

Name: _____

Date: _____

ECOSYSTEMS AND BIOMES

Learning about Ecosystems

CONTEXT CLUES

DIRECTIONS: **Context clues** help us learn new words when we read. Use the words, phrases, and sentences around new words to determine their meanings. Look at the words in the chart and fill in the column "What I Think It Means." Read the passage and look for context clues to help determine the meanings of the words. Then, fill in the last column, "What It Means in Context." If your answer in the first column was completely correct, use the second column to add something to the word's meaning beyond your original ideas.

Word	What I Think It Means	What It Means in Context
biome		
ecosystem		
ecologist		
food chain		
food webs		

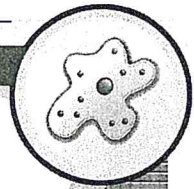
Have you ever walked through a thick, plant-filled forest? Or, have you driven through a hot, sandy desert? If you have, you have been in one of Earth's many biomes. A **biome** is a large area that has the same type of climate, weather, plants, and animals. Most of Earth's biomes are on land. There are biomes that are very cold, where the plants are very small and low to the ground. Other biomes are very hot, and there are not many plants at all.

Within each biome, there may be many ecosystems. An **ecosystem** is all of the living and nonliving things in a certain area. A type of scientist called an **ecologist** studies how these things interact with each other. For example, squirrels need a safe supply of water. If squirrels cannot find enough clean drinking water, they might move to another area to find water.

In each ecosystem, there are many types organisms. All of the plants and animals in an ecosystem depend on each other. Most plants are producers. They make their own energy through photosynthesis by capturing the sun's energy. Animals are consumers. They eat plants or other animals for energy. When animals eat plants and those animals eat other animals, it is called a **food chain**. Each ecosystem has many food chains. When they overlap, they form **food webs**.

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ECOSYSTEMS AND BIOMES



Pieces of the Ecosystem Puzzle

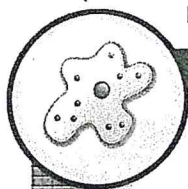
WORD SEARCH

DIRECTIONS: Find the ecosystems vocabulary words in the word search below. Words can be found down, across, and diagonally. Then, on a separate piece of paper, write sentences for five of the words.

WORD BANK

- | | | | | | |
|-----------|-----------------|----------|--------|------------|---------|
| ecosystem | biotic factors | water | oxygen | population | |
| habitat | abiotic factors | sunlight | soil | community | ecology |

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



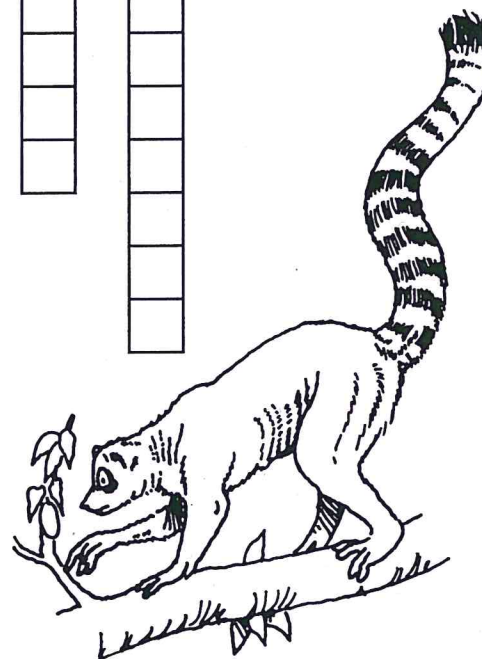
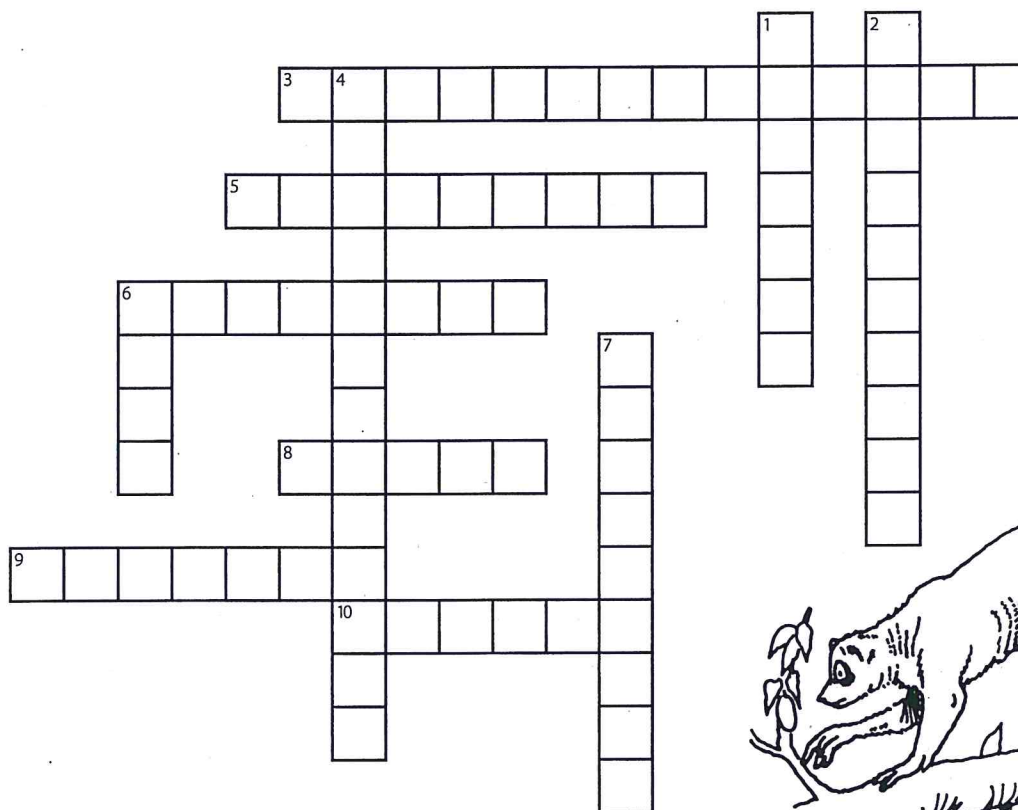
Name: _____

Date: _____

ECOSYSTEMS AND BIOMES

Pieces of the Ecosystem Puzzle

CROSSWORD PUZZLE

DIRECTIONS: Complete the crossword puzzle.**ACROSS**

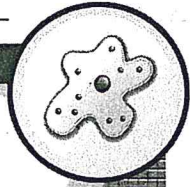
- the nonliving parts of an ecosystem
- all of the living and nonliving things that are located in an area
- an abiotic part of an ecosystem; required by plants to perform photosynthesis
- an abiotic part of an ecosystem; this liquid is required by all living things
- the place where an organism lives that provides it with shelter, food, and water
- an abiotic part of an ecosystem; this gas is required by all living things

DOWN

- the study of the interaction of living and nonliving things in the environment
- all of the members of one type of species in a specific area
- the living parts of an ecosystem
- an abiotic part of an ecosystem; made of small pieces of rock, water, and decaying matter
- all of the different populations that live in a specific area

Name: _____ Date: _____

ECOSYSTEMS AND BIOMES



The Chains of Life

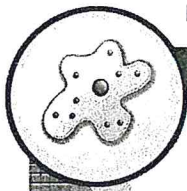
WORD SEARCH

DIRECTIONS: Find the food chain and food web vocabulary words in the word search below. Words can be found down, across, and diagonally. Then, on a separate piece of paper, write sentences for five of the words.

WORD BANK

- | | | | | |
|----------|-----------|-----------|------------|----------------|
| producer | herbivore | omnivore | decomposer | food web |
| consumer | carnivore | scavenger | food chain | energy pyramid |

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



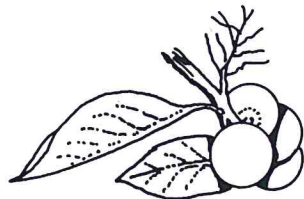
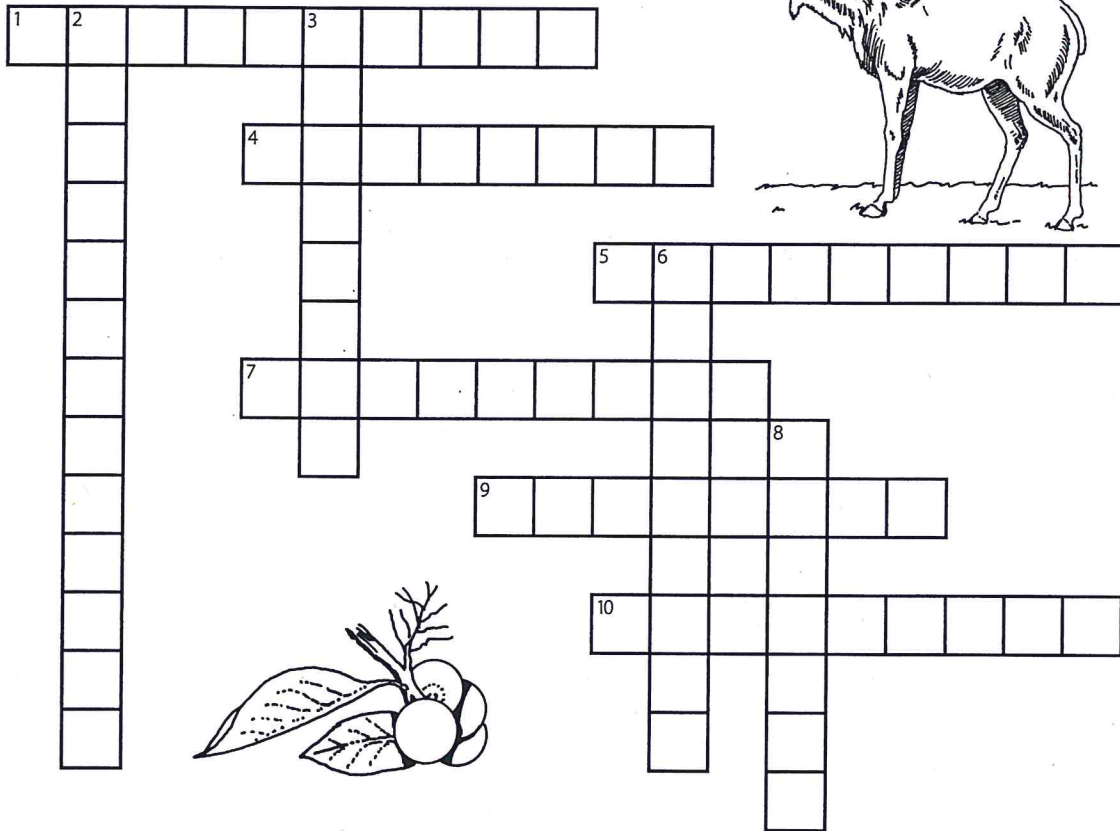
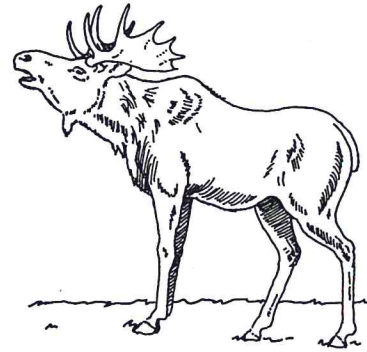
Name: _____ Date: _____

ECOSYSTEMS AND BIOMES

The Chains of Life

CROSSWORD PUZZLE

DIRECTIONS: Complete the crossword puzzle.



ACROSS

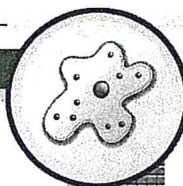
- 1. an organism that breaks down dead organisms and wastes
- 4. an organism that cannot create its own food; it eats other organisms as a food source
- 5. an animal that eats the remains of dead animals
- 7. an organism that eats only plants
- 9. an organism that eats both plants and animals

- 10. a diagram that shows the order in which organisms are eaten by other organisms; is usually drawn in a straight line and connected by arrows

DOWN

- 2. a triangular diagram that shows the flow of energy from one feeding level to another
- 3. an organism that creates its own food through photosynthesis
- 6. an organism that eats only animals
- 8. a diagram that shows overlapping food chains

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The Pyramid of Life

FILL IN THE CHART

A **food energy pyramid** is another way to show the flow of energy through an ecosystem. Starting at the base of the pyramid and moving toward the top, energy is lost and the number of organisms in each population becomes smaller.

DIRECTIONS: Use the first set of words in the word bank to label the energy levels of the food pyramid. Then, write the names of the organisms from the second set of words in the correct levels of the pyramid.

WORD BANK

producers

primary consumers

secondary consumers

tertiary consumers

robin

oak tree

rabbit

jaguar

owl

chipmunk

deer

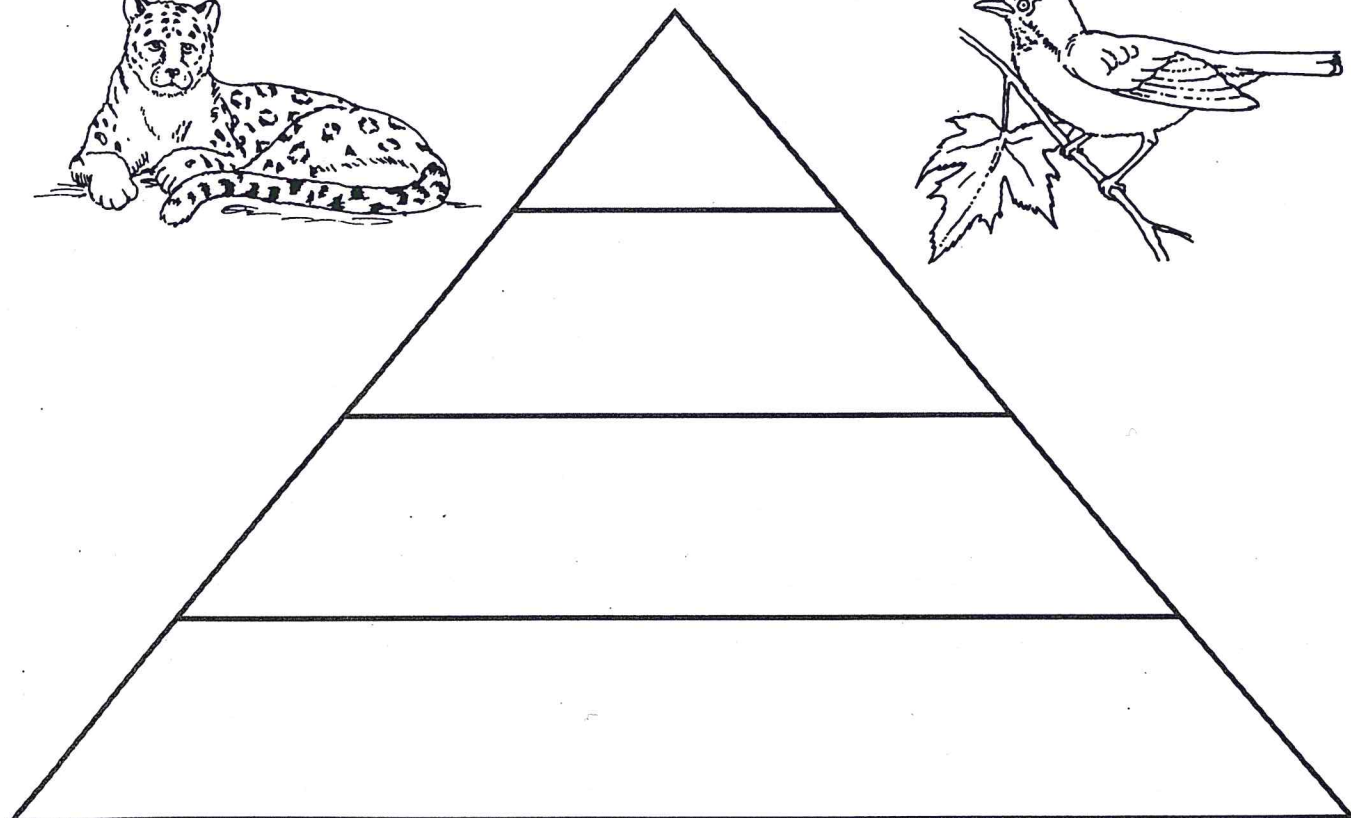
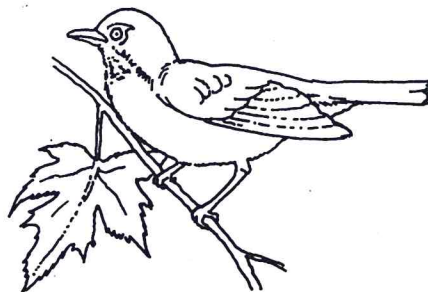
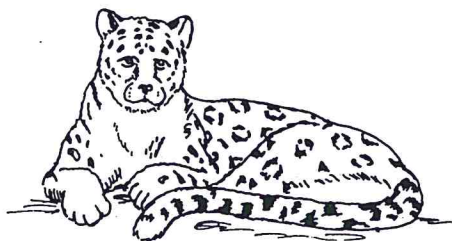
fox

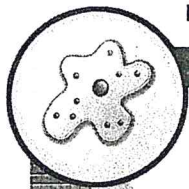
cow

wheat

mouse

dandelion





Name: _____

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ECOSYSTEMS AND BIOMES

Biome Characteristics

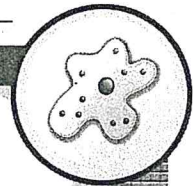
WORD SEARCH

DIRECTIONS: Find the biome vocabulary words in the word search below. Words can be found down, across, and diagonally. Then, on a separate piece of paper, write sentences for five of the words.

WORD BANK

biome	understory	savannah	deciduous	tundra
tropical rain forest	desert	boreal	temperate rain forest	permafrost
canopy	grassland	temperate	coniferous	taiga

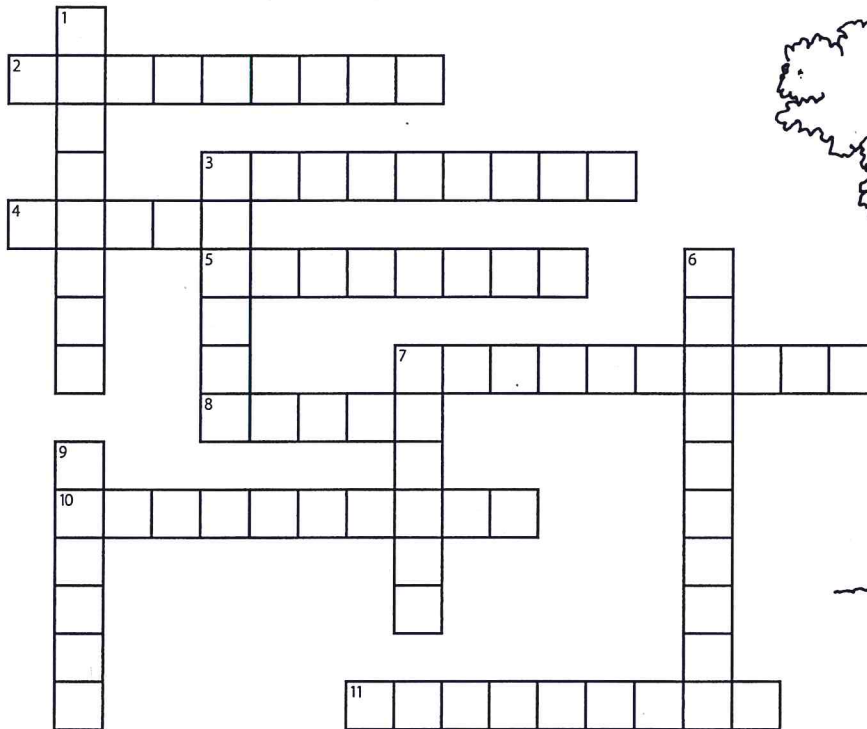
Q T E M P E R A T E R A I N F O R E S T
 Y T I O Y M S N A C I X C I G H I Y G Q
 R R Q O X C R N C K S I D X M H D G L S
 C O A S S T I T R U D U L I S J V Q Z F
 W P B R A N E O M H B L N U S Y Z Y M M
 E I H F V C N M G C F O O E R N P G L Q
 O C N U A L Z R P Q B U Q O G O U R C W
 Q A T A N B R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



Biome Characteristics

CROSSWORD PUZZLE

DIRECTIONS: Complete the crossword puzzle.



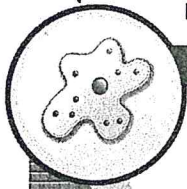
ACROSS

- 11.** forest biome with many different trees, mosses, and ferns; most trees lose and regrow their leaves each year.

- 2.** biome with plants and grasses, but no trees; receives 25–75 cm of precipitation a year
- 3.** type of tree that loses and regrows leaves each year
- 4.** a group of ecosystems with similar organisms and climates
- 5.** biome that receives 50–150 cm of precipitation a year; has many scattered shrubs, tall grasses, and small trees
- 7.** cone-producing trees with needlelike leaves that remain green all year
- 8.** northern biome with many coniferous trees; very cold temperatures in the winter months
- 10.** area of the forest below the canopy, where shorter plants grow

DOWN

- 1.** type of rain forest biome near the equator; receives a lot of rain; temperatures are warm all year
- 3.** biome that receives less than 25 cm of precipitation throughout the year; has many different species of cacti and reptiles
- 6.** frozen soil
- 7.** area of the forest that is formed by the leaves of tall trees
- 9.** cold, dry biome, where the soil stays frozen the entire year; very little precipitation falls



Name: _____

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ECOSYSTEMS AND BIOMES

What Is Each Biome Like?

FILL IN THE BLANKS

DIRECTIONS: Each **biome** has certain types of plants and animals that have adapted to living there. Use the biomes in the word bank to fill in the blank for each biome characteristic below. You will use each type of biome several times.

WORD BANK

tropical rain forest

taiga

tundra

desert

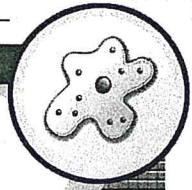
deciduous forest

grassland

1. _____ biome with the largest diversity of animal and plant life
2. _____ evergreen trees that can stand the cold temperatures
3. _____ tall canopy of trees that lets very little light through to the understory
4. _____ many types of deciduous trees, such as oaks, birches, and maples
5. _____ animals such as hawks, deer, moose, and wolves
6. _____ extreme temperatures during the day and night; very little rainfall
7. _____ large amounts of rainfall
8. _____ animals such as insects, spiders, reptiles, and birds; many inactive during the hot days
9. _____ rich soil; tall grasses that provide food and shelter for many animals
10. _____ long, cold winters
11. _____ animals such as squirrels, rabbits, wolves, and bears
12. _____ permafrost soil frozen all year long
13. _____ very few tall plants grow in the sandy or rocky soil
14. _____ conifer trees with needlelike leaves, such as pines, firs, and spruces
15. _____ thin, nutrient-poor, acidic soil
16. _____ animals such as zebras, lions, rhinoceroses, and owls
17. _____ plants such as prickly pears, yucca, and brittlebush
18. _____ animals such as polar bears, arctic foxes, and mountain goats

Name: _____ Date: _____

ECOSYSTEMS AND BIOMES



Where Are the World's Biomes?

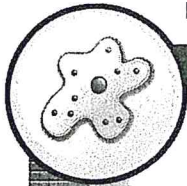
MAP SKILLS

DIRECTIONS: Earth's **biomes** are very different from each other. They have different amounts of rainfall, kinds of climates, and types of plants and animals. Use the information from Biome Characteristics on page 111 and What Is Each Biome Like? on page 112 to help you determine where each biome is located. Use colorful pencils or crayons to color each biome on the world map below. Color the key to identify each of the major land biomes.

MAP KEY

<input type="checkbox"/>	tundra	<input type="checkbox"/>	taiga
<input type="checkbox"/>	tropical rain forest	<input type="checkbox"/>	desert
<input type="checkbox"/>	grassland	<input type="checkbox"/>	deciduous forest
<input type="checkbox"/>	savannah		





Name: _____ Date: _____

ECOSYSTEMS AND BIOMES

You Be the Ecologist

INDEPENDENT RESEARCH

DIRECTIONS: Scientists called **ecologists** spend much of their time researching biomes and the types of organisms that are found there. In this activity, you will research a biome that ecologists study. Choose one of the biomes below. Use the following questions to guide your research. Remember to use some biome vocabulary words that you have learned. If you need additional space, continue your answers on a separate piece of paper.

BIOMES

tropical rain forest

taiga

tundra

desert

deciduous forest

grassland

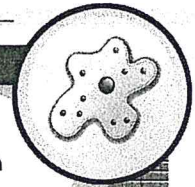
1. Type of biome: _____
2. Continents where this biome is located: _____

3. Description of climate: _____

4. Animals that are found in this biome: _____

5. Plants that are found in this biome: _____

6. Use a map to find the latitude of this biome.
 - a. southernmost latitude: _____
 - b. northernmost latitude: _____
7. On a separate piece of paper, draw a picture of this biome. Make sure to include animals, plants, and the climate of your chosen biome.
8. Resources: _____

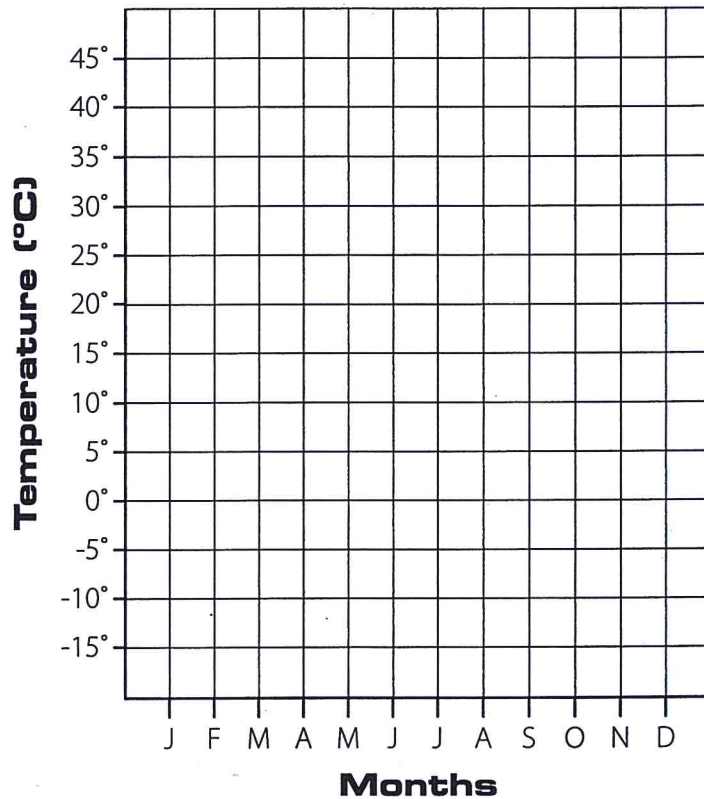


Biomes Throughout the Year

GRAPHING AND ANALYZING DATA

DIRECTIONS: The data in the chart shows the yearly temperatures of two different biomes. Create a line graph using the data from the chart. Then, answer the questions below.

Temperature (°C)		
Month	Biome 1	Biome 2
January	-10	20
February	-3	28
March	5	29
April	10	34
May	15	36
June	19	38
July	20	42
August	18	37
September	14	32
October	9	27
November	-2	25
December	-9	20



1. What is the temperature range of Biome 1? Biome 2? _____
2. Based on the data and graph, describe what type of biome each set of data represents.

3. What additional data would be helpful in determining the name of each biome?

