# Santa Fe College Teaching Zoo Teacher Activity Guide

Grades 2-3



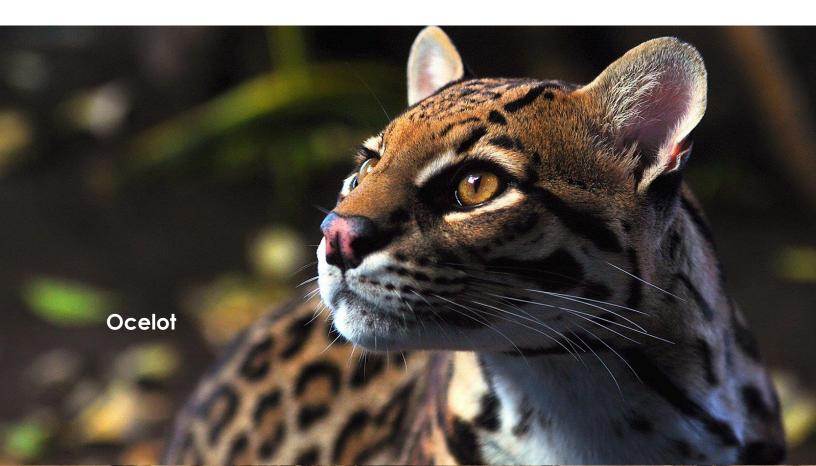
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#### How to Use This Guide

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 enclosures. The suggestions in this guide are aimed at meeting the Sunshine State Standards listed below:

- **SC.2.L.17.2:** Recognize and explain that living things are found all over Earth, but each is only able to live in habitats that meet its basic needs.
- **SC.3.L.15.1:** Classify animals into major groups (mammals, birds, reptiles, amphibians, fish, arthropods, vertebrates and invertebrates, those having live births and those which lay eggs) according to their physical characteristics and behaviors.



# **Planning Your Trip**

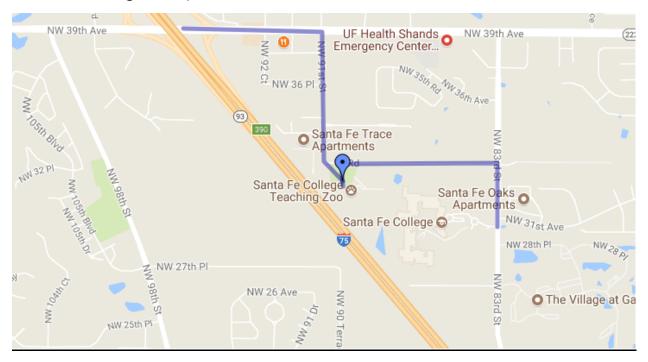
The Santa Fe College Teaching Zoo consists of a winding mulch trail, nearly half a mile long that is naturally shaded by trees. Bathrooms are located in front of the zoo, and there are water fountains located both in front of and inside of the zoo. A playground is located inside the zoo as well.

# Consider Bringing...

 Closed-toe shoes • Sunscreen • Bug repellent • Hand sanítízer umbrellas or ponchos • Reusable water bottles • Cameras



<u>Directions to the Santa Fe Teaching Zoo:</u> GPS will guide you to the east side of the campus. The Zoo is located off of North Road, on the northwest side of the Santa Fe College campus.



#### If you are coming off of 1-75:

- Exit #390. This puts you on N.W. 39th Avenue (SR 222).
- Go east to N.W. 91st Street (Walgreens is on the right)
- Turn right onto N.W. 91st Street and follow N.W. 91st until it makes a sharp curve to the left.
- The Zoo is the first driveway on the right after the curve.
- We are located in the tan building with the green roof on the left at the tree line.

#### If you are at the SF Admissions Office on the main campus:

- Turn Left onto NW 83rd St
- At light, turn left.
- Pass Gym and enter the parking lot on the left.
- We are located in the tan building with the green roof on the left at the tree line.

**<u>Bus Parking:</u>** 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.



<u>Parking for Chaperones:</u> 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

<u>Lunch:</u> 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.

<u>Map of the Zoo:</u> 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:





### **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 (<u>page 5</u>):** Using this worksheet, students can brainstorm how to be respectful to animals and visitors while at the zoo.
- **Zoo Senses Worksheet (page 6):** Using this worksheet, students will think about what they might see, hear, and smell while visiting the zoo.
- **Zoo Word Search (page 7):** 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 8)
- Zoo Crossword Puzzle (page 9): This crossword puzzle will get students
  thinking about vocabulary words to describe the animals they will be
  learning about.
  - Zoo Crossword Puzzle Answer Key (page 10)



### 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!

(Hint: Think about how you can be respectful to other visitors, not just the animals.)						

# **Zoo Senses Worksheet**

When I go to the zoo...

(a) I might see		
I might hear		
C Imigni near		
I might smell		
Triigin sinei		

### **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	С	F	Н	Y	Y	О	P	G	D	W
Q	Н	P	M	A	T	R	I	E	K	D	J	Н	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	Ο	W	R	W	Y	J	Ο	Y	E	R	K	Y	X	J	V	P
A	N	P	Q	E	N	D	О	T	Н	E	R	M	I	C	M	Y	Y	I	D
M	M	E	D	Α	C	S	T	В	V	V	Α	E	V	I	K	R	В	X	C
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L	X	N	Y	I	K	N	P	T	Q	N	Q	K	Q	В	R	A	T	Y	В
A	Z	Н	F	U	В	Ο	G	K	Н	Α	Н	T	Z	S	Α	E	X	I	Y
C	C	С	Α	S	W	I	Н	R	Q	E	Ο	W	Α	G	J	Н	S	I	F
R	U	R	U	В	L	T	Α	U	A	D	R	X	I	E	C	I	R	E	D
W	В	X	T	Н	I	A	A	N	U	S	J	M	T	F	P	V	E	D	D
F	L	Y	C	J	Y	T	M	L	Ο	X	S	Ο	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	Ο
F	D	I	U	C	G	A	В	T	N	В	N	U	A	D	В	X	I	U	P
F	L	D	W	P	P	D	Q	C	E	Α	N	P	D	N	Z	Ο	L	Y	X
J	V	R	D	P	Α	A	В	S	T	P	Α	C	C	L	D	K	E	N	I
N	M	I	Н	L	K	D	Y	F	Z	R	В	P	S	U	W	R	S	С	S
S	L	В	W	W	Y	G	P	E	L	Z	E	D	В	T	В	D	U	X	W

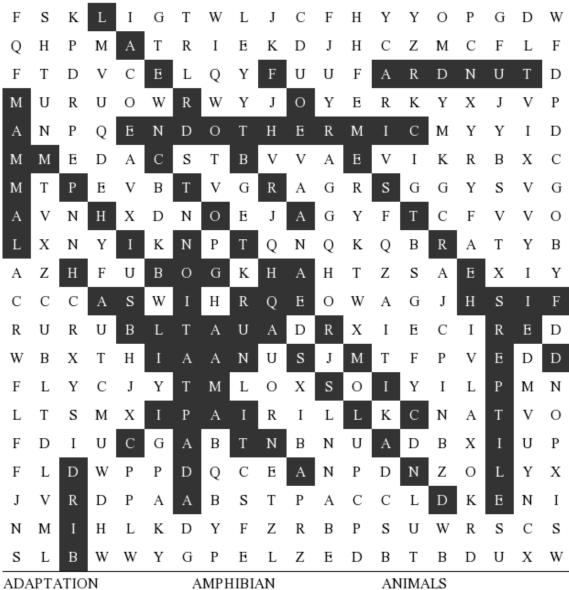
ADAPTATION AQUATIC DESERT FISH HABITAT TUNDRA AMPHIBIAN ARBOREAL ECTOTHERMIC FOREST MAMMAL

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.



AQUATIC AQUATIC DESERT FISH HABITAT

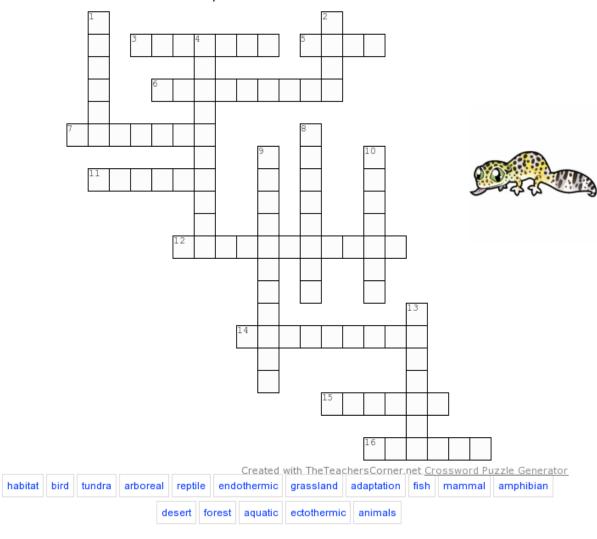
TUNDRA

AMPHIBIAN ARBOREAL ECTOTHERMIC FOREST MAMMAL

ANIMALS BIRD ENDOTHERMIC GRASSLAND REPTILE

#### **Zoo Crossword Puzzle**

Complete the crossword below.



#### <u>Across</u>

- 3. Animals that live in water live in this type of habitat.
- 5. These animals swim in water, and many have fins.
- 6. This type of habitat is flat and has a lot of grass and shrubs.
- 7. Different animals are suited to different types of these. Deserts, forests, and grasslands are all examples.
- 11. This type of habitat has lots and lots of trees.
- 12. This is another word for warm-blooded.
- 14. A type of animal that is cold-blooded and has at least one life stage in water and one on land. Example: Frogs.
- **15.** This kind of animal gives birth to live babies, is warm blooded, and has hair or fur.
- 16. This habitat is very dry and sandy.

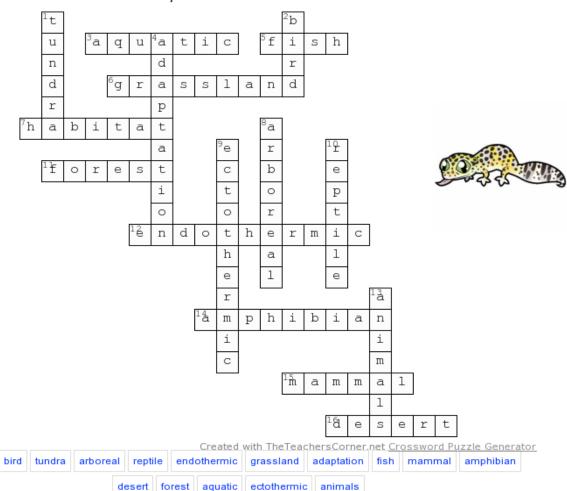
#### <u>Down</u>

- 1. This type of habitat is very cold.
- 2. These animals have feathers, and many of them can fly.
- 4. Something that makes an animal better suited to its environment or habitat. Example: Camouflage.
- 8. Animals that live in trees are called this.
- 9. This is another word for cold-blooded.
- 10. This kind of animal has scales and is cold-blooded.
- 13. This is what you're going to the zoo to see!

Name:
-------

#### **Zoo Crossword Puzzle**

Complete the crossword below.



#### <u>Across</u>

habitat

- 3. Animals that live in water live in this type of habitat. (aquatic)
- 5. These animals swim in water, and many have fins. (fish)
- 6. This type of habitat is flat and has a lot of grass and shrubs. (grassland)
- 7. Different animals are suited to different types of these.
  Deserts, forests, and grasslands are all examples.
  (habitat)
- This type of habitat has lots and lots of trees.
   (forest)
- This is another word for warm-blooded. (endothermic)
- 14. A type of animal that is cold-blooded and has at least one life stage in water and one on land. Example: Frogs. (amphibian)
- 15. This kind of animal gives birth to live babies, is warm blooded, and has hair or fur. (mammal)
- 16. This habitat is very dry and sandy. (desert)

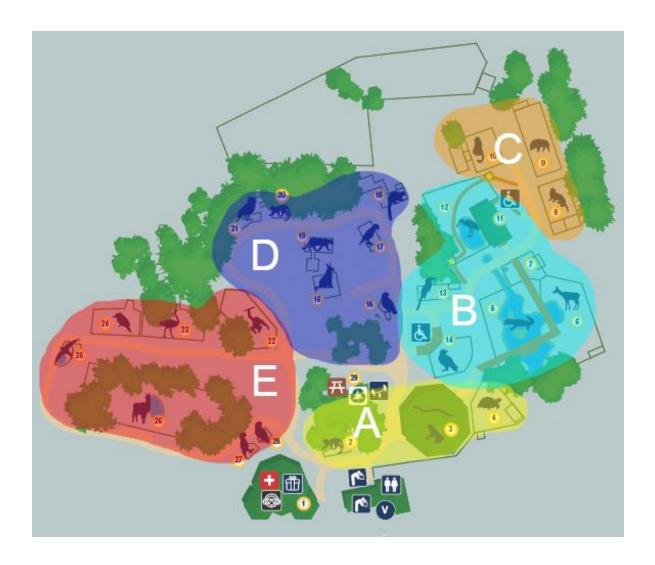
#### Dowr

- 1. This type of habitat is very cold. (tundra)
- 2. These animals have feathers, and many of them can fly. (bird)
- Something that makes an animal better suited to its environment or habitat. Example: Camouflage. (adaptation)
- 8. Animals that live in trees are called this. (arboreal)
- 9. This is another word for cold-blooded.

#### (ectothermic)

- This kind of animal has scales and is cold-blooded. (reptile)
- This is what you're going to the zoo to see! (animals)

# 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.

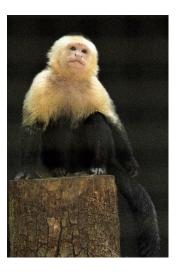
### **Suggested Talking Points**

Use the following talking points and the map (found on the previous page) to guide discussion about our animals. Consider how each enclosure 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. What makes them mammals? (Have fur, have three middle ear bones, nurse their young, etc.) These monkeys have several adaptations that make them suited to living high up in the trees. Can you think of any?

- Grasping hands to help them hold on as they jump around in the trees.
- 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.



**Eastern Diamondback Rattlesnake**: Snakes are reptiles, just like turtles, tortoises, and lizards. They are cold-blooded, or ectothermic, which means their temperature depends on the environment around them. Can you see anything in this habitat that could help them regulate their temperature if they get too cold? (See the heat lamp, above.)

- These snakes are the largest venomous snakes in North America.
- There is a big difference between poison and venom. Poison must be *ingested* for it to have an effect, while venom has to be *injected*. That means that to be poisoned, you must eat or drink the poisonous item for it to be effective, and to be affected by venom, it has to pierce your skin.
- Not all snakes have venom, in fact, most do not. There are lots of examples of nonvenomous snakes in this building as well. See if you can find some!

<u>Green and Black Poison Arrow Frogs</u>: 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. Think of tadpoles (who live in the water) growing up into frogs (who live 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. Frogs, like these green and black poison arrow frogs, live in very damp and humid environments, which is why their habitat is so damp. There is a sprinkler on top of their habitat called a "mister" that is turned on once a day to simulate rain in their environment. Why do frogs need to live in a damp environment? They breathe through their skin! For this to happen, their skin must 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"

<u>American Alligators</u>: Alligators are ectotherms (cold-blooded), lay eggs, and have scales. Are they mammals, amphibians, or reptiles? (Remember – reptiles have scales, amphibians do not!)

- When alligators are in the water, sometimes they can look just like logs. Because of how
  their eyes are positioned on their heads, they can even sink under water and still see
  above the water. They are ambush predators, which means they are built to take their
  prey by surprise.
- An animal might walk right up to the water's edge to get a drink and have no idea that an alligator is nearby. Alligators can move very quickly when they want to and can catch the unsuspecting animal before it even knows what's happening!

**Roseate Spoonbill**: The roseate spoonbill has long stilt-like legs and a long paddle-like bill to help them walk through water and find food without getting wet!

- They find food by wading in shallow muddy water, sweeping bill from side to side with their mouth slightly open, detecting prey by feel.
- Diet is mostly small fish such as minnows, also shrimp, crayfish, crabs, aquatic insects (especially beetles). Their diet is where their bright pink coloration comes from!



Alligators and spoonbills can be seen in wetlands right here in Florida! You can be a habitat hero by making sure you throw trash away in the proper bin so we can keep their homes clean.

**Bald Eagle:** These birds are skilled hunters. Bald eagles are opportunistic feeders, with fish comprising much of their diet. If they mostly eat fish what type of environment do they need to live near? (water) They also eat various birds, mammals, reptiles, and carrion (often along roads or at landfills).

- They have amazing vision which allows them to easily find prey. They able to see prey from over to 2 miles away!
- Bald Eagles can have a wingspan of over 6 feet wide. Allowing them to fly and soar for hours at a time.
- They also have very powerful feet that can squeeze up to 10 times stronger than a human's grip strength.

#### Area "C"

<u>Matschie's Tree Kangaroo</u>: Just like other kangaroos, tree kangaroos have a pouch where their baby, called a joey, develops. Their joey is born the size of a jellybean; it then climbs up into its mother's pouch to drink milk and stay safe until it is bigger and stronger. What kind of animal are they? (Mammals!)

- Based on their name, where do you think tree kangaroos live? (In trees!)
   Animals that live in trees are called arboreal.
- Tree kangaroos are built to live in trees. They have long and powerful claws that help them hold on tight, long tails that help them balance, and powerful legs that help them jump from tree to tree. Tree kangaroos can even jump down 60 feet to the ground without hurting themselves!



<u>East African Grey Crowned-Cranes</u>: What is it about these cranes that makes them birds? (They lay eggs, they have feathers, and they are warm-blooded, or endothermic.)

- East African Crowned Cranes are named for the beautiful yellow crowns on their heads.
   Those crowns are made of feathers. Birds don't have hair; only mammals have hair.
   Almost everything you see covering a bird's body is a feather even their "eyelashes" are made of modified feathers!
- They have long legs to help them walk through the tall grasses that they live in. To find food they will stomp their feet to scare insects out of grass so that can catch them.

 Cranes love to dance! Dancing helps develop physical and social skills, but spontaneous dancing can occur anytime during the year. In a flock of cranes, if one bird starts dancing soon all the others join in.

#### Area "D"

**Red-Ruffed Lemurs:** Lemurs are very special mammals, 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, like us putting our arms out when we're trying to keep our balance.
- Lemurs are also built for grooming themselves and each other – their bottom teeth come together to form a "comb", called a "tooth-comb", which they use to groom their fur.



<u>Ocelots</u>: Ocelots are mammals that like to communicate with scent – you can probably smell them "communicating" right now! They mark their territory with a strong-smelling spray that tells other animals to stay away from their home. Where do you think ocelots live? Hint: Ocelots have a dark spotted coat that helps them blend in with the shadows...

- Ocelots prefer to live in forested areas that have lots of vegetation. The spots on their coat help them blend in with the shadows cast by trees!
- Ocelots also have retractable claws, just like the house cats you might have at home.
  That means that their claws can be tucked away when they're not using them. This helps
  keep their claws sharp for when they really need them (for example, when they are
  hunting prey or climbing a tree).
- Fun fact: Unlike many cats, ocelots actually do not mind water!

#### 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.

**Emu**: These are unusual birds because even though they have feathers, they don't fly. Although many birds fly, not all of them do. Emus are an excellent example of how birds can develop different ways of getting around even without the ability to fly.

- Emus use their powerful legs as weapons they have sharp nails and a very strong kick.
- They also use their legs to run very quickly up to 30 miles per hour!

#### • Hawk-Headed Parrots:

This bird has a unique adaptation that can be found right in its 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" (like 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.



#### **In-Zoo Activities**

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

- Classifying Animals at the Zoo Worksheet (page 18): Have students decide which animals are mammals, birds, or reptiles.
- **Habitat Helpers Worksheet (page 19):** Have students match animals found at the zoo to their native habitats.
  - Discussion point: Students may notice that we have a lot more animals that are native to tropical habitats. Ask them why that might be? Think about the habitat that our zoo is in – can we easily meet the needs of animals who require extremely cold habitats?



# Classifying Animals at the Zoo

As you walk through the zoo, write down 3 animals you see which fall into each category below.

Mammals	
1	
2	
3	
Birds	
1	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
2	
3	
Reptiles	
1	
2	
3	

### **Habitat Helpers**

Some of our animals are confused about where they belong. Can you help them find their habitats? As you walk through the zoo and learn where different animals come from, draw an arrow from each animal to their correct habitat.



**Forest** 



**Desert** 



American Alligator



Cuban Amazon



White-Handed Gibbon



Gila Monster



Ocelot



Asian Small-Clawed Otter



East African Grey Crowned Crane



Grasslands

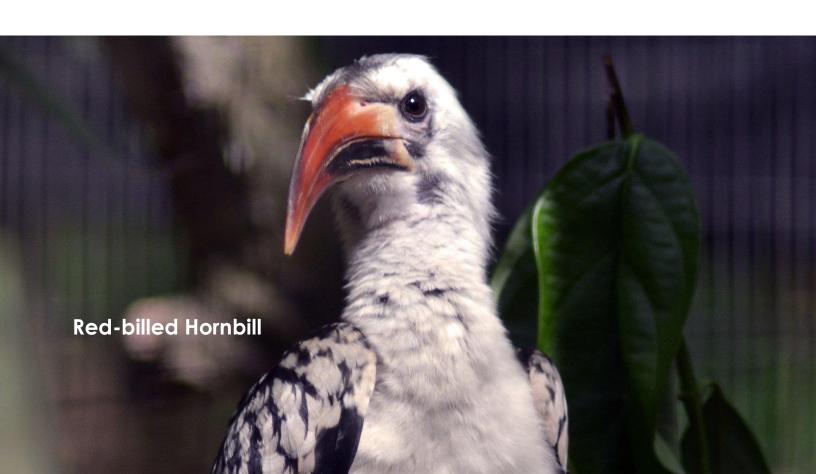


Wetlands

### **Post-Trip Activities**

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

- Create and Classify Your Own Animal Worksheet (page 21): Students can create their very own animal and give it characteristics of mammals, birds, reptiles, amphibians, fish, or arthropods!
- **Habitat Observations (page 22):** This activity is to increase participants' appreciation and understanding of nature through observation. It is recommended to read *The Empty Lot* by Dale H. Fife for the activity.
  - Link to reading of The Empty Lot by Dale H. Fifehttps://youtu.be/T1cOlF29wtY



## Create and Classify Your Own Animal!

Create your own special animal! In the box draw what your animal would look like and its natural habitat that it would live in the wild. Things to consider: Does it have fur, scales, feathers or an exoskeleton? What habitat does it live in? What adaptation does your animal have to help it survive?

Animal Name	
Animal Classification(Example: Mammal)	
What Habitat Does It Live In?	

#### **Habitat Observations**

Lesson from AZA.org Conservation Education Materials

#### Goal

 To increase participants' appreciation and understanding of nature through observation.

#### **Objectives**

- Through participation in this activity students will:
  - o Practice observation skills
  - Practice journaling techniques

#### Big Idea/Main Message

 Spending time outdoors observing nature is a good way to better understand the world in which we live. As people learn more about nature, they will start to appreciate it more and increase their desire to have a positive environmental impact.

#### **Background Information**

A plethora of research has been done in the recent past to confirm the importance of spending time outdoors on a child's development. As our day to day lives focus more and more on indoor activities many of today's children do not hear the term 'go outside and play' as much as children from generations past did. As a result, children may not have the opportunity to hone their observation skills in relation to nature. By providing guided experiences with nature observations educators may be able to provide the tools necessary to enhance future (independent) nature experiences.

#### **Materials Needed**

- The Empty Lot by Dale H. Fife.
- Paper, pencils and clipboards for participants.

#### Staff

 One staff person or volunteer will be needed facilitate the classroom activity. One or more staff members or volunteers will be needed to supervise the observation session depending on class size.

#### **Length of Activity**

- Classroom session = 15-20 minutes
- Observation session = 20-30 minutes

#### Set Up

Very little set up is needed for this activity. The materials will need to be
available in the classroom space; paper should be placed on clipboards,
pencils sharpened, etc. The observation location will need to be
determined before the activity starts. The only requirement of the
observation location is that there is ample space for the participants to
stand/sit comfortably.

#### **Procedures**

- 1. Open the activity with a brief discussion about observing nature.
- 2. Read the story *The Empty Lot*. Ask the participants to consider how Harry felt about the empty lot before he spent time there. Ask them to describe how his feelings changed after he spent time observing the space.
- 3. Explain that the group is going to spend some time observing nature. Tell the group the type of habitat which they will be observing on school grounds: forest, wetland, prairie, desert, etc. Ask the participants to spend 2-3 minutes writing down their thoughts about that type of habitat before they leave the classroom. Their thoughts should include what they think the habitat looks like, smells like, what animals live there, what plants grow there, etc.
- 4. Once the group is at the observation location, have each participant find a spot from which they can quietly observe the habitat. Give the group 5 minutes to quietly observe their surroundings without writing anything.
- The next five minutes should be a combination of observation and writing.
   Challenge the group to rewrite their thoughts about the habitat based on their observations.
- The next portion of the activity can take place either at the observation location or within the classroom. Ask the participants if their thoughts and notes about the habitat changed after they had time to observe the habitat.
- 7. Lead a discussion about how spending time in nature can help people to appreciate it more. Discuss the benefits of spending time in nature versus spending time indoors.

#### **Extensions**

Cut apart and use paper grocery bags to make nature journals. This
would replace the clipboards and paper. The reuse of a household
material can lead into a discussion about how reducing, reusing,
recycling and rethinking can have a positive affect on nature. More
specifically, the group can discuss how recycling paper saves habitats.

#### **National Science Education Standards**

- Science as Inquiry
- Nature of Science
- Evidence, Models and Explanation

For more Conservation Education Materials Visit <u>www.aza.org/conservation-education-materials</u>