Biomes Lesson Plan:

Student Objectives
Identify the world's major biomes.
Study one biome and its key features.
Create a map of each biome showing its location and key features.
Write a descriptive paragraph about the temperature and climate of the biome.

Materials

Elements of Biology: Biomes video
Computer with Internet access
Print resources such as atlases and encyclopedias
Newsprint and markers
Large outline of a world map
Colored pencils

Procedures

Begin the lesson by having students watch the program entitled Elements of Biology: Biomes. Tell them to focus on the following segments: "Tundra and Taiga," "The Temperate Zone," and "Deserts and Tropics."

After watching, hold a brief discussion about biomes. Make sure students understand that a biome is a major ecological community that includes ecosystems with similar climates and organisms. Then make a class list of the world's major biomes. The list should include the following biomes:
tundra
taiga
deciduous forest
grasslands
savanna
desert
tropical forests

Divide students into groups of four or five. Assign each group to one of the seven biomes on the class list, explaining that their task is to create map of a biome that includes the following elements:

The biome's location

A color-coded system indicating the climate and the vegetation

A representation of the animals that live in the biome

Allow enough class time to work on maps. Tell students that they can find outline maps to use on the following Web site: http://www.eduplace.com/ss/maps/. Many reference books have this information. Suggest that they refer to an atlas or an encyclopedia. In addition, students can take a look at the following Web sites for additional information:

http://www.mbgnet.net/
http://www.factmonster.com/ipka/A0769052.html
http://oncampus.richmond.edu/academics/education/projects/webunits/biomes/biomes.html
http://cybersleuth-kids.com/sleuth/Science/Earth_Science/Biomes/
http://www.blueplanetbiomes.org/rainforest.htm
http://www.ucmp.berkeley.edu/glossary/gloss5/biome/deserts.html
After students have completed the maps, tell each group to write a descriptive paragraph about the biome, including such information as climate, average temperature, and unique features.

During the next class, have each group share its map. At the end of each presentation, post the map on the bulletin board so that students can see a visual display of the diversity of biomes in the world.

Conclude the lesson by asking students what they learned about biomes as a result of completing this activity. What do they know now that they didn't know before? Do they have a greater appreciation of the diversity of regions in the world?

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Assessment

Use the following three-point rubric to evaluate students' work during this lesson.

3 points: Students identified all seven biomes; created an attractive, accurate map in their group; and contributed significantly to the group's accurate, descriptive paragraph.

2 points: Students identified five of the seven biomes; created a satisfactory map in their group; and contributed to the group's satisfactory paragraph.

1 point: Students identified fewer than four of the seven biomes; did not work with their group to create a map; and did not contribute to the group's paragraph.

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Vocabulary

biome

Definition: A major ecological community that includes ecosystems with similar climates and organisms
Context: Biomes are based on climate, so similar ones are found in different parts of the world.

deciduous forest

Definition: A biome in eastern North America, Asia, Australia, and Western Europe characterized by moist, temperate climates

Context: A deciduous forest includes trees such as elm, maple, and oak that have leaves that change color in autumn and fall off every winter.

desert

Definition: The driest biome on Earth; arid land with usually sparse vegetation and less than 10 inches of sporadic rainfall annually

Context: Although little rain falls in a desert, a wide array of plants and animals thrive there.

grasslands

Definition: A biome in a temperate climate, including the American Midwest, the pampas in Central South America, and the steppes in central Eurasia

Context: Antelope, bison, and wolves are among the animals that live in grasslands.

savanna

Definition: A biome in tropical latitudes characterized by a long, dry season and grasses and shrubs

Context: Africa has the world's largest savannas, where herds of wildebeest, elephants, and zebras live.
taiga
Definition:A biome just south of the tundra characterized by cold winters, a short growing season, and forests of coniferous trees
Context:The area that separates the tundra from the taiga is known as the tree line.

tropical forest
Definition:A biome characterized by a hot, wet climate found near the equator
Context:Some tropical forests are rain forests, where it rains much of the time; others have a wet and a dry season.

tundra
Definition:A biome in the northernmost parts of the world characterized by long winters and short summers
Context:The tundra has permafrost, a hardened layer underneath the topsoil that remains frozen throughout the year.

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Academic Standards

National Academy of Sciences

The National Science Education Standards provide guidelines for teaching science as well as a coherent vision of what it means to be scientifically literate for students in grades K–12. To view the standards, visit this Web site:http://books.nap.edu/html/nses/html/overview.html#content.

This lesson plan addresses the following national standards:
Life Science: Matter, energy, and organization of living systems

Mid-continent Research for Education and Learning (McREL)

McREL's Content Knowledge: A Compendium of Standards and Benchmarks for K–12 Education addresses 14 content areas. To view the standards and benchmarks, visit http://www.mcrel.org/compendium/browse.asp.

This lesson plan addresses the following national standards:

Science: Life Sciences ? Understands relationships among organisms and their physical environment

Geography ? Understands the concept of regions

Language Arts: Viewing ? Uses viewing skills and strategies to understand and interpret visual media; Writing: Uses the general skills and strategies of the writing process, Gathers and uses information for research purposes; Reading: Uses reading skills and strategies to understand and interpret a variety of informational texts

**http://school.discoveryeducation.com/lessonplans/programs/eb_biomes/