

## Module 1 – Assessment Bank

*These test items are not a required component of piloting the curriculum materials. They are here as a resource that you can draw from to develop your own assessments for your students.*

### Multiple Choice Questions

#### Lesson 1: Cities as systems

1. Large human populations, living in technologically advanced cities that are healthy and sustainable, have \_\_\_\_\_ impact on the global ecosystem.
  - A. the most
  - B. the least
  - C. none
  - D. the same
2. A system is defined as an entity with
  - A. a way of organizing parts
  - B. a collection of parts
  - C. a whole entity consisting of interacting parts
  - D. all of the above

#### Lesson 2 Impact of cities

1. A person in the US may lessen their ecological footprint by doing all of the following EXCEPT
  - A. moving to the city
  - B. taking public transportation
  - C. living in a bigger house
  - D. recycling paper, cans, and bottles
2. Developing nations tend to have lower “total ecological footprints” because
  - A. people import more from other countries
  - B. people use less public transportation
  - C. people consume more
  - D. people drive less

#### Lesson 3 Why cities

1. Urban sprawl may be defined as the
  - A. growth of a city’s economy
  - B. growth of a city’s population
  - C. growth of a city’s student population
  - D. growth of a city’s physical size

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2. \_\_\_\_\_ led to the creation of cities.
- A. agriculture
  - B. a desire to stay with related family
  - C. a need for culture
  - D. limited access to resources

### Lesson 4 Parts of an ecosystem

1. An ecosystem is composed of all the interacting \_\_\_\_\_ of organisms in a location, as well as their abiotic environment
- A. organisms
  - B. biomes
  - C. populations
  - D. communities
2. For a salmon, all of the following are abiotic factors EXCEPT
- A. algae
  - B. sunlight
  - C. water currents
  - D. rocks
3. \_\_\_\_\_ is the largest region of earth which a characteristic climate and vegetation type.
- A. community
  - B. biome
  - C. population
  - D. organism
4. Ecosystems make up biomes and biomes make up a
- A. organism
  - B. biosphere
  - C. population
  - D. community

### Lesson 5 Study site evaluation

1. A pile of dead leaves is considered
- A. biotic
  - B. abiotic
  - C. man-made
  - D. none of the above

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2. Weather is considered
  - A. biotic
  - B. abiotic
  - C. man-made
  - D. none of the above

### **Lesson 6 Cities as complex systems**

1. One social factor, impacted by the presence of humans in cities, may include
  - A. availability of public transportation
  - B. soil pollution
  - C. air pollution
  - D. water pollution
2. A researchable question should have all of the following EXCEPT a(n)
  - A. independent variable
  - B. bias
  - C. dependent variable
  - D. control

### **Lesson 7 Certain organisms in certain microhabitats**

1. What factors are most important in determining whether or not an organism may be found in a microhabitat
  - A. temperature
  - B. presence of food
  - C. availability of mates
  - D. all of the above
2. Forests, deserts, and ponds are all examples of
  - A. climate
  - B. abiotic places
  - C. species
  - D. habitats

### **Lesson 8 Sustainability**

1. The fur on the back of a cat is best described as a
  - A. microhabitat
  - B. climate
  - C. microclimate
  - D. habitat

## **Short Answer and Essay**

### **Lesson 1**

1. Explain how cities are systems. Be specific in terms of defining what a system is and how a city meets this definition.
2. What is a mega city? Give an example of a mega city.

### **Lesson 2**

1. List and explain two reasons why other countries generally have a lower “average total ecological footprint” than the US?

### **Lesson 3**

1. List and describe two costs and two benefits to living in a city.
2. Why would development of agriculture lead to the creation of cities?

### **Lesson 4**

1. Define the terms abiotic and biotic. Give an example of each in the context of an urban ecosystem.
2. Define the term symbiosis and describe a situation where this plays out in an urban ecosystem.

### **Lesson 6**

1. We discussed the interplay of social, physical, biological, and chemical variables in an urban ecosystem. Pick two of these, give an example of each and explain how they are impacted by human actions.

### **Lesson 7**

1. What is meant by the term sustainability when thinking about cities and urban ecosystems?
2. What does it mean to conduct a longitudinal study?

### **Lesson 8**

1. Explain how humans impact their ecosystems in both positive and negative ways. Be very specific and think about creating healthy and sustainable communities.

**Module 1 – Assessment Bank Answers**

**Multiple Choice**

1. Lesson 1

1.1. B

1.2. D

2. Lesson 2

2.1. C

2.2. D

3. Lesson 3

3.1. D

3.2. A

4. Lesson 4

4.1. D

4.2. A

4.3. B

4.4. B

5. Lesson 5

5.1. A

5.2. B

6. Lesson 6

6.1. A

6.2. B

7. Lesson 7

7.1. D

7.2. D

8. Lesson 8

8.1. A

**Short Answer and Essay**

1.1

*Answer should include the three components of what composes a system: a collection of parts, a way of organizing parts with specific boundaries and structures, and a whole entity consisting of interacting parts.*

1.2

*Cities are defined as regions of highly concentrated population of people living under an organized local government. Mega cities such as Tokyo and New have over 20 million people.*

2.1

*Responses will vary. Some may include the lack of cars and factories, living closer to the land (food is not transported as much to reach the consumer), smaller living spaces, more use of public transportation, less urban sprawl, consume fewer resources, etc.*

3.1

*Answer need to be reasonable. Examples include benefits such as neighbors to play with, lots of*

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*summer activities, need to travel less to get to places, public transportation, cultural offerings, more job offerings, museums, parks, etc. Cost may include more noise from neighbors, more pollution, more cars, items are more expensive, fewer animals, etc.*

3.2

*People could now settle in one location and not move around in search of food and natural resources.*

4.1

*Abiotic nonliving -- rocks, air, water*

*Biotic living -- grass, trees, people, animals*

4.2

*Symbiosis may be defined as a prolonged relationship between two or more organisms in which at least one of the organisms benefits from the interactions. Examples of this in an urban setting might include plants and pollinators.*

6.1

*Physical aspects may include topography which humans often shape through building and construction, quality of roads, how much open space there is and how much building and vegetation there is in the area. All of these are impacted by human actions including building and reconstructing roads and reducing wildlife areas, etc. Social aspects may include how healthy the population is, the presence and use of public transportation, and the value placed on green space and cultural offerings. Humans make these decisions about value placed on health and the use and presence of open space, cultural offerings and public transportation. Biological aspects include the presence of diverse species, presence of vegetation and wildlife and how large the population is. Humans make decisions about these factors and how they live their lives. Chemical variables include air, water, and soil quality as well as pollution. Humans often contribute in negative ways to poor air, water, and soil quality as well as pollution; however, humans also have the power to lessen these chemical variables through policy and individual life practices.*

7.1

*When considering cities and urban ecosystems, sustainability refers to the idea that healthy growth in cities can be accomplished which value both non-human and human needs.*

7.2

*Conducting a longitudinal study involves researching the same site over time.*

8.1

*Students may talk about lots of different things in this question. What you want to see specific ideas and reasoning. Students should be able to identify both positive and negative ways. For example, humans create public policy concerning safeguarding green space. Humans may also negatively impact their ecosystems by polluting, decreasing biodiversity, etc.*