

Student: \_\_\_\_\_

1. Which of the following levels of organization is/are correctly ordered?
  - A. population, ecosystem, landscape, individual, interaction
  - B. individual, population, interaction, community, ecosystem
  - C. biosphere, landscape, individual, community, interaction
  - D. ecosystem, landscape, region, interaction, population
  - E. None of the choices are correct.
2. Robert MacArthur's observations on the Warblers of North America indicate that they
  - A. are fiercely competitive.
  - B. cannot coexist.
  - C. reduce competition by feeding during different times of the day.
  - D. reduce competition by feeding in different zones.
  - E. both are fiercely competitive and cannot coexist.
3. What is ecology?
  - A. the study of relationships between organisms and the environment
  - B. the study of animal and plant population interactions
  - C. the study of the abiotic portion of the environment
  - D. the study of the biosphere
  - E. the study of environmental change
4. The 'scientific method' includes
  - A. observations, experiments, and modeling.
  - B. posing questions and formulating testable hypotheses.
  - C. statistical analysis.
  - D. observations, experiments, and modeling; posing questions and formulating testable hypotheses; and statistical analysis.
  - E. both observations, experiments, and modeling, and posing questions and formulating testable hypotheses.
5. Nalini Nadkarni's study of tropical and temperate rain forests determined that
  - A. rain forests have nutrient rich soils.
  - B. the herbaceous layer determines the nutrient balance.
  - C. epiphyte mats contain a significant source of nutrients.
  - D. as one moves up the canopy, species richness decreases.
  - E. None of the choices are correct.
6. The highest level of ecological organization focuses on
  - A. the gene.
  - B. the biosphere.
  - C. warbler use of trees.
  - D. forests.
  - E. None of the choices are correct.
7. A population can be defined as
  - A. a group of individuals of a single species inhabiting a defined area.
  - B. an association of interacting species.
  - C. a group of individuals of a single species and all of the physical and chemical factors influencing them.
  - D. all of the organisms in a defined area.
  - E. None of the choices are correct.

8. Physiological ecologists study
- A. nutrient cycling and energy flow through ecosystems.
  - B. exchanges of materials, energy, and organisms between communities.
  - C. physiological and anatomical mechanisms by which organisms deal with variation in their physical and chemical environment.
  - D. physiological and anatomical mechanisms by which organisms deal with variation in their social environment.
  - E. None of the choices are correct.
9. The pioneering work of Nalini Nadkarni in rain forest ecology revealed that
- A. epiphyte mats in some tropical forests contain nutrient quantities equal to the nutrient content of the canopy foliage.
  - B. the epiphyte mass in temperate rain forests may be four times the mass of leaves on their host tree.
  - C. in both temperate and tropical rain forests, trees obtain nutrients by extending roots into epiphyte mats.
  - D. All of the choices are correct.
- E. Both the epiphyte mass in temperate rain forests may be four times the mass of leaves on their host tree and, in both temperate and tropical rain forests, trees obtain nutrients by extending roots into epiphyte mats.
10. Population ecologists do **not** study
- A. reproductive ecology.
  - B. distribution and abundance.
  - C. energy flow.
  - D. extinction.
  - E. adaptation.
11. Ecologists study
- A. communities.
  - B. ecosystems.
  - C. individual organisms.
  - D. populations.
  - E. All of the choices are correct.
12. An ecosystem is defined as
- A. all the organisms that live in an area.
  - B. the physical environment with which organisms interact.
  - C. an association of interacting species.
  - D. all of the organisms that live in an area and the physical environment with which they interact.
  - E. all of the individuals of a single species that live in an area and the physical environment with which they interact.
13. According to Margaret Davis, who studied pollen contained within lake sediments, the vegetation landscape of the Appalachian Mountains from 12,000 years ago until approximately 100 years ago changed as follows:
- A. spruce→chestnut→beech.
  - B. chestnut→spruce→beech.
  - C. beech→spruce→chestnut.
  - D. spruce→beech→chestnut.
  - E. chestnut→beech→spruce.
14. Norris and colleagues found that warblers using different habitats did not have different carbon isotopes in the tissues.
- True   False
15. Field studies and laboratory studies are mutually exclusive.
- True   False

16. Temperate and tropical rain forest trees extract nutrients from epiphytic mats.  
True   False
17. Stable isotope analysis uses variation in element masses to better understand ecological phenomena.  
True   False
18. Margaret Davis' studies on lake pollen sediments indicate that the forests of eastern North America did not change with the changing climate.  
True   False
19. The scientific method deals with absolute truths.  
True   False
20. Ecology can be defined as the study of the impact of human activity on the environment.  
True   False
21. Ecology is a modern science of which ancient man had no knowledge.  
True   False
22. \_\_\_\_\_ are aerial plants obtaining nutrient from trapped organic matter.  
\_\_\_\_\_
23. Populations changing genetically over time in response to variation in its environment is termed  
\_\_\_\_\_.  
\_\_\_\_\_

# 1 Key

1. Which of the following levels of organization is/are correctly ordered?
- A. population, ecosystem, landscape, individual, interaction
  - B. individual, population, interaction, community, ecosystem**
  - C. biosphere, landscape, individual, community, interaction
  - D. ecosystem, landscape, region, interaction, population
  - E. None of the choices are correct.

*Blooms Level: 2. Understand*  
*Learning Outcome: 01.01.01 Describe the levels of ecological organization, for example, population, studied by ecologists.*  
*Molles - Chapter 01 #1*  
*Section: 01.01*  
*Topic: Biomes and Ecosystems*  
*Topic: Community Ecology*  
*Topic: Population Ecology*

2. Robert MacArthur's observations on the Warblers of North America indicate that they
- A. are fiercely competitive.
  - B. cannot coexist.
  - C. reduce competition by feeding during different times of the day.
  - D. reduce competition by feeding in different zones.**
  - E. both are fiercely competitive and cannot coexist.

*Blooms Level: 2. Understand*  
*Learning Outcome: 01.02.01 Describe some emerging frontiers in ecology.*  
*Molles - Chapter 01 #2*  
*Section: 01.02*  
*Topic: Community Ecology*

3. What is ecology?
- A. the study of relationships between organisms and the environment**
  - B. the study of animal and plant population interactions
  - C. the study of the abiotic portion of the environment
  - D. the study of the biosphere
  - E. the study of environmental change

*Blooms Level: 2. Understand*  
*Learning Outcome: 01.00.01 Define ecology.*  
*Molles - Chapter 01 #3*  
*Section: 01.00*  
*Topic: Behavioral Ecology*  
*Topic: Community Ecology*  
*Topic: Population Ecology*

4. The 'scientific method' includes
- A. observations, experiments, and modeling.
  - B. posing questions and formulating testable hypotheses.
  - C. statistical analysis.
  - D. observations, experiments, and modeling; posing questions and formulating testable hypotheses; and statistical analysis.**
  - E. both observations, experiments, and modeling, and posing questions and formulating testable hypotheses.

*Blooms Level: 5. Evaluate*  
*Learning Outcome: 01. Investigating the Evidence Analyze and Interpret Data*  
*Molles - Chapter 01 #4*  
*Section: Investigating the Evidence*  
*Topic: General*

5. Nalini Nadkarni's study of tropical and temperate rain forests determined that
- A. rain forests have nutrient rich soils.
  - B. the herbaceous layer determines the nutrient balance.
  - C.** epiphyte mats contain a significant source of nutrients.
  - D. as one moves up the canopy, species richness decreases.
  - E. None of the choices are correct.

*Blooms Level: 2. Understand*  
*Learning Outcome: 01.02.01 Describe some emerging frontiers in ecology.*  
*Molles - Chapter 01 #5*  
*Section: 01.02*  
*Topic: Biomes and Ecosystems*

6. The highest level of ecological organization focuses on
- A. the gene.
  - B.** the biosphere.
  - C. warbler use of trees.
  - D. forests.
  - E. None of the choices are correct.

*Blooms Level: 1. Remember*  
*Learning Outcome: 01.01.01 Describe the levels of ecological organization, for example, population, studied by ecologists.*  
*Molles - Chapter 01 #6*  
*Section: 01.01*  
*Topic: Biomes and Ecosystems*

7. A population can be defined as
- A.** a group of individuals of a single species inhabiting a defined area.
  - B. an association of interacting species.
  - C. a group of individuals of a single species and all of the physical and chemical factors influencing them.
  - D. all of the organisms in a defined area.
  - E. None of the choices are correct.

*Blooms Level: 2. Understand*  
*Learning Outcome: 01.01.01 Describe the levels of ecological organization, for example, population, studied by ecologists.*  
*Molles - Chapter 01 #7*  
*Section: 01.01*  
*Topic: Population Ecology*

8. Physiological ecologists study
- A. nutrient cycling and energy flow through ecosystems.
  - B. exchanges of materials, energy, and organisms between communities.
  - C.** physiological and anatomical mechanisms by which organisms deal with variation in their physical and chemical environment.
  - D. physiological and anatomical mechanisms by which organisms deal with variation in their social environment.
  - E. None of the choices are correct.

*Blooms Level: 5. Evaluate*  
*Learning Outcome: 01.01.02 Distinguish between the types of questions addressed by ecologists working at different levels of organization.*  
*Molles - Chapter 01 #8*  
*Section: 01.01*  
*Topic: Behavioral Ecology*

9. The pioneering work of Nalini Nadkarni in rain forest ecology revealed that
- A. epiphyte mats in some tropical forests contain nutrient quantities equal to the nutrient content of the canopy foliage.
  - B. the epiphyte mass in temperate rain forests may be four times the mass of leaves on their host tree.
  - C. in both temperate and tropical rain forests, trees obtain nutrients by extending roots into epiphyte mats.
  - D. All of the choices are correct.
  - E.** both the epiphyte mass in temperate rain forests may be four times the mass of leaves on their host tree and, in both temperate and tropical rain forests, trees obtain nutrients by extending roots into epiphyte mats.

*Blooms Level: 5. Evaluate*  
*Learning Outcome: 01.02.01 Describe some emerging frontiers in ecology.*  
*Molles - Chapter 01 #9*  
*Section: 01.02*  
*Topic: Biomes and Ecosystems*

10. Population ecologists do **not** study
- A. reproductive ecology.
  - B. distribution and abundance.
  - C.** energy flow.
  - D. extinction.
  - E. adaptation.

*Blooms Level: 2. Understand*  
*Learning Outcome: 01.01.02 Distinguish between the types of questions addressed by ecologists working at different levels of organization.*  
*Molles - Chapter 01 #10*  
*Section: 01.01*  
*Topic: Population Ecology*

11. Ecologists study
- A. communities.
  - B. ecosystems.
  - C. individual organisms.
  - D. populations.
  - E.** All of the choices are correct.

*Blooms Level: 2. Understand*  
*Learning Outcome: 01.01.01 Describe the levels of ecological organization, for example, population, studied by ecologists.*  
*Molles - Chapter 01 #11*  
*Section: 01.01*  
*Topic: Biomes and Ecosystems*  
*Topic: Community Ecology*  
*Topic: Population Ecology*

12. An ecosystem is defined as
- A. all the organisms that live in an area.
  - B. the physical environment with which organisms interact.
  - C. an association of interacting species.
  - D.** all of the organisms that live in an area and the physical environment with which they interact.
  - E. all of the individuals of a single species that live in an area and the physical environment with which they interact.

*Blooms Level: 2. Understand*  
*Learning Outcome: 01.01.01 Describe the levels of ecological organization, for example, population, studied by ecologists.*  
*Molles - Chapter 01 #12*  
*Section: 01.01*  
*Topic: Biomes and Ecosystems*

13. According to Margaret Davis, who studied pollen contained within lake sediments, the vegetation landscape of the Appalachian Mountains from 12,000 years ago until approximately 100 years ago changed as follows:
- A. spruce→chestnut→beech.
  - B. chestnut→spruce→beech.
  - C. beech→spruce→chestnut.
  - D.** spruce→beech→chestnut.
  - E. chestnut→beech→spruce.

*Blooms Level: 2. Understand*  
*Learning Outcome: 01.02.01 Describe some emerging frontiers in ecology.*  
*Molles - Chapter 01 #13*  
*Section: 01.02*  
*Topic: Community Ecology*

14. Norris and colleagues found that warblers using different habitats did not have different carbon isotopes in the tissues.  
**FALSE**

*Blooms Level: 2. Understand*  
*Learning Outcome: 01.02.02 Explain how the use of stable isotopes has extended what it is possible to know about the ecology of warblers.*  
*Molles - Chapter 01 #14*  
*Section: 01.02*  
*Topic: Community Ecology*

15. Field studies and laboratory studies are mutually exclusive.

**FALSE**

*Blooms Level: 2. Understand  
Learning Outcome: 01. Investigating the Evidence Analyze and Interpret Data  
Molles - Chapter 01 #15  
Section: Investigating the Evidence  
Topic: General*

16. Temperate and tropical rain forest trees extract nutrients from epiphytic mats.

**TRUE**

*Blooms Level: 2. Understand  
Learning Outcome: 01.02.01 Describe some emerging frontiers in ecology.  
Molles - Chapter 01 #16  
Section: 01.02  
Topic: Biomes and Ecosystems*

17. Stable isotope analysis uses variation in element masses to better understand ecological phenomena.

**TRUE**

*Blooms Level: 2. Understand  
Learning Outcome: 01.02.02 Explain how the use of stable isotopes has extended what it is possible to know about the ecology of warblers.  
Molles - Chapter 01 #17  
Section: 01.02  
Topic: Community Ecology  
Topic: General*

18. Margaret Davis' studies on lake pollen sediments indicate that the forests of eastern North America did not change with the changing climate.

**FALSE**

*Blooms Level: 2. Understand  
Learning Outcome: 01.02.01 Describe some emerging frontiers in ecology.  
Molles - Chapter 01 #18  
Section: 01.02  
Topic: Community Ecology*

19. The scientific method deals with absolute truths.

**FALSE**

*Blooms Level: 2. Understand  
Learning Outcome: 01. Investigating the Evidence Analyze and Interpret Data  
Molles - Chapter 01 #19  
Section: Investigating the Evidence  
Topic: General*

20. Ecology can be defined as the study of the impact of human activity on the environment.

**FALSE**

*Blooms Level: 2. Understand  
Learning Outcome: 01.00.01 Define ecology.  
Molles - Chapter 01 #20  
Section: 01.00  
Topic: General*

21. Ecology is a modern science of which ancient man had no knowledge.

**FALSE**

*Blooms Level: 2. Understand  
Learning Outcome: 01.00.01 Define ecology.  
Molles - Chapter 01 #21  
Section: 01.00  
Topic: General*

22. \_\_\_\_\_ are aerial plants obtaining nutrient from trapped organic matter.

**Epiphytes**

*Blooms Level: 2. Understand  
Learning Outcome: 01.02.01 Describe some emerging frontiers in ecology.  
Molles - Chapter 01 #22  
Section: 01.02  
Topic: Biomes and Ecosystems*

23. Populations changing genetically over time in response to variation in its environment is termed

Evolution.

*Blooms Level: 2. Understand*  
*Learning Outcome: 01.01.01 Describe the levels of ecological organization, for example, population, studied by ecologists.*  
*Molles - Chapter 01 #23*  
*Section: 01.01*  
*Topic: Population Ecology*



# 1 Summary

<u>Category</u>	<u># of Questions</u>
Blooms Level: 1. Remember	1
Blooms Level: 2. Understand	19
Blooms Level: 5. Evaluate	3
Learning Outcome: 01.00.01 Define ecology.	3
Learning Outcome: 01.01.01 Describe the levels of ecological organization, for example, population, studied by ecologists.	6
Learning Outcome: 01.01.02 Distinguish between the types of questions addressed by ecologists working at different levels of organization.	2
Learning Outcome: 01.02.01 Describe some emerging frontiers in ecology.	7
Learning Outcome: 01.02.02 Explain how the use of stable isotopes has extended what it is possible to know about the ecology of warblers.	2
Learning Outcome: 01. Investigating the Evidence Analyze and Interpret Data	3
Molles - Chapter 01	23
Section: 01.00	3
Section: 01.01	8
Section: 01.02	9
Section: Investigating the Evidence	3
Topic: Behavioral Ecology	2
Topic: Biomes and Ecosystems	8
Topic: Community Ecology	8
Topic: General	6
Topic: Population Ecology	6