Project Learning Tree Standards-Based FCAT-Style Activities

400-Acre Wood

Teacher Page

Students practice FCAT skills while learning about forest management.

GRADE LEVEL: 6th - 8th grades

ACADEMIC OUTCOMES/LESSON OBJECTIVES:

- Students will read a selection introducing them to the concept of forest management.
- Students will respond to FCAT-Style questions and prompts in Reading, Writing, Math, and Science.

SUNSHINE STATE STANDARDS ASSESSED:

- (LA.6.4.2.1, LA.7.4.2.1, LA.8.4.2.1) writes in a variety of informational/expository forms (e.g., summaries, procedures, instructions, experiments, rubrics, how-to manuals, assembly instructions).
- (LA.6.1.7.2, LA.7.1.7.2, LA.8.1.7.2) analyzes the author's purpose (e.g., to persuade, inform, entertain, or explain) and perspective in a variety of texts and understand how they affect meaning.
- (MA.A.3.3.3) adds, subtracts, multiplies, and divides whole numbers, decimals, and fractions, including mixed numbers, to solve real-world problems, using appropriate methods of computing, such as mental mathematics, paper and pencil, and calculator.
- (SC.G.2.3.3) knows that a brief change in the limited resources of an ecosystem may alter the size of a population or the average size of individual organisms and that long-term change may result in the elimination of animal and plant populations inhabiting the Earth.
- (SC.G.2.3.4) understands that humans are a part of an ecosystem and their activities may deliberately or inadvertently alter the equilibrium in ecosystems.

RESOURCES:

Florida Project Learning Tree Web site - http://www.sfrc.ufl.edu/plt/
Florida Department of Education Web site - http://www.firn.edu/doe/

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ANSWER KEY:

1. LA.6.4.2.1, LA.7.4.2.1, LA.8.4.2.1 Use the 6-Point Writing Rubric.
2. a) MA.A.3.3.3
3. c) SC.G.2.3.3, SC.G.2.3.4
4 c) LA.6.1.7.2, LA.7.1.7.2, LA.8.1.7.2

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Student Handout

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WRITING

1. A wealthy family has donated 400 acres of untouched woodland to your community. Think about how the property's wildlife might be affected if your community chooses to turn this property into a public ballpark. Write to persuade your community leaders to turn the property into a wildlife preserve instead of a ballpark.
   NOTE: Write your response to question 1 on another sheet.

MATH

2. In planning for the development of the 400 woodland acres, your community has decided to use ¼ of the property for timber harvest. What will be the total number of square feet set aside for timber harvest? (1 acre = 43,560 square feet)

   a. 4,356,000 Square Feet
   b. 8,712,000 Square Feet
   c. 13,068,000 Square Feet
   d. 17,424,000 Square Feet

SCIENCE

3. Your community has decided to develop 50 acres of this forest into a golf course and community center. Maintaining this golf course requires large amounts of fertilizers and pesticides. How will the construction of these recreational facilities affect the remaining woodland ecosystem?

   a. Removing trees and bushes prior to construction will decrease soil erosion.
   b. The fertilizers will run off into forest streams and improve fish health.
   c. Pesticides will kill insects at the forest's edge, removing an important food source.
   d. The new asphalt parking area will allow more rain to soak into the earth.

Name:	**Date:**

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READING

This article is adapted from the Background information in the Project Learning Tree activity titled "400-Acre Wood."

Managing Forests

Public and private forests cover almost one third of our nation's land. In addition to trees, these forests provide habitat for a wide variety of plant and animal species. People use forests in many ways such as harvesting timber, camping, hiking, hunting, and fishing. Forests also maintain our clean water supplies, because tree roots prevent erosion by anchoring the soil.

Government policies require that national forests be managed "in a manner to provide the maximum benefit for the general public." To determine the maximum benefit, forest managers must consider the costs, benefits, and environmental impacts of any decision. For example, when considering a forest's recreational value, they compare the costs of developing a campground versus the income that might be generated by camping fees. Managers also consider the monetary value of forest wildlife. Money can be generated by charging fees to hunters in areas that have game animals like deer, turkey, or quail. Similarly, areas with many songbirds can generate money by attracting tourists for bird watching and photography. Forest managers also recognize a forests' "intrinsic value." They realize that each forest is a complex natural ecosystem, which provides many non-economic benefits to society. By considering all of these points of view when making management decisions, forest managers try to balance the needs of the ecosystem with the needs of the human population.

4. Based on your reading of the article titled, "Managing Forests," what was the author's primary purpose in writing this article?

   a. to encourage increased hunting so land managers can increase their profits
   b. to show how bird watching and photography can benefit a forest
   c. to explain how forest managers make decisions about managing property
   d. to clarify the methods for balancing different ecosystems in a forest

Name:	**Date:**

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