QUINTA MAZATLAN
McALLEN WING OF THE WORLD BIRDING CENTER

Curriculum Guide
Pre and Post Activities
Grade 4

Welcome to Quinta Mazatlan! We have created a resource to help you prepare for your unique and fabulous educational experience.

Vocabulary to Consider

- Adaptation – special features developed over time that help animals or plants obtain food, protect themselves, and cope with diverse weather
- Habitat – a place where an animal or plant lives and is able to meet its needs for survival (food, water, shelter, and space)
- Species – population of individuals more or less alike and able to breed and produce offspring
- Ecosystem – combination of all living and non-living things that interact and exchange materials and energy
- Forest – piece of land covered with trees; each region has different trees in the forest; South Texas has mostly thorny shrubs and small trees (Thornforest)
- Ornithologist – a scientist who studies birds

Pre-Visit Suggestions: Fourth Grade

Pre-Activity 1 – Creative Writing

Use the vocabulary above to create a fun and exciting story. The writing prompt will help students get started. Review the vocabulary as a group before starting the assignment. Ask students to predict what types of animals and plants they might see in the Thornforest.

**Click on printable: "Pre-*Activity 1: "4thPreCreativeWriting*"

Pre-Activity 2 – Soil Connections in our Thornforest

Why is soil important to our habitat? Let's investigate by creating connections in our forest ecosystem. Students will use index cards and a ball of string to role play the various connections in a Thornforest. Click on the following link for detailed instructions on this simple and effective lesson in teaching the complex inter-relationships in an ecosystem.

**Click on printable: "Pre-*Activity 2: "4thPreSoilConnections*"

While You Are Here: Fourth Grade

Field Trip Schedule

***Arrive at front gate of Quinta Mazatlan**	8:45 - 9:00
***Introduction and QM History**	9:00 - 9:15
***Rotation 1**	9:15 - 10:15
Group 1: Trail	
Group 2: Lab	
***Rotation 2**	10:15 - 11:15
Group 1: Lab	
Group 2: Trail	
***Lunch**	11:15 - 11:45
*Students who bring money will rotate through the Environmental Education Store during their lunch break.	
***Depart - Walk to Front Gate**	11:45 - 12:00

What will students learn?

- Outdoors – Students will explore the Thornforest habitat and examine components of this unique ecosystem. Students will investigate how this system supports a variety of animal species and how adaptations allow for their survival.
- Indoors – Students will evaluate three different soil samples and explore texture, color, smell, and organic matter of each type. Students will use hand lenses and charts to closely evaluate and draw conclusions.

History of Quinta Mazatlan

What does Quinta Mazatlan mean?

"Quinta" - a country house, villa or estate
"Mazatlan" - land of the Deer

Quinta Mazatlan is one of the large adobe homes in the state of Texas. Jason and Marcia Matthews began building the home in 1935. Jason built a swimming pool, cottage and house all out of 12 inch adobe (mud) blocks made right on site.

The second owners were Frank and Marilyn Schultz. They made the home larger and planted many beautiful tropical plants.

The third owner is the City of McAllen. The Parks and Recreation Department take care of the home and land for people, wildlife and birds to enjoy.

Back in the Classroom: Fourth Grade

Post-Activity 1 – Habitat Dreaming

Students will take an active role in making decisions about community habitats in this activity. They will use their experience from the field trip to make informed and knowledgeable decisions. They will work in four groups to answer the following question: *If you were a Forest Manager and had to design a Forest around your school, what changes and improvements would you make?*

**Click on teacher printable: "Post-*Activity 1: 4thPostHabitatDreaming*" for guidelines.

Post-Activity 2 – Animal Adaptations

Refer to scientific trail chart given during field trip entitled "Quinta Mazatlan Thornforst." Allow students to reflect and share some of their observations from your trail exploration. (See chart below for possible adaptations to review.)

Bird Adaptations in the Thornforest at Quinta Mazatlan

Woodpecker – beak is strong, adapted for probing trees for insects, and feet are adapted for climbing.

Hummingbird – beak is long and thick for nectar feeding, feet are made for perching, not walking.

Kiskadee – beak adapted for eating seeds/insects in the air feet adapted for perching.

Mockingbird – beak adapted for eating seeds/insects on ground feet adapted for perching.

Owl – beak is adapted to tear meat, strong talons help squeeze pray, eyes are adapted with excellent night vision.

Chachalaca – beak is adapted for eating seeds on ground, feet are large and adapted for walking on the ground and climbing branches.

To reinforce student knowledge of adaptations, print the following handout.

**Click on teacher printable: "Post-*Activity 2: 4thCreateYourOwnBird*"

Quinta Mazatlan
Fourth Grade Pre-Activity 1: Creative Writing

Goal: To predict what types of animals and plants live in the Thornforest.

My adventure through the Thornforest at Quinta Mazatlan!

Instructions: You are an ornithologist living 100 years ago. You are traveling the world learning about unique ecosystems. Write about your exciting adventure through the beautiful Thornforest. Describe the plants and animals you encounter. Describe the habitat so the reader can imagine the region. Include the following vocabulary in your story:

- v Ecosystem
- v Habitat
- v Species
- v Thornforest
- v Ornithologist
- v Adaptation

Be creative and have fun!

The year is 1905. I just returned from a 50 mile hike through south Texas. Ouch! My arms and legs have many cuts from the thorns. Now I understand why people call this forest the "Thornforest."

I had a tent, a journal, and binoculars on my adventure. I could not believe the large number of bird species living in the Thornforest. Wait till you hear about my favorite adventure! One day I saw…

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Quinta Mazatlan
Fourth Grade Pre-Activity 2: Soil Connections in our Thornforest

Goal: To learn why soil is important for the health of habitat and investigate connections in our forest ecosystem.

Materials:

Yarn	Hole punch	Scissors
Index cards	Markers	Ball of string

Directions:

Make Ecosystem Cards

1. Choose from the following words and write one word on each index card.

- Soil
- Bacteria
- Earthworm
- Woodpecker
- Mockingbird
- Owl
- Green Jay
- Mesquite tree
- Mexican Olive tree
- Palm tree
- Mouse
- Rotten log
- Snake
- Squirrel
- Turks Cap plant
- Spider
- Leaf cutter ant
- Mistflower plant
- Red Yucca plant
- Lantana plant
- Lizard
- Cottontail rabbit
- Hummingbird
- Duck

2. Pass out one index card to each student after you write the above words. Ask students to punch a hole in the top corners of each card. Attach a string to the cards so students can wear them around their necks. Explain that each student has a different component of a forest ecosystem. Each animal or plant listed on each card is related to soil. Explain that you are going to play a game to illustrate this connection. Ask students to place their card around their neck. (You may wish to punch holes and place string on the cards ahead of time.)

Make Student Thornforest Web

3. Next, have students make a circle and sit on the floor. (You may also go outdoors and sit the grass.) Begin by asking where the nutrients are stored within a forest community. Explain that soil holds nutrients (vitamins) for plants. When animals eat plants, they consume those nutrients as well.

4. Ask the student with the soil card to hold a ball of string because that is where the nutrients are stored. Ask, “Who can get nutrients from the soil?” Have the “soil” student choose another student that connects with the soil. The soil student then passes the ball while holding on to an end to another student who gets nutrients from the soil, i.e. tree or plant. Have a tree or plant wrap the string around one hand and pass the ball on to another student who represents an organism or plant that connects to the tree/plant, i.e. woodpecker who may live in the tree or hummingbird who may drink nectar from a plant. Continue this process until all components are included in the web. The ball of string can always be tossed back to the soil student if a student cannot find someone else related to them.

Quinta Mazatlan
Fourth Grade Pre-Activity 2: Soil Connections in our Thornforest

Observe and Make Connections

5. When finished, ask students to observe this complex web. All plants and animals are dependent upon soil for survival. To illustrate, pose a scenario. Ask all "tree" students to gently tug on their string. Say, "You have become infected with a fungus and die." Ask everyone who felt the string tugged raise his or her hand. Ask them how they would be affected by loosing the trees?

6. Next, ask all "bird" students to gently tug on their sting. Say, "You have been poisoned and have all died." Ask everyone who felt the string tugged raise his or her hand. Ask them how they would be affected by loosing these birds.

7. Finally, what happens when just one part is removed from the ecosystem? All components are connected and affect one another. Soil is an ecosystem that provides nutrients and life to both plants and animals. We would not be able to survive without a healthy soil ecosystem that gives life to plants and animals. Can you list 3 ways we rely on plants every day? (i.e. food, medicine, oxygen, clothes) Can you list 3 ways we rely on animals every day? (i.e. food, clothing, pollination, insect and rodent control)

Quinta Mazatlan
Fourth Grade Post-Activity 1: Habitat Dreaming

Goal: To give students an active role in making decisions about community habitats. They will use their experience from the field trip to make informed and knowledgeable decisions.

Directions:

Divide students into 4 working groups. Give students paper and markers. Print 4 copies of this page for each group. Give students adequate time to work. Ask each group to share their ideas with the class. Which plan would the entire class vote in favor of implementing?

DREAM ASSIGNMENT

If you were a Forest Manager and had to design a Forest around your school, what changes and improvements would you make?

Step 1: Make a diagram of the existing property. Add buildings, driveways, fences, trees, and sidewalks.

Step 2: Make a list of changes or improvements you would make (areas for wildlife, walking trails, trees for shade/birds, gardens, benches to sit, etc.) Think of what you like to do outdoors. Good managers must prioritize how to use a space. There can be many uses for a space but you need to decide which ones are most important.

Step 3: Draw a second diagram of your property incorporating your plan. Label or make a key to show what you have added or changed. Present to your teacher, grade level, or principal and ask them to help you carry out your plan.

Quinta Mazatlan
Fourth Grade Post-Activity 2: Create Your Own Bird

Goal: To create a bird based on knowledge gained about adaptations while observing birds during field trip.

Directions: Refer to your scientific notes about bird adaptations from your visit to Quinta Mazatlan. As a scientist, create your own unique bird. What type of beak and feet would your bird need to survive in its habitat? Give your bird a creative name and have fun using your imagination!!

Create Your Own Bird

1. What is the name of your bird? _____
2. Where does your bird live? _____
    - desert
    - grasslands
    - rivers/lakes
    - dry forest
    - sandy coastal beaches
    - cities
    - urban parks
    - mountains
3. What does your bird eat? _____
    - fish
    - insects
    - small animals (snakes, lizards, mice)
    - seeds
    - fruit
    - earthworms
4. Would your bird be able to live in the Thornforest? Why or why not?

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