



## Unit 2: Ecology

### Study Guide

#### **Summative Test (Criterion C)**

Thursday February 16 (or Wednesday February 15)

**MYP UNIT QUESTION:** What happens when species interact?

Criterion C: Knowledge and Understanding	
Achievement Level	Descriptor
5-6	<ul style="list-style-type: none"> <li><input type="checkbox"/> The student explains scientific ideas and concepts and applies scientific understanding to solve problems in <b>unfamiliar situations</b> (Section 5)</li> <li>** You will use the concepts that you do know to explain a situation that we have not learned about in class **</li> <li><input type="checkbox"/> The student <b>analyses</b> and <b>evaluates</b> scientific information by making <b>scientifically supported judgments</b> about information. (Section 6)</li> <li>** You will have a case study or situation to read... and you will make a decision about it, that you will support with knowledge that you have learned in class. **</li> </ul>
3-4	<ul style="list-style-type: none"> <li><input type="checkbox"/> The student is <b>able to solve problems in familiar situations</b>. (Section 3)</li> <li><input type="checkbox"/> The student <b>analyses</b> scientific information by identifying parts, causes and relationships (Section 4)</li> </ul>
1-2	<ul style="list-style-type: none"> <li><input type="checkbox"/> The student <b>recalls</b> some scientific ideas and concepts. (Section 1)</li> <li><input type="checkbox"/> The student is able to <b>apply</b> knowledge to solve <b>simple problems</b>. (Section 2)</li> </ul>
0	<ul style="list-style-type: none"> <li><input type="checkbox"/> The student does not reach a standard described by any of the descriptors given above.</li> </ul>

## Class Notes Checklist



- ✓ Use the CHECKLIST to make sure your notes are complete.
- ✓ Use your binder like your own personalized study-book. If your notes are complete, then it will be all you need!

Concept	Binder Checklist	Textbook Pages
<b><i>What are the different parts of an ecosystem?</i></b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> <b>Ecology Vocab Part 1:</b> Ecology, Environment, Ecosystem, Community, Population, Habitat, Organism, Biotic, Abiotic.</li> <li><input type="checkbox"/> Intro to Ecology <b>Quiz</b> &amp; Corrections.</li> <li><input type="checkbox"/> Endangered Species Presentations notes.</li> </ul>	pp. 6-11
<b><i>How does energy flow through an ecosystem?</i></b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> <b>Ecology Vocab Part 2:</b> Food Chain, Food Web, Producer, Consumer, Herbivore, Carnivore, Omnivore, Scavenger, Parasite, Decomposer, Predator, Prey.</li> <li><input type="checkbox"/> Food Webs Worksheets.</li> <li><input type="checkbox"/> Producer and Consumer Rap.</li> </ul>	pp. 42-45
<b><i>How are the world's ecosystems organized across the globe?</i></b>	<ul style="list-style-type: none"> <li><input type="checkbox"/> <u>Important Vocab:</u> All Biomes, Climate, Precipitation, Temperature</li> <li><input type="checkbox"/> Biomes Notes</li> <li><input type="checkbox"/> Biomes <b>Quiz</b></li> <li><input type="checkbox"/> Biomes Map</li> <li><input type="checkbox"/> Biomes Concept Map</li> </ul>	pp. 58-67

## Word Window

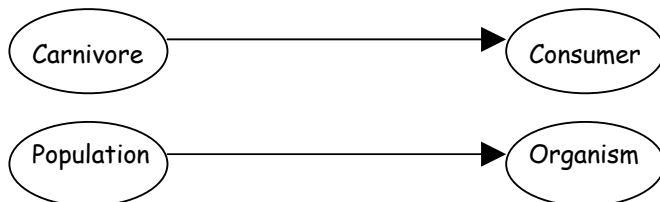
Copy down the vocabulary from our Word Window – it is important that you **understand** all of these terms (do not just memorize!).

## Bellwork Questions

- Use these questions as “practice test questions” to check your understanding. The answers were all discussed in class and will be in your Bellwork section.



1. Rank these terms from smallest to largest: organism, biome, population, ecosystem, community.
2. Think of the movie “Finding Nemo”. Give an example from the movie of an: organism, population, community, ecosystem.
3. Draw a **food chain** that includes: Plants, Sun, Carnivore Fish, Herbivore Fish, Human. Now, turn it into a more complex **food web**.
4. Give an example of each of the following terms: Predator, Scavenger, Producer, Decomposer, Prey
5. What are the major LAND BIOMES?
6. Describe an ecosystem in a Tundra Biome. List 2 populations and describe a community. Draw a food web for a Tundra ecosystem.
7. Complete the connections below, as if it were part of a concept map:



8. Draw a food web for an ecosystem in the Grasslands.
9. What is the difference between Intentional Killing and Accidental Killing? What is poaching?

## Review Questions

You are not required to complete all review questions, these are for your individual studying purposes.



1. All the different **populations** that live together in an area make up a(n) \_\_\_\_\_

2. Give three different examples of an organism's **habitat**.

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3. What might happen to an organism if its **habitat** could not meet an organism's needs?

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4. List the terms in order from the smallest level to the largest: **population, organism, ecosystem, community**.

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5. Would all the different kinds of organism in a forest be considered a **population** or a **community**? Explain.

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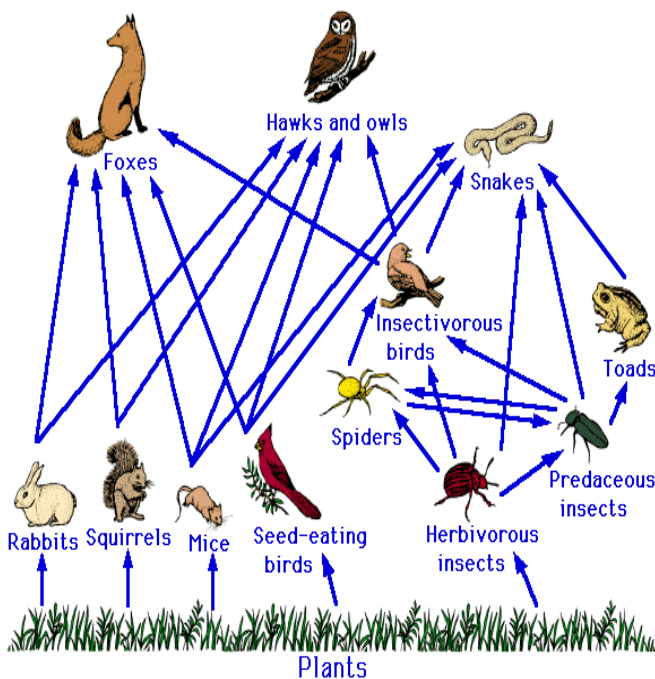
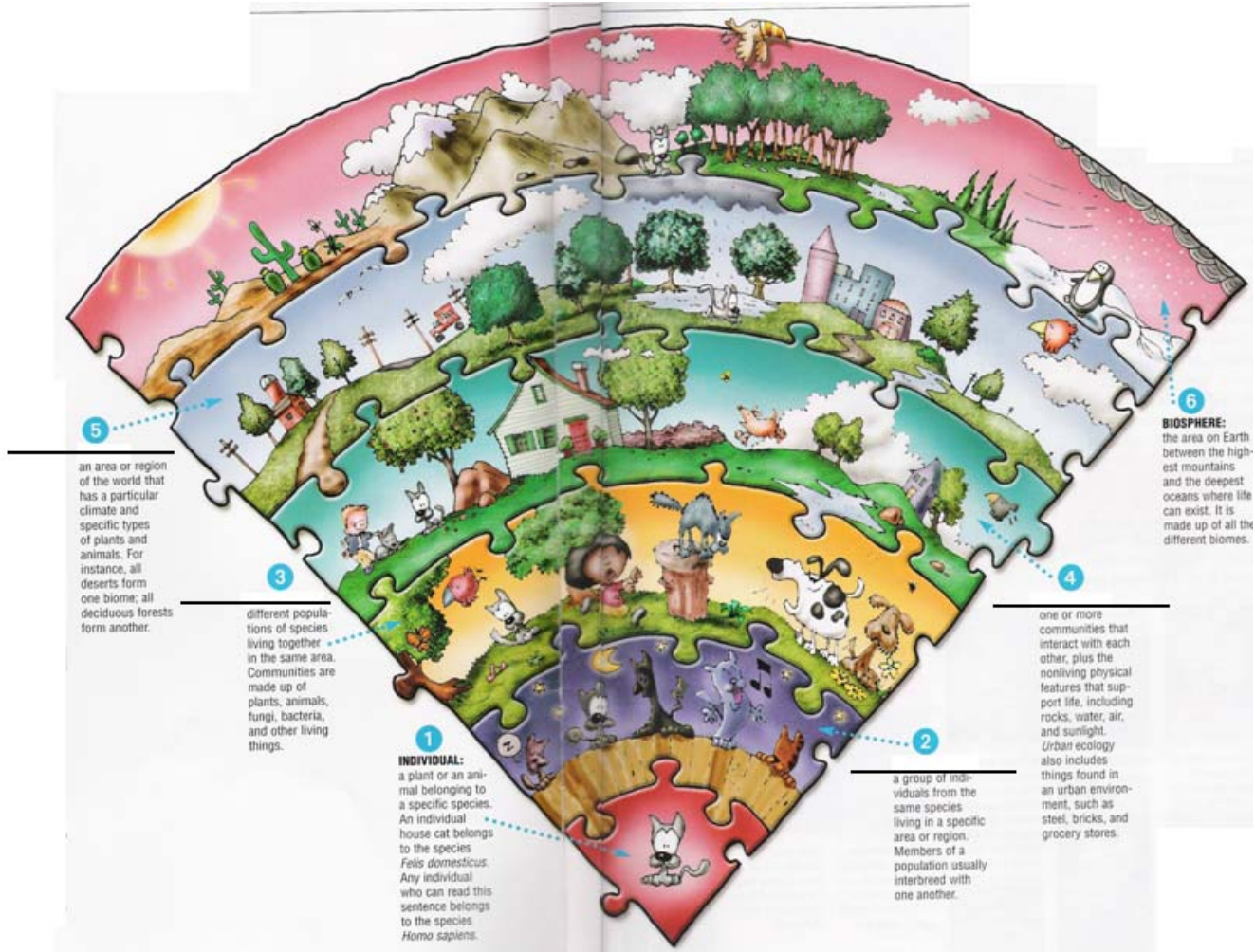
6. How might a change in one **population** affect other populations in a **community**?

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## Label Each Part of the Picture Below!



1. Add the SUN into this food web
2. How many consumers are there in this ecosystem? \_\_\_\_\_
3. How many producers?  
\_\_\_\_\_
4. Who are the herbivores in the ecosystem?  
\_\_\_\_\_
5. What are two carnivores in the ecosystem? \_\_\_\_\_
6. Is there an omnivore in the above ecosystem?  
\_\_\_\_\_

## Complete the Table Below for All LAND Biomes

<b>Biome Name</b>	<b>Relative Latitude</b> (North, South, Middle, etc.)	<b>Types of Animals and Plants</b>	<b>Climate</b> (Temperature and Precipitation)
1.			
2.			
3.			
4.			
5.			
6.			
7.			

**Make a Venn Diagram to compare and contrast the two main types of Water Biomes**

**Populations and Communities** • Guided Reading and Study

**Living Things and the Environment** (pp. 6–11)

*This section describes what organisms need and how their environments provide for their needs. The section also describes how organisms live together in populations and communities.*

12. What is a species?

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

13. Circle the letter of each choice that is an example of a population.

- a. All the prairie dogs in a prairie dog town
- b. All the bees in a hive
- c. All the pigeons in New York City
- d. All the trees in a forest

14. Is the following sentence true or false? All populations live in the same-sized area. \_\_\_\_\_

15. All the different populations that live together in an area make up a(n) \_\_\_\_\_.

16. Circle the letter of the choice that lists the levels of organization in an ecosystem from the smallest unit of organization to the largest.

- a. Population, organism, community, ecosystem
- b. Organism, population, ecosystem, community
- c. Organism, community, population, ecosystem
- d. Organism, population, community, ecosystem

• **Habitats** (p. 7)

1. An \_\_\_\_\_ obtains food, water, shelter, and other things it needs to live, grow, and reproduce from its environment.

2. An environment that provides the things an organism needs to live, grow, and reproduce is called its \_\_\_\_\_.

3. What needs of an organism are provided by its habitat?

\_\_\_\_\_

\_\_\_\_\_

4. Is the following sentence true or false? An area contains only one habitat.

\_\_\_\_\_

**Ecosystems and Biomes** • Guided Reading and Study

• **Energy Flow in Ecosystems** (pp. 42–47)

*This section explains the different roles that organisms play in the movement of energy through an ecosystem. The section also describes how organisms in the different roles interact to form food chains and food webs.*

**Use Target Reading Skills**

*After you read the section, reread the paragraphs that contain definitions of Key Terms. Use all the information you have learned to write meaningful sentences using Key Terms.*

**Energy Roles** (pp. 42–43)

Match the energy role with its definition.

Energy Role	Definition
____ 1. producer	a. Organism that breaks down wastes and dead organisms
____ 2. consumer	b. Organism that obtains energy by feeding on other organisms
____ 3. decomposer	c. Organism that can make its own food

4. What types of organisms are producers?

\_\_\_\_\_

\_\_\_\_\_

5. Is the following sentence true or false? Energy enters all ecosystems as sunlight. \_\_\_\_\_

6. Is the following sentence true or false? Producers are the source of all the food in an ecosystem. \_\_\_\_\_

7. List two major groups of decomposers.

a. \_\_\_\_\_ b. \_\_\_\_\_

8. Complete the compare/contrast table.

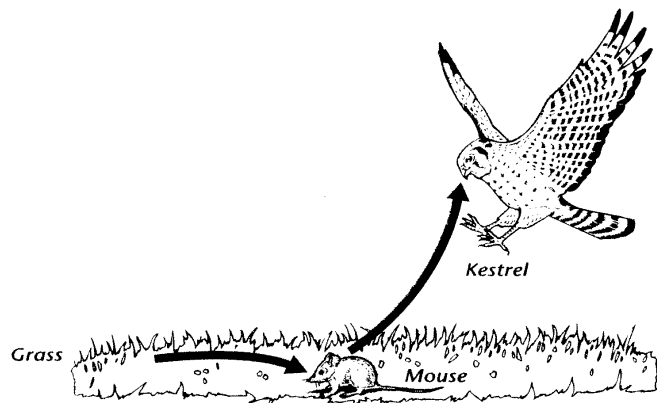
Types of Consumers	
Type of Consumer	Type of Food
	Only plants
Carnivore	
	Both plants and animals
	Dead organisms

**Ecosystems and Biomes** • *Guided Reading and Study*

9. Is the following sentence true or false? Decomposers return raw materials to the environment. \_\_\_\_\_

**Food Chains and Food Webs** (pp. 44–45)

10. A series of events in which one organism eats another and obtains energy is called a(n) \_\_\_\_\_.
11. Label the producer and the first-level and second-level consumers in the food chain shown below.



12. The many overlapping food chains in an ecosystem make up a(n) \_\_\_\_\_.
13. Circle the letter of each sentence that is true about a food web.
- a. Producers are at the top of the food web.
  - b. All first-level consumers are carnivores.
  - c. Second-level consumers may be carnivores or omnivores.
  - d. An organism may play more than one role in a food web.

**Energy Pyramids** (pp. 46–47)

14. What does an energy pyramid show?  
 \_\_\_\_\_  
 \_\_\_\_\_

**Ecosystems and Biomes** • *Guided Reading and Study*

**Biomes** (pp. 58–67)

*This section describes several different biomes, or groups of similar ecosystems, that are found on Earth. The section also tells where the different biomes are located.*

**Use Target Reading Skills**

*As you read, compare and contrast the different biomes by completing the table below.*

Characteristic	Temperate Rain Forest	Tropical Rain Forest	Desert	Grassland	Deciduous Forest	Boreal Forest	Tundra
Temperature		Warm all year					
Precipitation							
Typical Organisms							

**Introduction** (p. 58)

1. A group of land ecosystems with similar climates and organisms is called a(n) \_\_\_\_\_.
2. Is the following sentence true or false? It is mostly the climate in an area that determines its biome. \_\_\_\_\_

**Ecosystems and Biomes** • *Guided Reading and Study*

**Biomes** (continued)

**Deciduous Forest Biomes** (p. 63)

10. Trees that shed their leaves and grow new ones each year are called \_\_\_\_\_.
11. Circle the letter of the sentence that is true about deciduous forests.
- a. They receive at least 50 centimeters of rain each year.
  - b. Their temperatures are constant throughout the year.
  - c. Their growing season usually lasts for 10 months.
  - d. They contain very few habitats.

**Boreal Forest Biomes** (p. 64)

12. What type of trees are found in a boreal forest?  
\_\_\_\_\_  
\_\_\_\_\_
13. Circle the letter of each sentence that is true about boreal forests.
- a. They are farther north than deciduous forests.
  - b. They have very cold winters.
  - c. They receive little snow.
  - d. Their most common species of trees are fir, spruce, and hemlock.

**Tundra Biomes** (p. 65)

14. An extremely cold, dry biome is the \_\_\_\_\_.
15. Circle the letter of each sentence that is true about the tundra.
- a. It may receive no more precipitation than a desert.
  - b. Most of its soil is frozen all year.
  - c. Its plants include mosses and dwarf trees.
  - d. Its only animals are insects and birds.

**Mountains and Ice** (p. 66)

16. Is the following sentence true or false? If you hiked to the top of a tall mountain, you would pass through a series of biomes.  
\_\_\_\_\_
17. What are some organisms adapted to life on the ice?  
\_\_\_\_\_  
\_\_\_\_\_

**Ecosystems and Biomes** • *Guided Reading and Study*

**Rain Forest Biomes** (pp. 59–60)

3. How do temperate rain forests differ from tropical rain forests?  
\_\_\_\_\_  
\_\_\_\_\_
4. Where are some temperate rain forests located?  
\_\_\_\_\_  
\_\_\_\_\_
5. Circle the letter of each sentence that is true about tropical rain forests.
- a. They are found only in Africa and South America.
  - b. They receive a lot of rainfall and sunlight year-round.
  - c. They contain few species.
  - d. They are much warmer in some seasons than in others.
6. The tall trees in a tropical rain forest form a leafy roof called the \_\_\_\_\_.

**Desert Biomes** (p. 61)

7. Circle the letter of each sentence that is true about deserts.
- a. They receive less than 10 centimeters of rain per year.
  - b. They have more evaporation than precipitation.
  - c. They are always hot.
  - d. They have extreme temperatures.

**Grassland Biomes** (p. 62)

8. Circle the letter of each sentence that is true about grasslands.
- a. They have many trees.
  - b. They have rich soil.
  - c. They receive more than 75 centimeters of rain each year.
  - d. They are home to many of the largest animals on Earth.
9. Grasslands that are located closer to the equator than prairies are called \_\_\_\_\_.

Name \_\_\_\_\_ Date \_\_\_\_\_ Class \_\_\_\_\_

**Living Resources** • *Guided Reading and Study*

**Causes of Extinction** (pp. 102–103)

14. What natural events might cause extinction?

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15. Is the following sentence true or false? The major cause of extinction is habitat fragmentation. \_\_\_\_\_

Match the term with its definition.

<b>Term</b>	<b>Definition</b>
___ 16. habitat destruction	a. Breaking larger habitats into smaller, isolated pieces
___ 17. habitat fragmentation	b. Illegally killing or removing wildlife from their habitats
___ 18. poaching	c. Loss of a natural habitat

19. How can pollutants affect organisms? \_\_\_\_\_

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