

BIOMES:

The Adaptations of Organisms

Pre-Test

This will help you discover what you know about biomes before you begin this lesson.

1. A biome is a community of organisms that live and interact within a particular area: True _____ False _____.
2. The tundra has a long growing season: True _____ False _____.
3. Alpine conditions high in mountains are similar to conditions in the tundra biome: True _____ False _____.
4. Coniferous, or needle leaf, trees are the dominant vegetation in the boreal forest: True _____ False _____.
5. An omnivore is an animal that only eats meat: True _____ False _____.
6. The climate of the temperate grasslands biome is semiarid with warm summers and cold winters depending on the latitude: True _____ False _____.
7. The savannas of Africa have the greatest diversity of hooved mammals anywhere in the world: True _____ False _____.
8. There is no such thing as a cold desert: True _____ False _____.
9. The tropical rainforest biomes cover less than 10% of the Earth's surface and yet they contain over half of the world's species of plants and animals: True _____ False _____.
10. The cold waters of the Arctic and Antarctica do not have a rich diversity of marine life: True _____ False _____.

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Vocabulary List

The following words and terms used in the program may be unfamiliar to you. Try to listen for these terms while viewing the program, pay close attention so you can later include them in your scientific descriptions, observations, and creative writing assignment activities.

Adaptation - (in biology) to change or adapt to the environment.

Amphibians - species that can live on land and in water.

Aquatic - an environment of water.

Biome - a community of organisms that live and interact within a particular area.

Boreal forests - a broad belt of coniferous forest in the northern hemisphere with long severe winters, short warm summers, and low precipitation.

Carnivores - flesh-eating animals.

Community of organisms - organisms that live and interact within a particular area.

Coniferous trees - evergreen or needle trees whose seeds are in cones.

Deciduous trees - trees that shed their leaves in the fall of the year.

Diversity - variety of organisms.

Ephemeral plant - desert plant whose seeds lie dormant for many years, then after rainfall the plant will sprout, flower, spread its seeds, and die, all within two weeks.

Fauna - animals of a specific region.

Flora - plants of a specific region.

Geology - the study of the Earth's crust.

Herbivores - plant eaters.

Invertebrates - a variety of species without backbones.

Lichens - plant that attaches itself to rocks.

Monsoons - seasonal winds in southeast Asia that brings heavy rainfall.

Nocturnal - active during the night.

Omnivores - animals that eat both plants and animals.

Permafrost - ground that is permanently frozen in tundra regions.

Photosynthesis - a process carried out by green plants in which carbon dioxide, water, and sunlight are converted into ATP and glucose, releasing oxygen as a by-product.

Physiological - dealing with physical adaptations.

Plankton - a wide variety of organisms that live in oceans.

Precipitation - rainfall.

Temperate broadleaf forest - a biome in the temperate climactic zone where the characteristic vegetation is deciduous forest.

Temperate grasslands - broad grassland belt in the temperate climactic zone.

Tropical rainforest - rainforest in the tropics.

Tropical savanna - grasslands in the tropical regions.

Tundra - treeless plain with very short growing season and long, cold winters.

Veldt - temperate grasslands in South Africa.



NAME _____

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Vocabulary Activities

Word Search

Find the 21 hidden words from your vocabulary list and that were mentioned in the program, and then circle them.

A	D	A	P	T	A	T	I	O	N	G
Q	T	D	E	S	E	R	T	M	U	R
U	B	I	O	M	E	O	E	N	O	A
A	P	L	A	N	T	P	N	I	F	S
T	U	N	D	R	A	I	Y	V	O	S
I	V	E	L	D	T	C	L	O	R	L
C	F	L	O	R	A	A	I	R	E	A
X	L	R	R	F	Q	L	B	E	S	N
P	E	R	M	A	F	R	O	S	T	D
R	A	I	N	U	Y	Z	R	X	Y	S
M	V	N	D	N	T	R	E	E	S	O
W	E	T	Y	A	R	W	A	T	E	R
Z	S	B	R	O	A	D	L	E	A	F
D	I	V	E	R	S	I	T	Y	Z	Z

Word Match

Connect the word with the proper definition:

- | | |
|------------|--|
| Amphibians | temperate grasslands in South Africa |
| Biomes | animals of a specific region |
| Diversity | permanently frozen ground |
| Fauna | plant eaters |
| Flora | species that can live on land and in water |
| Herbivores | cold treeless plain |
| Omnivores | a community of organisms in an area |
| Permafrost | variety of organisms |
| Tundra | eats both plants and animals |
| Veldt | plants of a specific region |

VOCABULARY ACTIVITIES

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Creative Writing Story Ideas

Creative writing story ideas: Choose from one of the ideas listed below and write a story or dramatization. Include plot lines that follow scientific principles and key vocabulary terms.

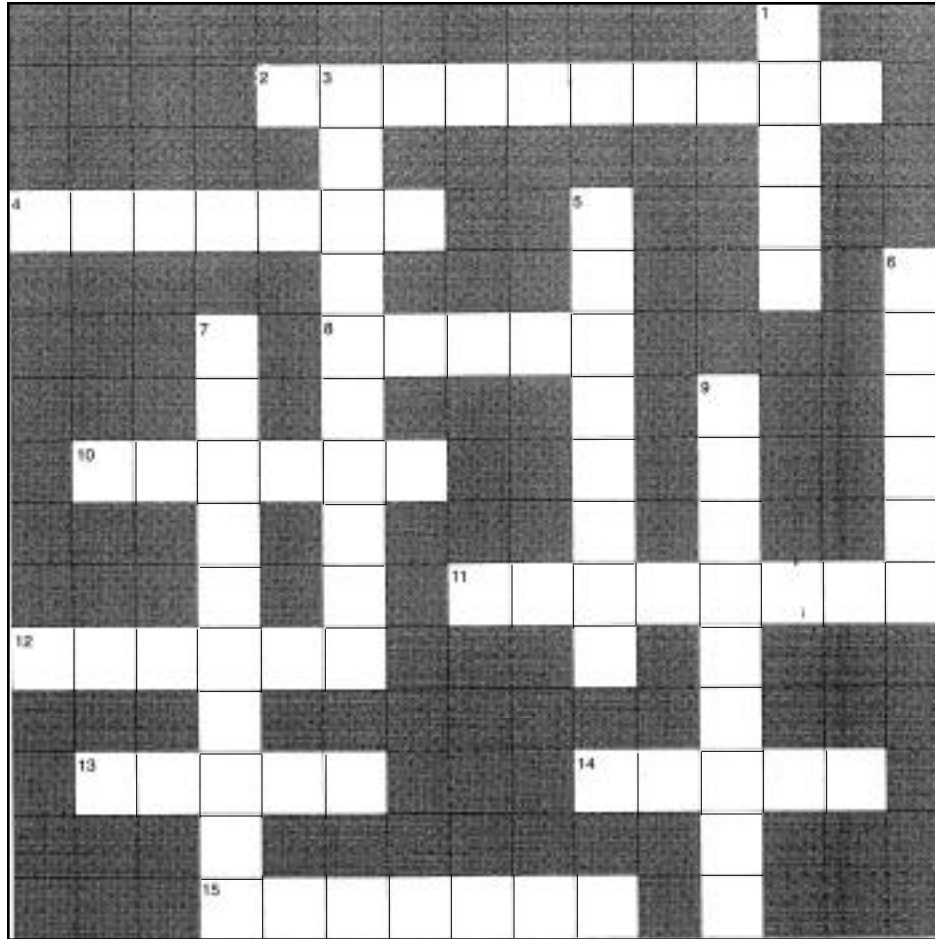
1. Your parents have accepted a one-year posting teaching school in a remote village in a tropical rainforest. Describe your adventures in that year.
2. Every ten years, an isolated family farm is decimated with a plague of locusts. One spring the locusts appear very early. What happens to the family over the course of the summer?
3. Read Farley Mowat's book, *Never Cry Wolf*, and write a book report focusing on differing attitudes about wolves.
4. You are on board a fishing boat with commercial fishermen angered at environmentalists who they blame for setting limits to their catch. They come to suspect that you are one of the environmentalists sent to spy on them. What happens?

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Crossword Puzzle

NAME _____



ACROSS

- 2. treeless plains
- 4. watery biome
- 8. animals
- 10. biome in the extreme north
- 11. hot climate
- 12. arid biome
- 13. community of organisms in an area
- 14. plants
- 15. tropical grasslands

DOWN

- 1. organisms must _____ to survive
- 3. wet, dense growth of trees
- 5. base of food chain in oceans
- 6. forest of coniferous trees
- 7. needle-leafed trees
- 9. trees that lose leaves in the autumn

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Connected/Not Connected

Place the following words
in the proper sentences.

Africa
Aquatic biomes
Boreal forest
Carnivores
Deciduous forest
Deserts
Diversity
Grasslands
Herbivoreseam
Omnivores
Permafrost
Plankton
Precipitation
Sharks
Temperate broadleaf forest
Temperate grasslands
Tropical rainforest
Tropical savannas
Tundra
Whales

- _____ and _____ are connected because trees do not grow in this biome as a result of the permanently frozen ground.
- The _____ is NOT connected to _____ because the characteristic vegetation in this biome is not grass but coniferous forest.
- _____ is connected to _____ because trees lose their leaves in the fall in this biome.
- _____ are NOT connected to _____ because, although they are both grasslands one has warm summers and cold winters and the other is hot year round.
- Tropical savannas in _____ are connected to _____ because this continent has the greatest diversity of hoofed mammals in the world.
- _____ are NOT connected to _____ because this biome has very low amounts of rainfall.
- _____ is connected to _____ because this biome contains over half of the world's species of plants and animals.
- _____ are NOT connected to _____ because one eats only animals and the other eats both plants and animals.
- _____ are connected to _____ because there is a rich variety of microscopic plants and animals in oceans.
- _____ are NOT connected to _____ because one is a mammal and the other a fish.

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Video Quiz

1. The term _____ refers to the layer of soil in the tundra, which remains frozen year round and prevents tree growth.
2. The coniferous trees of the boreal forest are able to initiate photosynthesis early in the spring because they retain their needles through the winter: True _____ False _____.
3. Deciduous trees in the broadleaf forest biome drop their leaves and become _____ throughout the winter.
4. Temperate grasslands exist only in the North American continent: True _____ False _____.
5. The tropical savanna biome has distinct _____ and _____ seasons.
6. Animals in the desert often have _____ coats to prevent absorption of heat from the sun.
7. Tropical rainforests have a thick _____, which prevents much _____ from reaching the forest floor.
8. Rainforests only occur in the tropics: True _____ False _____.
9. The polar oceans cannot sustain sea life because of the cold: True _____ False _____.
10. Biomes contain flora and fauna that have _____ to the climate, soil conditions, and amount of available sunlight.

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Post Test

Vocabulary

Adaptation

Aquatic

Carnivores

Coniferous

Deciduous

Diversity

Fauna

Flora

Grasslands

Herbivores

Monsoon

Oceans

Omnivores

Permafrost

Savanna

Temperate

Tropical

Tundra

Veldt

Whales

Fill-in-the-Blank

Directions: Fill in the blank with the appropriate term from the list below.

1. The dominant vegetation in the boreal forest is _____ trees.
2. Tropical rainforests have greater _____ of organisms than any other biome on the planet.
3. Alpine conditions, high in mountains, are similar to conditions in the _____ biome.
4. _____ forests are the dominant vegetation in the temperate broadleaf forest biome.

True or False

Directions: Fill in the blank with True or False. If the statement is false, change it to make the statement true. Rewrite the true statement on the lines provided.

5. _____ A biome is a community of organisms that live and interact within a particular area.

6. _____ Omnivores only eat meat.

7. _____ The Arctic and Antarctic Oceans have few species of marine life because of the cold waters.

8. _____ Tropical rainforests, like temperate grasslands, have little diversity of species.

9. _____ Deserts have no plant life.

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Post Test (cont.)

Essay Section

Directions: Answer the following questions in complete sentences. Continue answers on back of sheet.

10. Why do biologists focus on the issue of the adaptation of species?

11. Biodiversity is viewed as an important indication of the health of ecosystems. Why do some biomes show little biodiversity but are still regarded as healthy?

12. Why do some biologists view human beings as the most adaptable and successful species on the planet?