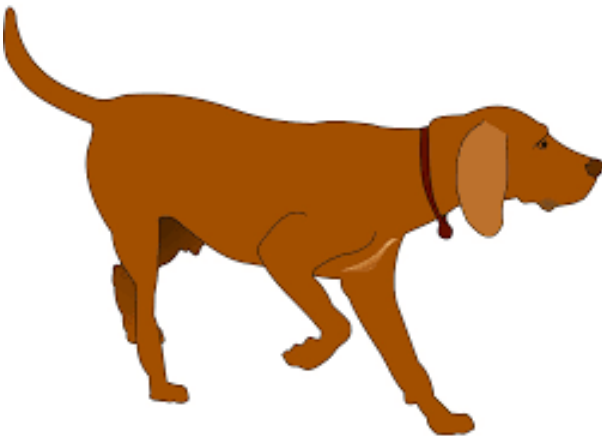
Habitat Loss and Degradation



Prescribed Burns



Domestic Dogs



Green Spaces



**Disease (Upper
Respiratory
Tract Disease)**



**Hands Off
(Observe from
a safe distance)**



Glossary

Prehensile - “Capable of grasping”. They can use their tails just like a third arm – they can pick things up with it, and they can use it to grab onto branches for extra stability.

Ectothermic/ectotherm - These animals rely on their environment to regulate their body temperature. Example: fishes, amphibians, reptiles, and invertebrates.

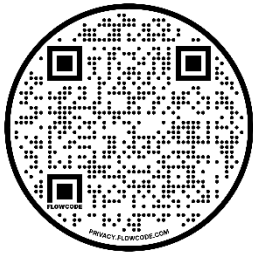
Endothermic/endotherm - These animals can create heat within their bodies, like us! (and all other mammals/marsupials)

Venomous - Refers to animals who inject toxins into another animal, usually through fangs or a stinger.

Poisonous - Refers to the transfer of toxins through secretions in the skin or through physical contact.

Ambush predators - The act of taking prey by surprise.

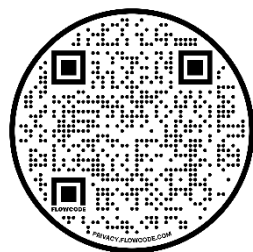
Arboreal - Animals that live in trees



Resources

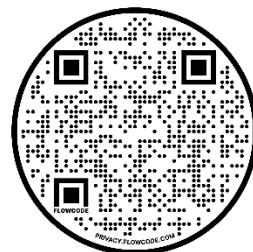
Native venomous:

<https://www.savethebuzztails.org/educator-resources>



Green and black poison arrow frog information:

<https://www.zoonewengland.org/stone-zoo/our-animals/reptiles-amphibians/green-and-black-poison-dart-frog/>



Why wild animals make terrible pets:

<https://www.aza.org/connect-stories/stories/why-wild-animals-dont-make-good-pets?locale=en>