

Lowry Park Zoo
Educator's Activity Guide
Grades k-2

Lowry Park Zoo's Education Department gratefully acknowledges the following curriculum contributors:

Writing Team: **Loretta Hodgdon**
Pam Davis
Scott Yergster
Bill Panczner

Consultant: **Deborah Goin**

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Updated and Edited

By:

Mathea Otero
Carol Ballas

Dear Educator,

We hope you are excited about your upcoming field trip to Lowry Park Zoo. The zoo is an exciting place for children to learn while providing awareness of the natural world around us.

This guide is set up to provide pre-zoo, in-zoo, and post-zoo visit activities. The activities naturally flow from classroom activities to those that will be done at the zoo. Post zoo activities will enable you to assess your students' understanding of the lessons they have completed. It is not intended that you incorporate all of these lessons into your curriculum. Feel free to choose what works for you, your students and your curriculum. Pre-zoo activities begin with general topics such as differentiating between non-living and living things in their environment. Activities then progress to more specific animal categories like mammals and reptiles. Students will be able to take this knowledge with them and apply it to their zoo visit.

Sunshine State Standards and FCAT skills have been integrated into the lessons provided. A chart at the end of this guide provides you with an overview of the standards addressed in each lesson. We hope you enjoy using this guide. It provides many language arts, science, and math lessons to make your zoo learning FUN!

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Living vs. Nonliving

Students learn to identify objects as living or nonliving.

Objective:

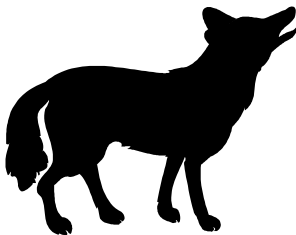
Understand the differences between living and nonliving objects.

Benchmarks:

LA.A.1.1, LA.A.2.1,
LA.B.1.1, LA.B.2.1,
MA.A.2.1, MA.E.1.1,
SC.D.2.1, SC.F.1.1,
SC.G.1.1, SS.B.1.1,
SS.B.S.1, SS.D.1.1

Materials:

Magazine pictures
Construction paper or
tag board
Glue
Scissors



Advanced Preparation: Gather various magazines. Prepare ahead by cutting out living and nonliving objects. Glue the pictures on construction paper or tag board to make them sturdy for sorting.

Lesson:

1. Begin a discussion with the students. Ask them, "How do you know if something is alive?" Accept all answers.
2. Show students the prepared pictures one by one. Ask them if the object in the picture is alive. Have the students sort pictures in two piles. Introduce the terms living and nonliving.
3. Make a T-chart on tag board and list the attributes of each.

Living	Nonliving
Requires food, water, shelter, space	

4. To evaluate the students' understanding of living and nonliving have them create a T-chart on construction paper. Label the chart "Living" and "Nonliving." Distribute magazines to the students and instruct them to cut out pictures of objects and glue them under the appropriate heading.
5. Have students compare the number of living items to nonliving items. Students may orally express equations such as, there are two more nonliving things than living or the number of living is less than, etc.

Fast Fact:

One of the longest living creatures is the ocean clam. They can live 220 years!

Domesticated vs. Wild

*Poetry and puzzles
define types of
animals*

Objective:

Students will distinguish the difference between wild and domesticated animals.

Benchmark:

LA.B.1.1, LA.B.2.1, SC.A.1.1, SC.D.2.1, SC.F.2.1, SC.G.1.1, MA.D.1.1

Materials:

Animal pictures
Paper
Pencil



Puzzle Solution

```
+ M + T N + P C D + R +
W + A O N A + O + E R +
+ O I N R A G W T N A K
+ L L R A + H S + I B R
+ + O F + T M P + H B A
+ T + + + A E + E P I H
P A N T H E R E + L T S
B E A R + + S + + O E +
+ + + + + + R + D + +
+ + + + + + + O + + +
R O T A G I L L A H + +
R E G I T + + + + + + +
```



Teacher Background:

Wild: In its original natural state, not domesticated nor cultivated.

Domesticated: Tamed to live with humans. Accustomed to home life and management.

Lesson:

1. Show students animal pictures. Have a volunteer sort the pictures and explain what attribute(s) s/he used to sort them. Allow another volunteer to sort the pictures. If neither of the volunteers sorted using the attributes of domesticated and wild, sort the pictures and ask the students to identify the attribute you used.
2. Introduce the words wild and domesticated. Have the class work together to come up with definitions.
3. Go through the pictures with the students and discuss whether the animals are wild or domesticated. Discuss if wild animals make good pets.
4. Have students create an acrostic using the word domesticated or wild. (For the younger ones, create a class acrostic.)

Will it make a good pet? No!

It can harm you.

Leave them in their habitat.

Don't try to pet them.

Wolf

Ibis

Lion

Dolphin

5. Have students complete a word search puzzle. After they complete the puzzle, they are to sort the words from the puzzle, using a T-chart.
6. Have students create their own word search puzzles with this web site:
www.discovery.school.com

Name _____

Domesticated or Wild?

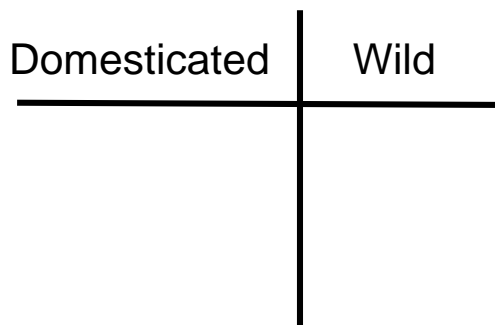


f m u t n n p c d f r f
w t a o n a w o z e r w
i o i n r a g w t n a k
z l l r a j h s s i b r
z p o f c t m p f h b a
t t q c b a e x e p i h
p a n t h e r e j l t s
b e a r j w s v u o e x
f d a a u c i r t d v h
b w w l b o q q o h a j
r o t a g i l l a h p l
r e g i t s b l h h k n

alligator
cow
dolphin
hamster
lion
panther
rabbit
tiger

bear
dog
elephant
horse
manatee
parrot
shark
wolf

On the back of this paper, draw a T-chart and sort the animals.



Animal Classifications

Students learn to classify animals, based on attributes, during the following five lessons. This is an overview of activities the teacher can use to introduce each classification of animal.

Objective:

Students will classify animals based on attributes.

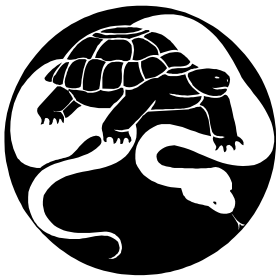
Benchmark:

LA.A.1.1, LA.B.1.1,
LA.B.2.1, SC.A.1.1,
SC.D.2.1, SC.F.1.1,
SC.G.1.1, SC.F.2.1

Materials:

See particular lesson for details.

3"x5" index cards
Crayons
Colored pencils
Markers
Glue
Magazines or other
resource materials



During the following five lessons, students will learn to classify animals based on attributes. Each lesson can be introduced using a variety of techniques. To avoid being redundant, introductions for the lessons will be described here. The teacher may choose the method to introduce the classification, and then follow the remainder of the lesson as described. See the following page for specific animal background.

Option 1: Read a trade book on the topic. While reading, emphasize the attributes of that classification. (A list of trade books is included with each specific lesson.) After reading the book, have the students list the attributes on the board. Then give each student a 3"x 5" index card. Assign a different attribute to each student. Instruct them to write the attribute on the card and then illustrate it. If there are more students than attributes, have the remaining students illustrate examples of the classification on 3"x 5" cards. These cards can then be used to begin a bulletin board. Make a heading for each classification of animal and post the attributes and examples below each heading. As the lesson progresses, the board will become a reference area for the class.

Option 2: Collect pictures from magazines of animals for a particular classification. Glue the pictures to construction paper or tag board. Show the pictures to the students and ask them to identify the attributes for the animals. You can then use the 3" x 5" index cards, as described in **Option 1**, to create a bulletin board.

Option 3: Use a video, a laser disc or a CD-ROM to show examples of animals from a classification. You can then use the 3" x 5" index cards, as described in **Option 1**, to create a bulletin board.

Fast Fact:

A group of kangaroos is called a mob!

Animal Background

Bird Data:

Most are capable of flight Live in variety of habitats Eat a variety of food
 Reproduce by laying eggs Have feathers Have a beak
 Warm-blooded vertebrates 9,000 species of birds



Types of feathers:

Down feathers: short, fluffy feathers that do not have hooked barbs. They form an insulating layer next to the bird's skin.
Body feathers: fluffy base, with a smooth tip. Fluff base helps to hold in heat, while smooth tip gives bird a smooth shape.
Flight feathers: continuous curved surface, strong but flexible. They provide lift when the bird is airborne. The quill is not central.
Tail feathers: have a central quill. They are used for steering and braking.

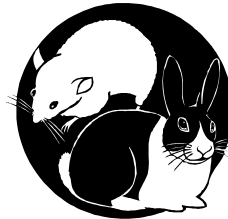
Reptile Data:

6,000 species of reptiles Reproduce by laying eggs Cold-blooded vertebrates
 Dry skin, covered with scales Found in most habitats except
 to prevent water loss cold regions and high mountains

Reptile groups: Snakes & Lizards Crocodilians Tuataras Tortoises & Turtles

Mammal Data:

Have a backbone (vertebrate)
 Warm-blooded
 Live in all regions of the world (except Antarctic)
 Have fur
 Have mammary glands



Amphibian Data:

2,500 species Cold-blooded Vertebrates
 Adapted for life on land, Skin is thin and scale-less Undergo metamorphosis
 but most must return to water sometimes with mucus



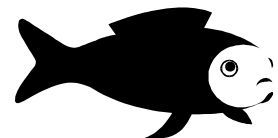
Amphibian groups: Frogs and toads newts and salamanders Caecilians

Insect Data:

There may be over 1 million species Invertebrates – have an exoskeleton
 Most can fly Have 3 body sections: head, thorax, & abdomen
 Have 6 legs Have antennae
 Most have 2 pairs of wings Life cycle of different stages – metamorphosis

Fish Data:

20,000 species Breathe through gills Tail for propulsion
 Fins for steering Scales for protection Fish live in water
 Most fish lay eggs Some sharks bear live young



Fish groups: Jaw-less fish Bony fish Cartilaginous fish

Domesticated vs. Wild

*Poetry and puzzles
define types of
animals*

Objective:

Students will distinguish the difference between wild and domesticated animals.

Benchmark:

LA.B.1.1, LA.B.2.1, SC.A.1.1, SC.D.2.1, SC.F.2.1, SC.G.1.1, MA.D.1.1

Materials:

Animal pictures
Paper
Pencil



Puzzle Solution

```
+ M + T N + P C D + R +
W + A O N A + O + E R +
+ O I N R A G W T N A K
+ L L R A + H S + I B R
+ + O F + T M P + H B A
+ T + + + A E + E P I H
P A N T H E R E + L T S
B E A R + + S + + O E +
+ + + + + + R + D + +
+ + + + + + + O + + +
R O T A G I L L A H + +
R E G I T + + + + + + +
```



Teacher Background:

Wild: In its original natural state, not domesticated nor cultivated.

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Lesson:

1. Show students animal pictures. Have a volunteer sort the pictures and explain what attribute(s) s/he used to sort them. Allow another volunteer to sort the pictures. If neither of the volunteers sorted using the attributes of domesticated and wild, sort the pictures and ask the students to identify the attribute you used.
2. Introduce the words wild and domesticated. Have the class work together to come up with definitions.
3. Go through the pictures with the students and discuss whether the animals are wild or domesticated. Discuss if wild animals make good pets.
4. Have students create an acrostic using the word domesticated or wild. (For the younger ones, create a class acrostic.)

Will it make a good pet? No!

It can harm you.

Leave them in their habitat.

Don't try to pet them.

Wolf

Ibis

Lion

Dolphin

5. Have students complete a word search puzzle. After they complete the puzzle, they are to sort the words from the puzzle, using a T-chart.
6. Have students create their own word search puzzles with this web site:
www.discovery.school.com

Animal Background



What is a Bird?

Take a closer look at feathers and conduct an experiment

Objective:

Identify animals as birds.

Benchmark:

LA.A.1.1, LA.B.1.1,
LA.B.2.1, SC.A.1.1,
SC.D.2.1, SC.F.1.1,
SC.G.1.1, SC.H.1.1

Materials:

Feathers
Magnifying glasses
Cooking or baby oil
Water
Liquid soap
Small container
Paper
Pencil

Reference:

Optional books:
Chickens Aren't the
Only Ones by Ruth
Heller
Egg by Robert Burton

1. Choose an option from the "Animal Classifications" page to introduce the bird classification to the students. The following books are suggestions if using Option 1:
Birds by Claude Delafosse
How Do Birds Find Their Way
By Roma Gans
Feathers for Lunch by Lois Ehlert
2. Show the students several different feathers. (Try a craft store or education supply for feathers.) Ask them, "What happens to a feather when a bird rubs up against a branch in a tree?" Demonstrate by pulling some of the feather quills apart. Demonstrate that the quills can be put back together. (When the bird does this, it is called preening.) Ask the students how they think this happens. Demonstrate how to use a magnifying glass. Allow the students to discover the barbules that lock together with hooks to produce a smooth surface. Have students sketch the feathers and barbules in science journals.
3. To demonstrate to the students the importance of feathers do the following experiment. Students may work in groups or this can be a demonstration by the teacher. Record observations on "**Feather Findings**" data sheet. Kindergarten students may draw observations.
 - a. Pour some water in the small container. Dip a feather in the water and observe the feather with the magnifying glass. Allow feather to dry and observe.
 - b. Pour oil in the water. Dip another feather in the oil and observe the feather with the magnifying glass. Allow the feather to dry and observe.
 - c. Use the liquid soap to clean the feather that was dipped in oil. Allow the cleaned feather to dry and observe.
 - d. Discuss with the students the effects of oil and soap on the feathers.



Name _____



Feather Findings



Type of feather	Record your observations
Dry feather	
Feather dipped in water	
Feather dipped in oil	
Feather cleaned with soap	

FCAT practice: Using the data from the experiment, explain how the objects in the environment can affect animals in their habitat.

FCAT practice: You just found out that a local car repair shop is dumping oil in a nearby river. Write a letter stressing the importance of protecting the animals in the river's habitat.

What is a Reptile?

A reptile recipe and fashion show round out this lesson

Objective:

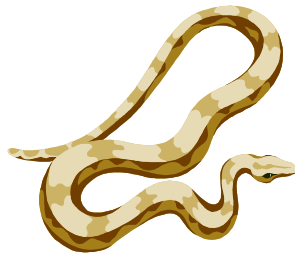
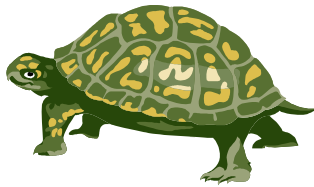
Students will identify animals as reptiles.

Benchmark:

LA.A.1.1, LA.B.1.1,
LA.B.2.1, LA.C.1.1,
SC.A.1.1, SC.D.2.1,
SC.F.1.1, SC.G.1.1,
SC.H.1.1

Materials:

Sponges
Paints
Clothing
See bread recipe



1. Choose an option from the “Animal Classifications” page to introduce the reptile classification to the students. The following books are suggestions if using **Option 1**:
Yucky Reptile Alphabet Book by Jerry Palotta
Slinky, Scaly Snakes by Jennifer Dussling
Magic School Bus Gets Cold Feet: A Book About Warm and Cold-Blooded Animals by Tracey West
Verdi by Janell Cannon
2. Have students create a reptile out of bread dough. Bake & eat it. FCAT practice: make copies of the recipe and have students follow the recipe.
Bread recipe
1 tablespoon sunflower oil
1 ¾ cups warm water
2 teaspoons salt
1 ¼ oz envelope quick-rise yeast
6 cups whole wheat or bread flour
raisins, sesame or poppy seeds

Put the flour, salt, yeast in a bowl. Add the sunflower oil and water. Stir together until you have a soft dough. Sprinkle some flour on the table. Knead the dough on it for about five minutes. Put the dough in an oiled bowl. Cover with a kitchen towel. Put in a warm place for 40 minutes and let it rise. Give each student a small piece of the dough. Have them shape the dough into reptile shapes. Students may decorate the reptiles with raisins, sesame or poppy seeds. Place the reptiles on a greased baking sheet. Let them rise until twice as big, then bake for 15 minutes in a 425° oven.

(Source: The Children's Step-By-Step Cook Book by Angela Wilkes)

3. Have students research different types of reptiles. Have them pick a reptile and draw an outline. Use this outline to cut a sponge in the shape of the reptile. Use this sponge to paint an article of clothing that the child brings from home. Have a reptile fashion show.

Fast Fact:

Lizards make up the largest group of reptiles with about 3,800 different species.

What is a Mammal?

What is a unique characteristic of mammals? Find out in this lesson.

Objective:

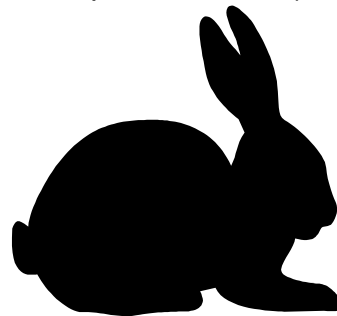
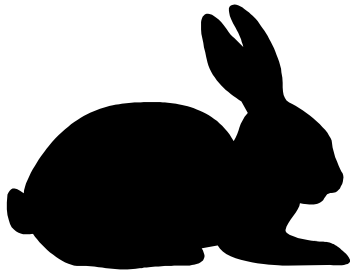
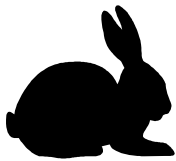
Students will identify animals as mammals.

Benchmark:

LA.A.1.1, LA.A.2.1,
LA.B.2.1, LA.C.1.1,
SC.A.1.1, SC.D.2.1,
SC.F.1.1, SC.G.1.1,
SC.H.1.1, SS.B.2.1

Materials:

4 cans
Ice
Plastic wrap
Lightweight material
Furry material



1. Choose an option from the “Animal Classifications” page to introduce the mammal classification to the students. The following books are suggestions if using

Option 1:

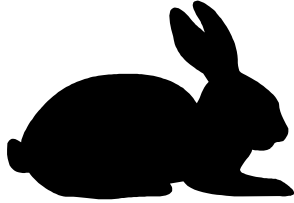
Is a Camel a Mammal? By Tish Rabe
About Mammals: A Guide for Children
by Cathryn P. Sill
How to Hide a Polar Bear by Ruth
Heller

2. To demonstrate how fur is essential to most mammals do the following experiment.
Wrap each can in a different material: plastic, lightweight material, furry material. Leave the fourth can plain. Add ice to the inside of each can. Allow the cans to stand for a few minutes while you discuss the cans. Now have the students feel the outside of each can to feel the effects of the cold. Have students record their observations on the “**Furry Mammals**” data collection sheet. Which can is best insulated? Which can represents a mammal’s covering? Why do some mammals have little fur while others have quite a bit? (Most marine mammals also have a layer of blubber that protects them.)

Fast Fact:

A bat can eat up to 600 insects per hour.

Name _____



Furry Mammals

	Describe how the outside of the can feels.
Can covered with plastic	
Can covered with light material	
Can covered with furry material	
Can with no covering	

1. Which can was the coldest to touch? Explain.
2. Which can is most like a mammal? Explain.
3. Explain how fur helps a mammal survive.

What is an Amphibian?

What's all the mucus about?

FCAT Practice: follow the steps in a recipe.

Objective:

Students will identify animals as amphibians.

Benchmark:

LA.A.1.1, LA.A.2.1,
LA.B.2.1, LA.C.1.1,
SC.A.1.1, SC.D.2.1,
SC.F.1.1, SC.G.1.1,
SC.H.1.1, SS.B.2.1

Materials:

Play dough (see recipe)
Vaseline

Play dough:

1 cup flour
1 cup salt
1 teaspoon cream of tartar
1 cup water
1 tablespoon oil

Cook the ingredients on low heat until thick and lumpy. Knead the dough. CAUTION! It will be hot! Store in Ziploc type bags until ready to use.



1. Choose an option from the “Animal Class-ifications” page to introduce the amphibian classification to the students. The following books are suggestions if using

Option 1:

Tale of a Tadpole by Karen Wallace
What is an Amphibian? By Bobby Kalman
A Salamander's Life by John Himmelman
Growing Frogs by Vivian French
All About Frogs by Larry Block
Amazing Frogs and Toads by Barry Clarke
Toad by Ruth Brown

2. Demonstrate the importance of the mucus coating for preventing the amphibian from drying out by doing the following experiment. Students may work in groups or this can be a demonstration. Have the students create 2 similar amphibians out of play dough. Have them coat ONE amphibian with Vaseline. This will represent a mucus coating. Allow the dough amphibians to sit out for 3 days. Record observations on the “Amphibian Adventure” data collection sheet. Have students compare this experience to real amphibians.

Fast Fact:

Amphibians are found everywhere except Antarctica and Greenland.

Name _____



Amphibian Adventure

Create two amphibians out of dough. Cover one amphibian with Vaseline. Observe the two amphibians for 3 days. Record what you see in the spaces below.

	Amphibian with mucus	Amphibian without mucus
Day amphibians were made		
Day 1		
Day 2		
Day 3		

1. Describe how the amphibians were **alike** the **first** day.
2. Describe how the amphibians were **different** the **first** day.
3. Describe how the amphibians were **alike** the **third** day.
4. Describe how the amphibians were **different** the **third** day.
5. How is this experiment similar to what real amphibians experience?

What is an Insect?

What's the buzz on insects? Find out in this lesson.

Objective:

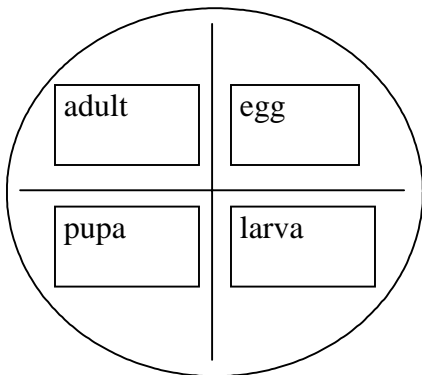
Describe some general characteristics of insects.

Benchmark:

LA.A.1.1, LA.A.2.1,
LA.C.1.1, SC.A.1.1,
SC.D.2.1, SC.F.1.1,
SC.G.1.1, SC.H.1.1,
MA.A.1.1, MA.A.2.1

Materials:

Egg cartons
Pipe cleaners
Construction paper
Glue
Scissors
Markers
Crayons
Various objects to make insect parts
4 types of pasta
Paper plates

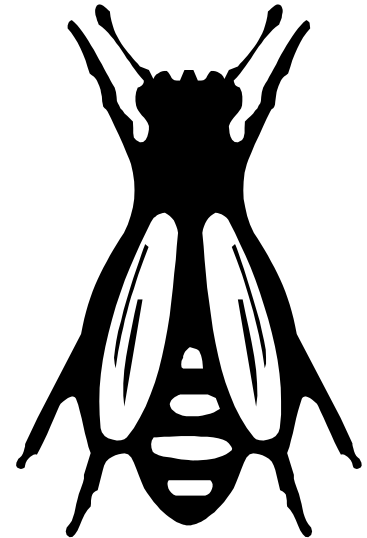


1. Choose an option from the "Animal Classifications" page to introduce the insect classification to the students. The following books are suggestions if using Option 1:

Bugs! Bugs! Bugs! By Jennifer Dussling
Busy, Buzzy Bee by Karen Wallace
The Magic School Bus: Inside a Beehive by Joanna Cole

2. Students can make an insect using an egg carton. Cut the egg carton so that each student has 3 egg cups connected. Each egg cup will represent a body part. On the head, have students use objects to create eyes, antennae, and a mouth. On the thorax section, students will use pipe cleaners to create 3 pairs of legs. Wings will be created out of construction paper. The abdomen can be decorated with various art supplies.

3. Use 4 different types of pasta to represent the life cycle of a butterfly.
 - a. Egg – pastina pasta
 - b. Larva – spiral pasta (caterpillar)
 - c. Pupa – shell pasta (chrysalis)
 - d. Adult – bowtie pasta (butterfly)



4. Have students divide a paper plate into 4 equal sections. Label each section for a stage of development and glue pasta to the corresponding stage.

Fast Fact:

A 4-square-mile patch of rain forest could contain about 40,000 insect species.

What is a Fish?

What makes a fish a fish? Find out in this lesson.

Objective:

Describe and identify the characteristics of fish.

Benchmark:

LA.A.1.1, LA.C.1.1,
MA.B.1.1, SC.A.1.1,
SC.F.1.1

Materials:

9"x13" construction paper
paper
Crayons
Watercolors
Stapler/staples
Scrap paper or styrofoam peanuts



1. Choose an option from the “Animal Classifications” page to introduce the fish classification to the students. The following books are suggestions if using **Option 1**:

It Could Still Be a Fish by Allan Fowler
Hello, Fish!: Visiting the Coral Reef by Sylvia Earle
What is a Fish? by David Eastman
What is a Fish? by Bobbie Kalman

2. Students can make a fish.
On a 9"x13" piece of construction paper, draw the outline of a fish. Be sure to include the fins and tail. Attach another piece of paper with staples and then cut out the fish shape, cutting both papers at the same time. Draw in the details of the fish with crayons, on both sides. Be sure to draw darkly, but do not fill in the area with the crayon. Use watercolors to fill in the areas. If the crayon was used darkly, then it will resist the paint and will show through. Allow the fish to dry. Next, continue stapling around the outside edge of the fish. Leave an opening to stuff the fish with paper or styrofoam peanuts. Close the remainder of the fish with staples. Add pectoral fins, using scrap paper, to each side of the fish.
3. FCAT practice: Have students write the directions for creating the 3-D fish, after they have created the fish.

Fast Fact:

Prehistoric sharks grew to be 60 feet or more. So large... an adult human could stand in the mouth.

What Kind of Animals do You See at the Zoo?

Use an array and card game to classify animals

This activity will provide an assessment of the students' understanding of animal classification. Use the following card game for assessment.

Objective:

Students will identify zoo animals by their classification.

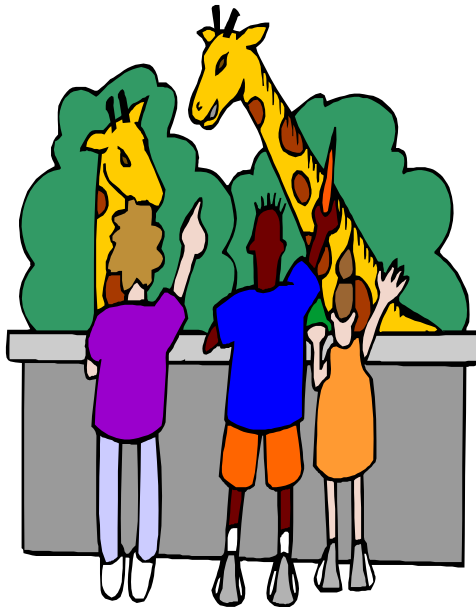
Benchmark:

LA.B.2.1, LA.C.1.1, MA.A.1.1, MA.A.2.1, SC.A.1.1

Materials:

Zoo animal cards – 1 set per group
Classification mat – 1 per group
Magazines

1. Provide each group of students a set of zoo animal cards. Instruct the students to sort the cards according to the classification of animal using the classification mat. Next, have the students record the names of the animals in each box on the classification mat and their attributes.
2. Have students cut out different pictures of animals. Next have them work in groups to discuss why some animals could live together and why others cannot.
3. Have students create their own Zoo Jeopardy game by writing questions on 3"x5" index cards. Sort the questions into categories and display them on the board.
4. Have students make an array based on attributes of an animal. Example:



1 indigo snake	2 eyes
2 indigo snakes	4 eyes

FCAT – Make an invitation to invite a friend or family member to go to Lowry Park Zoo with you.

Fast Fact:

The first zoo was made in China 3,000 years ago. It was called the Gardens of Intelligence.

Names _____

ZOO ANIMAL SORT!

Sort the set of zoo animal cards according to the animal classifications.

Next, remove the cards and write the names of the animals in the squares along with their attributes.

Amphibian

Fish

Mammal

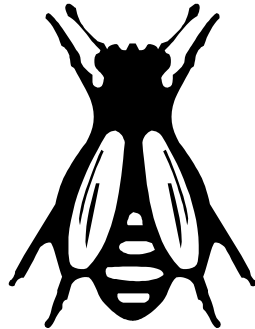
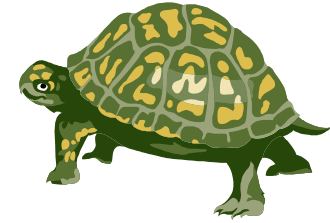
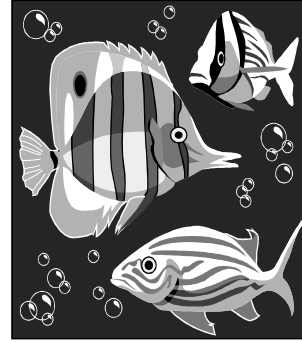
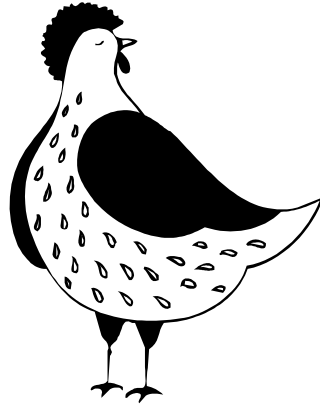
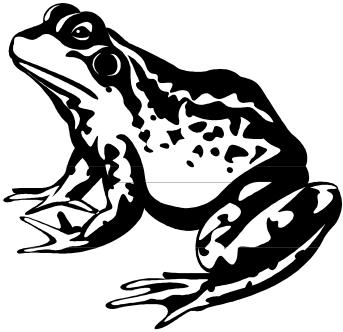
Insect

Bird

Reptile

Zoo Animal Cards

Make a copy of the zoo animal cards on card stock. Laminate and cut them along the lines. Each group will need a set of cards.



Zoo Animal Cards

Make a copy of the zoo animal cards on card stock. Laminate and cut them along the lines. Each group will need a set of cards.



Where Do Animals Live?

What makes a habitat a home? Can animals live in any habitat? Find out in this lesson.

Objective:

Students will identify animal habitats.

Benchmark:

LA.A.1.1, LA.A.2.1,
LA.B.2.1, SC.A.1.1,
SC.G.1.1, SC.H.1.1

Materials:

Copy of the Venn diagram – one per group



1. The following are some great books to introduce animal habitats. You may choose to focus on one habitat or spend several days on a few habitats.

The Magic School Bus Hops Home: A Book About Animal Habitats by Patricia Relf
The Desert is Theirs by Byrd Baylor
A Desert Scrapbook: Dawn to Dusk in the Sonora Desert by Virginia Wright-Frierson
Animals of the Rainforest by Steven Savage
Life in a Wetland by Allan Fowler
Life in a Pond by Allan Fowler

2. Choose two habitats and have the class work together to compare them using a Venn diagram.

Note: When visiting Lowry Park Zoo take a look at the wide array of habitats. The Florida Boardwalk and Aquatic Building have a particularly rich variety: swamp, marsh, coral reef, freshwater, pine flatwood, open woodland, and sandhill are some examples.

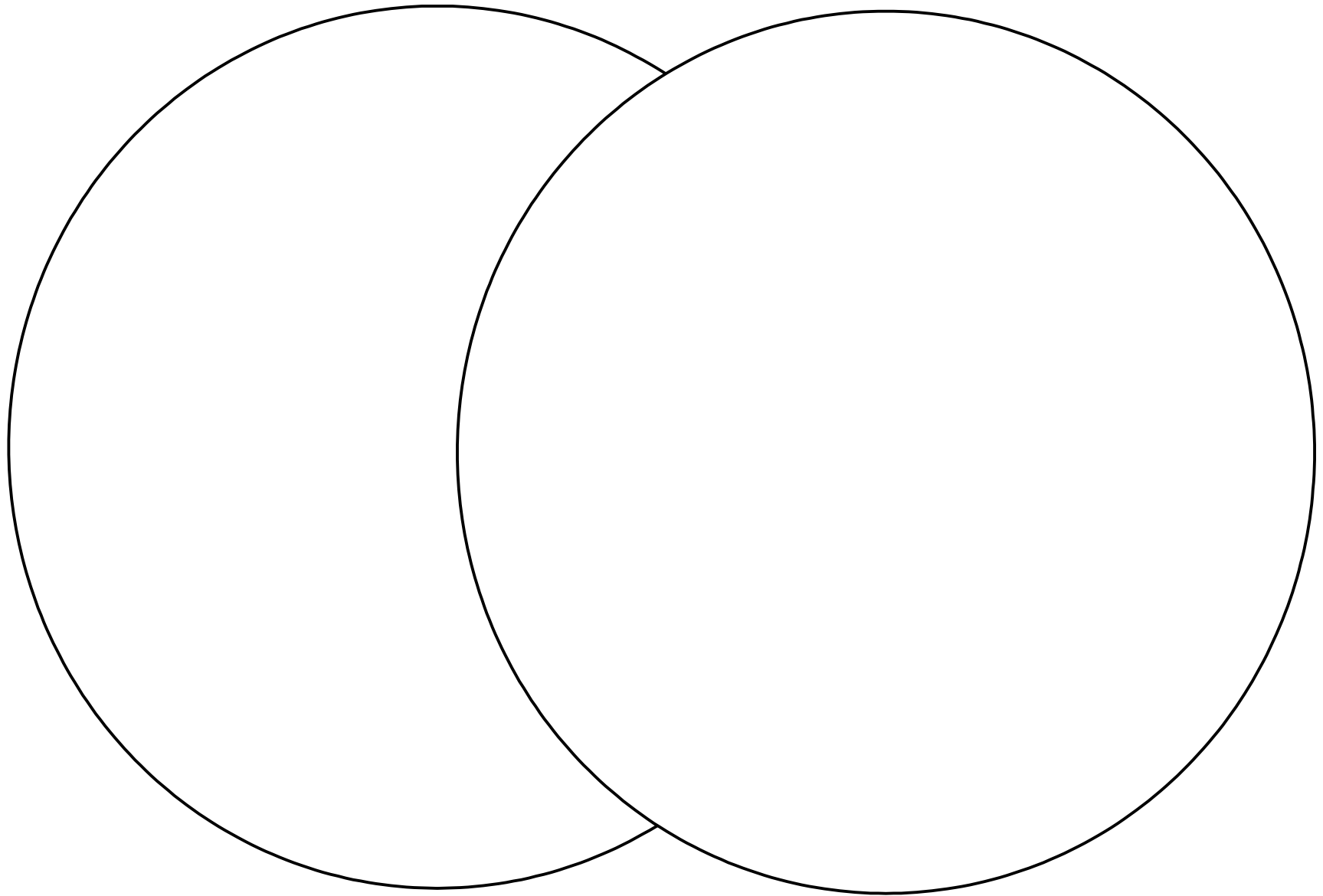
3. Have students work in groups. Assign each group two different habitats to compare using the Venn diagram. Have the groups share their findings with the class.

Fast Fact:

Rainforests are being destroyed at a rate of 15-25 acres per minute. Be a conservation hero by not buying plants or animals from the wild and spread the word!

Name _____

Habitat Comparisons



Zoo Animal Habitats

Students will focus on a few zoo animals; use the attributes of the animal to place it in the correct habitat.

Objective:

Students will identify animal habitats

Benchmark:

LA.B.1.1, LA.B.2.1, SC.A.1.1, SC.F.1.1, SC.G.1.1, SS.B.1.1

Materials:

See options 1-3 for specific materials

Reference:

Visit Lowry Park Zoo's website:
www.lowryparkzoo.com



1. Discuss with students the basic components of a habitat: food, water, shelter, and space.
2. Choose a few animals from the previous lessons. Record the animal names and adaptations on slips of paper. Place the slips of paper in a bag or box.
3. Place students in pairs or groups. Have each pair or group choose an animal from the bag.
4. Have each pair or group choose one of the following options to create a habitat for their animal.

Option 1: Habitat Bag- students will need a paper grocery bag, scraps of construction paper, and any other craft supplies available. Students need to cut up the front of a grocery bag so that they can open the flaps like two doors. Inside the bag, students create their habitat for the zoo animal they chose. They may create their zoo animal with paper, play dough or any other items available.

Option 2: Habitat Diorama- Students will need a shoebox or other type of box that you can stand on its side. Using the same types of materials as **option 1**, students can create a habitat for their zoo animal.

Option 3: Have students create a flip book to compare their needs to an animal's needs. Staple several sheets of paper together to form a booklet. Have the student record one item per page that they need for survival. Example: Water, shelter, space. Have the student choose an animal and on the back of each page have the student record the animal's needs. Students may illustrate the pages.

Fast Fact:

Bats can snooze in caves for 19 out of every 24 hours.

Zoo Safari

Students will use a scavenger hunt to look for animals and their habitats.

Objective:

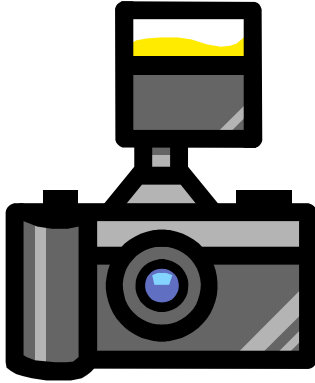
Students will identify animals and their habitats at the zoo.

Benchmark:

LA.A.1.1., LA.B.2.1,
SC.A.1.1, SC.F.1.1,
SC.F.2.1

Materials:

See option for materials needed



Below are several options of activities to complete at Lowry Park Zoo. You can assign the entire class to complete the same activity or allow groups to choose the activity to complete. Handouts for each option can be found on the following pages.

Option 1: Animal Alphabet Hunt – Have students use the handout “Going on a Zoo Hunt” to record the names of animals they see at the zoo. Students may write the names or draw pictures of the animals they see by the letter that is at the beginning of the animal’s name.

Option 2: Just the Facts – Students will use the handout “Just the Facts” to gather information about animals at the zoo.

Option 3: Camera Scavenger Hunt – Students will use the clues to take pictures of animals and objects at the zoo. Digital and “disposable” cameras can also be used.

Option 4: Check it Out – Students will use the hand- out to determine the classification of animal they are observing.

Activities to complete when you return to school include:

- Create a class alphabet book using the animals from the Zoo Alphabet Hunt.
- Make a class book using the pictures taken during the Zoo Camera Scavenger Hunt. Incorporate time skills by adding sentences such as: At 12 noon we saw the orangutans being fed. Thirty minutes later we were watching the manatees swimming.
- Invent a concentration game using the pictures taken at the zoo. One card could have the picture and the matching card could have a description.
- Write a class animal fact book using the facts gathered from either “Check It Out” or “Just the Facts.”
- Create a class graph of the types of animals that were seen at the zoo. Example: 9 mammals, 10 reptiles, etc.

Going on a Zoo Hunt!

How many zoo animals can you find that start with each letter?

Aa	Nn
Bb	Oo
Cc	Pp
Dd	Qq
Ee	Rr
Ff	Ss
Gg	Tt
Hh	Uu
Ii	Vv
Jj	Ww
Kk	Xx
Ll	Yy
Mm	Zz

Just the Facts

Animal Name

Classification

Body Covering

Habitat

At least one fact!

Name _____

Camera Scavenger Hunt

Use the following clues to take pictures at the zoo.
Can you find...



1. a person performing a job at the zoo?
2. an animal with lines around its body?
3. an animal that breathes under water?
4. an animal with a color as part of its name?
5. an animal that was injured and now must live at the zoo?



6. a mammal that sheds its fur?
7. an animal with scales?
8. an animal with a mucus coating?
9. an animal with whiskers?
10. an animal that is nocturnal?
11. an animal with stilt-like legs?
12. an animal that uses its arms for locomotion?



13. an animal whose name rhymes with cake?
14. an animal that lives on the ground?
15. an animal with antlers?
16. an animal that is related to the raccoon?

Write your own clue here and take a picture

Name _____

Check It Out!

Write the name of the animal. Next, look at the attributes and list the ones you observe in the column. Finally, write the classification in the last column.

<u>Name of Animal</u>	Feathers Beak Eggs Wings 2 legs Color	Eggs Shed skin Shell	Mammary glands Color	Smooth skin Color	3 body parts 6 legs Antennae Wings	Fins Water	Mammal Amphibian Insect Fish
	Scales	Hair or fur	Moist skin	Exoskeleton	Gills Scales	<u>What is it?</u> Bird Reptile	

Creature Comforts

An imagination and review of fieldtrip are emphasized

Objective:

Students will create habitats for zoo animals.

Benchmark:

LA.B.1.1, LA.B.2.1, LA.C.1.1, SC.A.1.1, SC.F.1.1, SS.B.2.1

Materials:

Read options 1-3 for specific materials

Zoo Dough –
recipe for one student

1 tbs. honey

2 tbs. peanut butter

2 tbs. powdered milk

1 tsp. cocoa

1. Measure the honey and peanut butter. Put them inside a Ziploc bag and mix using your fingers to knead it.

2. Measure the powdered milk and cocoa. Add them to the bag and mix with your fingers. If the mixture is too sticky to pick up, add more powdered milk. Now use the dough to shape animals and parts of their habitat.

Students have observed many animals and their habitats while visiting the zoo. Review with students that habitats must have the proper components for animals to survive. Brainstorm with students a list of animals that were seen at the zoo. Record this list on chart paper or on the board. Beside each animal allow children to record descriptions of their habitat. Leave this list up for students to reference.

Option 1: Invent an animal - Students can invent an animal and create the habitat using construction paper and other materials. Next, students explain why the animals they invented fit in the habitat.

FCAT practice – Write the directions for inventing the animal.

Option 2: Whose Habitat is it? - Give a group of students a stack of 3x5 cards. Using the blank side, have students draw pictures of animals on half of the cards. Have them draw the habitats on the other half of the cards. Students work with partners to match the correct animal to its habitat. Animals and habitats created can be limited to animals seen at the zoo or can result from research.

Option 3: Eat a Zoo- Have students create an edible zoo or habitat. Animal crackers or sugar cookie dough can be used to form animals. Icing, sprinkles, and Jell-O may be used to create the environment. Example: Blue Jell-O could be the water for a manatee. Be creative. Let student make edible animals and habitat using the recipe on this page.

FCAT practice – Make copies of the recipe and let the students follow it.

Fast Fact:

Bowerbirds build large dome-bowers with as many as 3,000 different things (flowers, leaves, snail shells).



All In A Day's Work

Use a game, references or dramatic play to investigate zoo jobs

Objective:

Learn about all the different types of people a zoo employs.

Benchmark:

LA.A.1.1, LA.A.2.1, LA.B.2.1, SC.D.2.1, SC.F.2.1, SC.G.1.1 SC.H.1.1

Materials:

Resource materials
Paper
Pencil/pen
See options

Reference

Opportunities in Zoos and Aquariums by Blythe Camenson

www.aazk.org/career/career.htm



Read and discuss one of the following books to introduce zoo jobs:

- Careers at a Zoo by Mark Lerner
- If I Were a Zoo Keeper by Virginia Schomp
- Jungle Jack Hanna's What Zoo-Keepers Do (Hello Reader Level 4) by Jack Hanna
- The Tiger Has a Toothache: Helping Animals at the Zoo by Patricia Lauber
- Working at a Zoo by Bertram Knight

For job descriptions use the "Zoo Jobs Fact Sheet."

Option 1: After this discussion, place students into small groups. Have students use encyclopedias, trade books, the Internet, and other resources to research other zoo jobs or to learn more about the jobs discussed. Students can also compare and contrast the jobs at various zoos found on the Internet.

FCAT practice - Have students write to the Teacher Programs Specialist at Lowry Park Zoo with their own questionnaire about zoo jobs. Please enclose a self-addressed stamped envelope.

FCAT practice - Have students work with a partner to create a brochure describing zoo jobs.

Option 2: Set up a dramatic play area in your room to simulate the zoo. Ask for donations of items that students can use to create uniforms for zoo jobs. Students may also get very creative with grocery paper bags and construction paper to create their uniforms. You may also include stuffed animals, plastic food, a doctor bag, plastic tools, and anything that will be meaningful for students to role-play in this area.

Option 3: Use the template enclosed to make a zoo jobs concentration game. Write the name of zoo jobs you choose on half of the cards and their description on the other half. Run off on cardstock and laminate. Cut the cards apart and have students take turns playing a zoo jobs concentration. Use the blank cards for additional jobs your students find.

Creature Comforts

An imagination and review of fieldtrip are emphasized

Objective:

Students will create habitats for zoo animals.

Benchmark:

LA.B.1.1, LA.B.2.1, LA.C.1.1, SC.A.1.1, SC.F.1.1, SS.B.2.1

Materials:

Read options 1-3 for specific materials

Zoo Dough –
recipe for one student

1 tbs. honey

2 tbs. peanut butter

2 tbs. powdered milk

1 tsp. cocoa

1. Measure the honey and peanut butter. Put them inside a Ziploc bag and mix using your fingers to knead it.

2. Measure the powdered milk and cocoa. Add them to the bag and mix with your fingers. If the mixture is too sticky to pick up, add more powdered milk. Now use the dough to shape animals and parts of their habitat.

Students have observed many animals and their habitats while visiting the zoo. Review with students that habitats must have the proper components for animals to survive. Brainstorm with students a list of animals that were seen at the zoo. Record this list on chart paper or on the board. Beside each animal allow children to record descriptions of their habitat. Leave this list up for students to reference.

Option 1: Invent an animal - Students can invent an animal and create the habitat using construction paper and other materials. Next, students explain why the animals they invented fit in the habitat.

FCAT practice – Write the directions for inventing the animal.

Option 2: Whose Habitat is it? - Give a group of students a stack of 3x5 cards. Using the blank side, have students draw pictures of animals on half of the cards. Have them draw the habitats on the other half of the cards. Students work with partners to match the correct animal to its habitat. Animals and habitats created can be limited to animals seen at the zoo or can result from research.

Option 3: Eat a Zoo- Have students create an edible zoo or habitat. Animal crackers or sugar cookie dough can be used to form animals. Icing, sprinkles, and Jell-O may be used to create the environment. Example: Blue Jell-O could be the water for a manatee. Be creative. Let student make edible animals and habitat using the recipe on this page.

FCAT practice – Make copies of the recipe and let the students follow it.

Fast Fact:

Bowerbirds build large dome-bowers with as many as 3,000 different things (flowers, leaves, snail shells).



Zoo Jobs Fact Sheet



Veterinarian: Treats animals that are sick. They also make sure that the animals that are not sick stay healthy.

Dietician: Prepares fresh fruit, vegetables, and meats to ensure proper nutrition for the zoo animals. The dietician and the veterinarian work together to make sure the animals are fed the correct food and sufficient amounts of food.

Animal Curators: Responsible for large groups of animals. They oversee the zookeepers and the animal diets. They may have once been a zookeeper.

Zookeeper: This is a very important job that takes years of experience. This person cares for animals at a zoo or aquarium. They maintain captive exotic animals for conservation, research, and public education. They usually have a zoology or biology degree and must be very knowledgeable about mammals, birds, reptiles, amphibians, fish, and invertebrates. Zookeepers are responsible for daily cleaning and maintenance of animal enclosures and may oversee proper feeding of animals by the dietician. A zookeeper must be a great observer to detect any changes in an animal's behavior.

Zoo Educator: Educates the public about zoos and conservation. Provides important resources for teachers and visitors.



Web sites for zoo job research:

www.aazk.org/career/career.htm

www.seaworld.com

Zoo Job Cards

Make several copies of the zoo job cards on card stock. Write the name of the zoo job on the top half of the card, and the description on the bottom half. Laminate and cut along the lines. Each group will need a set of cards. Make blank cards for additional zoo jobs the students research.

Veterinarian	Dietician	Animal Curator	Zoo Keeper
<p>Treats animals that are sick. They also make sure that the animals that are not sick stay healthy.</p>	<p>Prepares fresh fruit, vegetables, and meat to provide proper nutrition for the zoo animals. The dietician and the veterinarian work together to make sure the animals are fed the correct amount of food.</p>	<p>Responsible for large groups of animals. They oversee the zookeepers and the animal diets.</p>	<p>This person cares for animals at a zoo or aquarium. They maintain captive exotic animals for conservation, research, and public education.</p>

Zoo Job Cards

Page 2

**Zoo
Educator**

Educates the
public about
zoos and
conservation.

I Went to the Zoo - Let's Review

Students will review zoo concepts they have learned about through a card game.

Objective:

Students will review concepts covered during this zoo unit.

Benchmark:

LA.C.1.1, SC.H.1.1, MA.A.1.1, MA.A.3.1

Materials:

1 deck of zoo animal cards per group
1 deck of zoo job cards per group

1. Use the zoo animal cards from *“What Kind of Animals Do You See at the Zoo?”* and the zoo job cards from *“Zoo Jobs.”* Have students create animal descriptions to match each animal card. Each group of students will need a complete set of cards.
2. Card game directions:
Shuffle the cards and deal 5 cards to each player. They then lay the remainder of the cards face down, on the table. Students are to match the picture card with the description card. They will lay the matches on the table/desk in front of them. The person to the left of the person who dealt the cards will go first. That person chooses another person and asks them if they have a particular card. If yes, they give them the card. If no, the student says, “Go to the zoo.” The first student then picks a card from the pile. Play continues until all the cards are used or time is up. The person with the most pairs wins.

FCAT practice: Have students write the directions for playing the card game.

Extensions:

1. Students can create their own board game using the knowledge gained from zoo experience. **FCAT practice: Students write directions for playing their game.**
2. Have students create a class or individual website or book based on the zoo unit.
3. Have students create a commercial about Lowry Park Zoo to entice other classes to visit the zoo. Videotape the commercial and play it on the school morning show.

Fast Fact:

The Sloth Bear is the only bear that can hang upside down in trees.

Subject & Standard Correlates

	Living Vs. Nonliving	Domesticated Vs. Wild	Animal Classifications	What is a Bird?	What is a Reptile?	What is an Mammal?
Language Arts:						
Uses the reading process effectively LA.A.1.1	X		X	X	X	X
Constructs meaning from a wide variety of text LA.A.2.1	X					X
Uses the writing process effectively LA.B.1.1	X	X	X	X	X	
Writes to communicate ideas LA.B.2.1	X	X	X	X	X	X
Uses listening strategies effectively LA.C.11					X	X
Mathematics:						
Understands the different ways numbers are represented and used in the real world MA.A.1.1						
Understands number systems MA.A.2.1	X					
Describes, analyzes and generalizes a wide variety of patterns, relations, and functions MA.D.1.1		X				
Understands and uses the tools of data analysis for managing information MA.E.1.1	X					
Measures quantities in the real world and uses the measures to solve problems MA.B.1.1						
Understands the effects of operations on numbers and the relationships among these operations, selects appropriate operations, and computes for problem solving MA.A.3.1						
Science:						
Understands the need for protection of the natural systems of Earth SC.D.2.1	X	X	X	X	X	X
Describes patterns of structure and function of in living things SC.F.1.1	X	X	X	X	X	X
Understands the competitive, interdependent cyclic nature of living things in the environment SC.G.1.1	X	X	X	X	X	X
Understands all matter has observable, measurable properties SC.A.1.1		X	X	X	X	X
Understands the process and importance of genetic diversity SC.F.2.1		X	X			
Uses the scientific processes/ habits of mind to solve problems SC.H.1.1				X	X	X
Social Studies:						
Understands the world in spatial terms SS.B.1.1						X
Understands the interactions of people and the physical environment SS.B.2.1						
Understands how the scarcity requires individuals and institutions to make choices about how to use resources SS.D.1.1						
Lowry Park Zoo Grades K-2 Page 32						

Subject & Standard Correlates

	What is an Amphibian?	What is an Insect?	What is a Fish?	Animals You See at the Zoo	Where do Zoo Animals Live?
Language Arts:					
Uses the reading process effectively LA.A.1.1	X	X	X		X
Constructs meaning from a wide variety of text LA.A.2.1	X	X			X
Uses the writing process effectively LA.B.1.1					
Writes to communicate ideas LA.B.2.1	X			X	
Uses listening strategies effectively LA.C.11	X	X	X	X	
Mathematics:					
Understands the different ways numbers are represented and used in the real world MA.A.1.1		X		X	
Understands number systems MA.A.2.1		X		X	
Describes, analyzes and generalizes a wide variety of patterns, relations, and functions MA.D.1.1					
Understands and uses the tools of data analysis for managing information MA.E.1.1					
Measures quantities in the real world and uses the measures to solve problems MA.B.1.1			X		
Understands the effects of operations on numbers and the relationships among these operations, selects appropriate operations, and computes for problem solving MA.A.3.1					
Science:					
Understands the need for protection of the natural systems of Earth SC.D.2.1	X	X			
Describes patterns of structure and function of in living things SC.F.1.1	X	X	X		
Understands the competitive, interdependent cyclic nature of living things in the environment SC.G.1.1	X	X			X
Understands all matter has observable, measurable properties SC.A.1.1	X	X	X	X	X
Understands the process and importance of genetic diversity SC.F.2.1					
Uses the scientific processes/ habits of mind to solve problems SC.H.1.1	X	X			X
Social Studies:					
Understands the world in spatial terms SS.B.1.1	X				
Understands the interactions of people and the physical environment SS.B.2.1					
Understands how the scarcity requires individuals and institutions to make choices about how to use resources SS.D.1.1					
Lowry Park Zoo Grades K-2 Page 34					

Subject & Standard Correlates

	Zoo Animal Habitats	Visit the Zoo	Create a Zoo Habitat	Zoo Jobs	I Went to the Zoo - Let's Review
Language Arts:					
Uses the reading process effectively LA.A.1.1		X		X	
Constructs meaning from a wide variety of text LA.A.2.1				X	
Uses the writing process effectively LA.B.1.1	X		X		
Writes to communicate ideas LA.B.2.1	X	X	X	X	
Uses listening strategies effectively LA.C.11			X		X
Mathematics:					
Understands the different ways numbers are represented and used in the real world MA.A.1.1					X
Understands number systems MA.A.2.1					
Describes, analyzes and generalizes a wide variety of patterns, relations, and functions MA.D.1.1					
Understands and uses the tools of data analysis for managing information MA.E.1.1					
Measures quantities in the real world and uses the measures to solve problems MA.B.1.1					
Understands the effects of operations on numbers and the relationships among these operations, selects appropriate operations, and computes for problem solving MA.A.3.1					X
Science:					
Understands the need for protection of the natural systems of Earth SC.D.2.1				X	
Describes patterns of structure and function of in living things SC.F.1.1	X	X			
Understands the competitive, interdependent cyclic nature of living things in the environment SC.G.1.1	X			X	
Understands all matter has observable, measurable properties SC.A.1.1	X	X	X		
Understands the process and importance of genetic diversity SC.F.2.1		X	X	X	
Uses the scientific processes/ habits of mind to solve problems SC.H.1.1				X	X
Social Studies:					
Understands the world in spatial terms SS.B.1.1	X		X		
Understands the interactions of people and the physical environment SS.B.2.1					
Understands how the scarcity requires individuals and institutions to make choices about how to use resources SS.D.1.1					
Lowry Park Zoo Grades k-2 Page 33					

