

Passports



Celebrating Science: Biomes Around the World

Grade: K-4

Description of our Tour:

The world is full of different types of landscapes! Each of these incredible biomes features unique plants, animals, and characteristics that carry their own treasures and challenges! Join us as we explore five of the world's major biomes and learn about their locations around the globe. The series will focus on one biome each session featuring: desert, aquatic, forest, grasslands, and tundra.

Information for Trip Leader:

Lesson Outcomes:

The student will:



- Be able to distinguish between and describe the major biomes on earth.
- Understand the different ways organisms interact with one another.
- See the impact of human activity upon the different biomes on earth.

Activities:

Activity # 1: Biome Boxes!

Use one or more shoeboxes, baskets, or other containers and have students place items that relate to each biome in the appropriate container. Students may draw pictures to represent something that belongs in a specific biome, use toys from around the classroom, stuffed animals, or even add books or movie covers that feature certain biomes (*The Little Mermaid*, for example, features the aquatic biome)! Use these visuals and as a class compare and contrast some of the interesting characteristics, plant life, and animals found in each biome.

Activity # 2: Biome Children's Story

In this activity the students will create their very own book! Each student will pick one biome and make a native creature from that biome the main character in the book. The students will write a story about their creature's adventures in its biome. Using their knowledge of the conditions of the biome, they should brainstorm problems their creature may encounter and ways to overcome that problem. Make sure the students include the necessary elements of a good story based on grade level. Also, make sure they have all parts of the story: characters, setting, and plot. Use the attached rubric for this activity for older students or feel free to modify it for your younger students.

Activity # 3: What Biome Am I From?

Cut out the pictures for this activity and use pictures from magazines, books, or the Internet. Hold up one picture at a time and ask your students to identify the biome that the picture belongs in. Ask students how they decided and what clues helped them figure out the correct biome.

(Reproducibles and Answer Keys follow)

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Challenge Questions:

1. *What are the two types of rainforests on earth? How are they different?*
2. *The following is a description of one biome:
The plants here grow very long roots and few leaves, if any, to adapt to the low rainfall conditions. These biomes are generally found in the subtropics located between 15 and 30 degrees latitude (North and South).
Can you name that biome?*
3. *The following is a description of one biome:
Constant high temperatures and year-round rainfall combine to produce the most luxuriant vegetation in any biome. This biome is dominated by many different species of plants and animals; in fact, it is not uncommon for hundreds of different species to inhabit a single square kilometer of this biome.
Can you name that biome?*
4. *How are deciduous trees adapted to the temperate climate in which they are found? How are these different from coniferous trees?*



Responses:

1. There are *tropical* rainforests that are located along the Equator and *coastal* rainforests, like those located in the Pacific Northwest of the United States. Tropical rainforests are much warmer and have much greater species diversity than coastal rainforests. However, both are consistently humid and receive enough rainfall per year to be classified as rainforests.
2. Desert!
3. Tropical rainforest!
4. Deciduous trees tend to grow broad leaves that allow them to maximize the area of photosynthesis in the spring and summer. In order to conserve water in the fall and winter, deciduous trees drop their leaves. Coniferous trees tend to have small needle-like leaves that only have small surface area. These plants don't need to lose these leaves in the fall and winter as they don't lose too much water through them! The leaf shape and size for both types of trees are important adaptations developed for the biomes where these trees are natively located.

Writing Prompts:

If I could live in any biome, it would be _____, because...

What do you think our world would be like if global warming continues? Write down what you think would happen if the Earth's average temperature increased by 2 degrees.

Try to document your footprint upon the earth. How do your daily activities impact the earth?

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Vocabulary Words:

Population: A group of organisms of the same species in a designated area.

Community: A group of plants and animals living and interacting with one another in a specific region under relatively similar environmental conditions.

Species: A taxonomic category of organisms who share common attributes and are capable of reproducing fertile offspring.

Biome: A community of plants and animals living together in a particular climate/region. (Arctic, Deserts, Forests, etc.)

Ecosystem: An ecological community together with its environment, functioning as a unit.

Adaptation: To make adjustments to be suitable for a new use or condition.

Flora: Plants considered as a group, especially the plants of a particular country, region, or time.



Fauna: Animals, especially the animals of a particular region or period, considered as a group.

Parasitism: A type of symbiotic relationship where one organism benefits and the other is hurt or damaged in some way.

Coniferous: Bearing cones, as the pine and cypress.

Deciduous: Shedding of or losing leaves/flowers at the end of a growing season.

Forest: A dense growth of trees, together with other plants.

Web Resources:

Blue Planet Biomes

<http://www.blueplanetbiomes.org/>

The World's Biomes

<http://www.ucmp.berkeley.edu/glossary/gloss5/biome/>

World Biomes.com

<http://www.worldbiomes.com/default.htm>

EPA Student Center

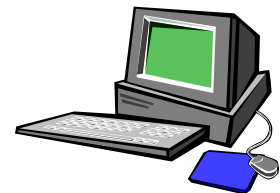
<http://www.epa.gov/students/ecosystems.htm>

Tropical Poison

<http://www.cet.edu/ete/modules/tropois/tpdeforestation.html>

Save the Rainforest

http://www.savetherainforest.org/savetherainforest_006.htm



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Biome Children's Story Rubric

CATEGORY	4	3	2	1
Creativity	The story contains many creative details and/or descriptions that contribute to the reader's enjoyment. The author has really used his imagination.	The story contains a few creative details and/or descriptions that contribute to the reader's enjoyment. The author has used his imagination.	The story contains a few creative details and/or descriptions, but they distract from the story. The author has tried to use his imagination.	There is little evidence of creativity in the story. The author does not seem to have used much imagination.
Writing Process	Student devotes a lot of time and effort to the writing process (prewriting, drafting, reviewing, and editing). Works hard to make the story wonderful.	Student devotes sufficient time and effort to the writing process (prewriting, drafting, reviewing, and editing). Works and gets the job done.	Student devotes some time and effort to the writing process but was not very thorough. Does enough to get by.	Student devotes little time and effort to the writing process. Doesn't seem to care.
Neatness	The final draft of the story is readable, clean, neat and attractive. It is free of erasures and crossed-out words. It looks like the author took great pride in it.	The final draft of the story is readable, neat and attractive. It may have one or two erasures, but they are not distracting. It looks like the author took some pride in it.	The final draft of the story is readable and some of the pages are attractive. It looks like parts of it might have been done in a hurry.	The final draft is not neat or attractive. It looks like the student just wanted to get it done and didn't care what it looked like.
Spelling and Punctuation	There are no spelling or punctuation errors in the final draft. Character and place names that the author invented are spelled consistently throughout.	There is one spelling or punctuation error in the final draft.	There are 2-3 spelling and punctuation errors in the final draft.	The final draft has more than 3 spelling and punctuation errors.
Organization	The story is very well organized. One idea or scene follows another in a logical sequence with clear transitions.	The story is pretty well organized. One idea or scene may seem out of place. Clear transitions are used.	The story is a little hard to follow. The transitions are sometimes not clear.	Ideas and scenes seem to be randomly arranged.

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WHAT BIOME AM I FROM?

