



Author Name: Kimberly Nodine	Content Areas: Science, Reading, Geography, Math, Peace and Geometry
Lesson Plan Title: Endangered Animals Unit	State: PA
Lesson Time Frame: 1 / 20-40 minute lesson plus follow-up activities each week for 6-8 weeks.	Inspired by this Expedition: Conserving the Pantanal: Carnivores
Student Level: Elementary	

Endangered Animals Unit

This unit will follow-up on the excitement created within my class last spring when my students learned that I would be traveling to Brazil over the summer. We will have at least one lesson each week for 6-8 weeks. These lessons will include follow-up activities and projects to be completed by the students. This autumn I plan to present this unit to my lower elementary class (1-3) and some of these lessons to the upper elementary class (4-7) at Wyoming Valley Montessori School in Kingston, PA. This will include approximately 50 students. The final student presentation of an endangered animal's Halloween party may reach 200+ community members.

Academic standards: Map skills, scientific method, food webs, non-fiction reading, biomes of Brazil, parts of a triangle and finding the azimuth, problem-solving, peace education, addition, multiplication and predicting outcomes.
These are lessons and extensions from the Montessori Method.

Abstract: Students will receive lessons, solve problems and create projects based on the grasslands of Brazil and the species living within this environment. Students will choose an endangered animal to research and represent for a Halloween party presentation.

Goal: To impress the students with the ideas that all species are interconnected, biodiversity is essential and coexistence is key.
To present math, geometry, map skills, peace education and geography in relation to field work.
To ask “What can we do to help?”

Performance indicators: Students will demonstrate interconnectedness through the creation of a food web and a map of the lost grasslands of Brazil.
Students will describe the importance of biodiversity by removing a single species from the food web, predicting the outcome of that action, and reporting their results to the class.

Students will discuss co-existence in relation to animals, people and our classroom.

Background information: Diet and environment of species within Emas National park. Students will need to read the information provided. Students will need information about gestation periods and number of young born to some of the endangered species. Students will need to add and multiply.

Materials: Field guides, encyclopedias, pictures of animals, maps of Brazil, Montessori math materials, Montessori Triangle cabinet.

Instructional procedure:

Introduction: Dress up in field clothes and carry in a backpack filled with the tools we used in the field. Each day a lesson is presented, pull out an article that relates to that lesson, i.e. field guides---pull out the day you present food webs; compass----pull out the day you find the azimuth of a triangle,etc. Today pull out a map of Brazil. Present the first lesson. Tell a story about the disappearing farmland from the wolves’ and jaguars’ perspective. At the end of the story, explain that these animals have to

learn to live in an area that is now being used by farmers. Ask why it might be difficult for farmers and predators to share land.

Activities:

1. Students will find, label and color the grasslands region on a map of Brazil. They will also highlight the area that has been converted to farmland and outline the area of Emas National Park.

*Field guides

2. Students will be given a picture of an animal with paragraphs of information about the animal (including diet and environment). Students will work in groups to complete a food web project using pictures and yarn to show the connections between plants, animals and man.

3. Students will be asked to remove one item from their food web and write a report predicting what would happen to the food web.

*charts

4. Discuss the importance of keeping accurate records. They will discuss the similarities and differences between predator and prey animals. They will chart their findings on a Venn Diagram.

*Smile & handshake

5. The students will be told the story of Dr. Leandor and Anah working with the farmers and ranchers surrounding Emas. Students will discuss the importance of co-existence.

*Compass

6. Students will study the parts of the triangle and learn how to find collared animals through triangulation. Students will learn how to find the azimuth of a triangle.

*Camera

7. Tell students about the photo traps and seeing pictures of jaguar cubs, etc. Discuss why information about reproduction is important to conservation. Students will be given a non-fiction paragraph about the gestation periods and number of young of several animals found within Emas. Students will be asked to use math to predict how many young a peccary could have in three years. Students will be asked to predict how many young a giant armadillo could have in three

years. Students will discuss how these statistics could affect an endangered animal. Which is more likely to survive? Why?

Closure: Students will choose an endangered animal to research for themselves. They will report their findings. They will create a costume of that animal for an all-school presentation.

Assessment: Students will be assessed based on their participation in activities; the content of their written diagrams and reports; and the quality and completion of their projects. Students will demonstrate internalization of the material presented through the process of participation. Students will continue to work on a project until it is completed to the satisfaction of the instructor and the student.

Connection to other Content areas: Math, Geometry, Reading, Geometry and Peace education.

Extensions: Research projects observing the behavior of plants and animals within our environment. Continued current classroom work with recycling, reducing and reusing. Continue the focus on composting. Create a food web using animals in our area.

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Sample rubric

Title of project or activity	Student participation	Completed project	Content of project	Quality of project
Student's name				