

A ZOO FROM THE PERSPECTIVE OF AN ANIMAL

 GRADES 6-8
 SUSAN FREEMAN

TIME ALLOTMENT: Three to five 50-minute classes.

OVERVIEW:

Middle school students will become aware of the physical characteristics of animals, their needs, and the reasons zoos have become more animal friendly.

SUBJECT MATTER: Science, Social Studies
 Mathematics, English,
 Language Arts

LEARNING OBJECTIVES:

Students will be able to:

- Differentiate between the animal classes.
- Identify strategies animals use to protect themselves.
- Identify basic needs of animals.
- Explain the role of zoos in preventing animal extinction.

STANDARDS:

Louisiana English Language Arts Content Standards

<http://www.lcet.doe.state.la.us/doe/assessment/standards/ENGLISH.pdf>

ELA-1-M3: Reading, comprehending, and responding to written, spoken, and visual texts in extended passages.

ELA-1-M4: Interpreting texts with supportive explanations to generate connections to real-life situations and other texts.

ELA –1-M5: Using purposes for reading to achieve a variety of objectives.

ELA – 2-M1: Writing a composition that clearly implies a central idea with supporting details in a logical, sequential order.

Louisiana Mathematics Frameworks

<http://www.lcet.doe.state.la.us/doe/assessment/standards/MATH.pdf>

N.8: Demonstrating a conceptual understanding and applications of proportional reasoning.

M.1: Applying the concepts of length, area, surface area, volume, capacity, weight, mass, money, time, temperature, and rate to real-world experiences.

M.2: Demonstrating an intuitive sense of measurement.

M.6: Demonstrating the connection of measurement to the other strands and to real-life situations.

Louisiana Science Content Standards

<http://www.lcet.doe.state.la.us/doe/assessment/standards/SCIENCE.pdf>

SI-M-A4: Developing descriptions, explanations, and graphs using data

SI-M-B7: Understanding that scientific development/technology is driven by societal needs and funding.

LS-M-C1: Constructing and using classification systems based on the structure of organisms.

LS-M-C4: Explaining the interaction and interdependence of nonliving and living components within ecosystems.

LS-M-D1: Describing the importance of plant and animal adaptation, including local examples.

Louisiana Social Studies Content Standards

<http://www.lcet.doe.state.la.us/doe/assessment/standards/SOCIAL.pdf>

G-1D-M1: Analyzing and evaluating the effects of human actions upon the physical environment.



MEDIA COMPONENT:**Video:**

Enviro-Tacklebox™, A Zoo View (Louisiana Public Broadcasting)

Web sites:

Enviro-Tacklebox™ <http://www.envirotacklebox.org> This is Louisiana Public Broadcasting's Web site providing teaching information, films, articles and student activities involving environmental science.

<http://www.bornfree.org.uk/zoocheckzoo1> **click on Born Free History.**

<http://207.228.229.84/zoo/index.htm> (Audubon Zoo, New Orleans)

<http://audubonistitute.org> (Audubon Zoo, New Orleans) educator's resources teacher guides

<http://www.brzoo.org> Baton Rouge Zoo

<http://roadsidegeorgia.com/site/atlantazoo.html> Georgia Zoo

<http://www.enchantedlearning.com/graphicorganizers/animalrpt/> Graphic organizers

MATERIALS:*Per Group:*

- Paper and pencils
- Graphic organizers
- Graph paper
- Materials to build a model zoo: Popsicle sticks, legos, cardboard, posterboard, tape, glue.

PREP FOR TEACHERS:

1. Watch the video, **A Zoo View**.
2. Bookmark Web sites.
3. Prepare graphic organizers.
4. Collect shoe boxes for model zoos (dioramas).

INTRODUCTORY ACTIVITY:**Setting the Stage**

1. Ask students to describe a zoo using a graphic organizer. See attachment.
2. Instruct students to use all of their senses.
3. As students share their graphic organizers, the teacher fills in a large graphic organizer. The teacher's graphic organizer can be drawn on chart paper, poster board, bulletin board paper, chalk or dry erase board, transparency on overhead projector.
4. Ask students to describe the different zoos they have visited. Use a graphic organizer to compare and contrast their answers.
 - a. Are all zoos exactly alike? Why or why not
 - b. What factors determine the design of a zoo?
 - i. Location (*amount of space available, environment may not be suitable for certain animals, may not be able to get certain animals to the zoo, etc*)
 - ii. Types of animals (*domestic, wild, local, etc*)
 - iii. Purpose of zoo (*hobby, entertainment, status of wealth, etc*)
5. **Start video.** Tell students to take notes about the condition of the first zoos. Watch **ZOO VIEW** stopping when the backhoe comes into view.
 - a. **FOCUS FOR MEDIA INTERACTION:** Ask students to explain the origin of zoos, the history of zoos. Use the Web site Born Free.
 - i. What was the first name for a zoo? (*menagerie*)
 - ii. What was the purpose of the first zoos? (*source of entertainment and or a hobby for royalty and the wealthy*)

- iii. Describe, using a graphic organizer, the living conditions of animals in zoos once the zoos were opened to the public; cages, how fed, activities for the animals. (*kept in small cages not much larger than the animal, usually all concrete with metal bars, water in a tub, fed in pans by humans, may have some type of equipment such as tire swing or simulated trees for climbing, very limited*)

Use the Atlanta Zoo and the Born Free Web sites to discuss what lead to the redesign of those zoos.

<http://www.bornfree.org.uk/zoocheckzoo1> click on Born Free History.

<http://207.228.229.84/zoo/index.htm>

- b.
- i. Compare how Pole Pole and Willie B. came to be in zoos. (*Both were captured in the wild while young and taken to a zoo.*)
 - ii. Was the zoo comparable to the environment to which each was born? Explain your answer. (*No. The zoos kept the animals in cages, very accessible to the public, activities nothing like those available in the wild that satisfy their instincts, did not have contact with same species*).
6. Cartoon: Students choose an animal from the Audubon Zoo Endangered Species List (an animal native to Louisiana) and create a cartoon. The teacher may want to assign animals to students or have students draw the name of an animal to ensure each animal is chosen at least once. The cartoon should depict the life of the animal in an "old" type zoo.
Small cage, lack of activities, lack of companionship, etc.
What would the animal say if he could speak "human"
Students present to class
Evaluate using a rubric
Decide what elements must be present
Deduct one point for each missing element
7. Students use the animal in # 6
- a. Create a mobile to describe the animal. Include the following topics:
 - i. Physical description
 - ii. Food: carnivore or plant eater
 - iii. Day or nocturnal
 - iv. Environment (where does it live and under what conditions)
 - v. Lives alone or in groups
 - vi. Natural protection: adaptation
 - vii. Why on the endangered species list
 - viii. Longevity: expected life span
 - ix. Classification (mammal, reptile, amphibian, insect, bird, etc.
 - b. Classmates take notes as each mobile presented.
Evaluate using a rubric.
 - i. Decide what elements must be present
 - ii. Deduct one point for each missing element

Note: A graphic organizer can be used as the pattern for the mobile. See attachments.

LEARNING ACTIVITY:

Start video. Tell students to take notes about the changes made to zoos. Students should be able to compare and contrast modern zoos to the first zoos.

Continue video, stop at Plants, Animals, People

1. FOLDABLE

- a. Students create a foldable contrasting an old zoo to a modern zoo. Use the following categories
 - i. Cage/environment
 - ii. Method of feeding
 - iii. Activities
 - iv. Public viewing
- b. Create foldable
 - i. Use unlined paper
 - ii. Fold in half horizontally (hamburger style)
 - iii. Cut from the open side to the folded side but stop approximately half an inch from the fold.
 - iv. The strips on the left side are for an old zoo, the right side for a modern zoo
 - v. Write the category on the outside of the strip and the answer to it on the inside of the foldable. See attachment
- c. Evaluate using a rubric
 - Decide what elements must be present
 - Deduct one point for each missing element

2. CARTOON

Students use the animal from the first cartoon but this time they put him in a new environment.

What would the animal say if he could speak "human"?

Students present to class

Evaluate using a rubric

Decide what elements must be present

Deduct one point for each missing element

Start the video. FOCUS FOR MEDIA INTERACTION: What is the purpose of zoos now as compared to the first zoos? Have zoos changed for the better? Be able to explain answer.

3. Complete the video

A. Activity 7 of the Introduction students chose an animal from the Audubon Zoo Endangered Species List.

B. Define habitat.

C. Students use the information from that activity to create a habitat and in so doing they create classroom groups.

Students were to take notes on each animal and it is this information they use to put themselves into groups.

Suggestion: limit habitats, groups to 4 students.

D. Students must justify why they chose each animal to be part of each habitat.

Use the list in #7, Introduction

E. Students work together to answer the following questions:

i. What other animals can be found in the habitat?

ii. Define compatibility and incompatibility

iii. Are all the animals in a particular habitat compatible?

iv. Describe a habitat in which incompatibility exists. Why are the animals able to live in the habitat?

v. Define adaptations. Each member in the habitat, group, describes the adaptations of his animal which enable the animal to survive.

CULMINATING ACTIVITIES:

1. Create a zoo exhibit.
 - a. Students use graph paper to design layout of exhibit.
 - b. Set a ratio, perhaps 1 square on the graph paper = 1 square yard of an actual exhibit. To make evaluation easier, everyone uses the same size graph paper and the scale is the same for everyone.
 - c. Designs should include the following
 - i. Label the areas for each animal
 - ii. Housing areas for each animal
 - iii. Environmental enrichment activities
 - iv. Type of barrier
 - d. Students create a graphic organizer for the following items and use the graphic organizer to write an essay
 - i. Explain how and what the animals eat
 - ii. How the exhibit will be cleaned
 - iii. Breeding facilities and care for newborns
 - iv. Describe plant life in the exhibit
 - v. Describe the amount of space needed for each animal
 - e. Evaluate using a rubric
 - Decide what elements must be present
 - Deduct one point for each missing element
2. Students display their exhibits.
Evaluate using a rubric
 - Decide what elements must be present
 - Deduct one point for each missing element
3. Each habitat, group, decides the best layout of the exhibits to allow for rotation
Grade using a rubric
 - Decide what elements must be present
 - Deduct one point for each missing element

NOTE: Students could turn the graph paper drawings into dioramas. This would make it more interesting for them.

CROSS-CURRICULAR EXTENSIONS:**ART:**

- Designing exhibits.

ENGLISH/LANGUAGE ARTS:

- Reading articles, writing.

MATHEMATICS:

- How did the geography affect the outcome of the battle chosen in the previous activity?

SCIENCE:

- Identifying animals according to class and species, needs of animals, adaptations animals use to meet their needs.

SOCIAL STUDIES:

- Humane treatment of animals, origins of zoos, relationship between humans and zoo animals.

COMMUNITY CONNECTIONS:

- Visit the Baton Rouge Zoo or New Orleans Zoo.

STUDENT MATERIALS:

See attached:

- Glossary and Foldable diagram

Glossary:

Habitat: place or region of an animal or plant in its natural environment.

Environment: surroundings, the material influences which affect the growth, development and existence of a living being.

Adaptations: an inherited or acquired structure or function serving to fit a plant or animal for its environment.

Compatible: able to exist together without mutual contradiction.

Incompatible: not able to be mixed together without undesirable results.

FOLDABLE

FOLDED EDGE

OPEN EDGE