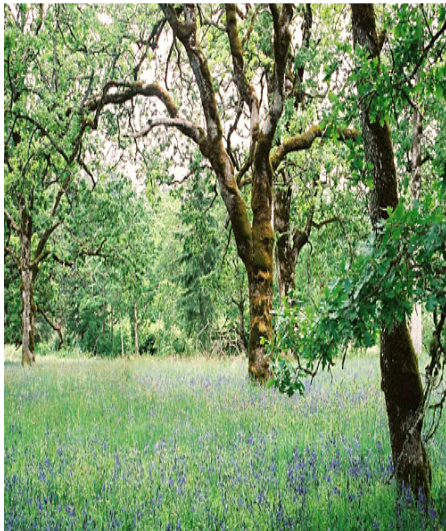


# Grade 7 Science

## Unit 1: Interactions Within Ecosystems

*Chapter 1: An ecosystem is all the living and non-living things in a particular place.*



Name: \_\_\_\_\_

**Ecosystems**

- Can be described by the types of \_\_\_\_\_ and the \_\_\_\_\_ found there.
- Include \_\_\_\_\_ (non-living) and \_\_\_\_\_ (living) things.
- Can be \_\_\_\_\_ or \_\_\_\_\_.

*Student Activity! "What do living things need to survive?"*

With a partner, generate a list of the things that all living things must have for survival.

_____	_____
_____	_____
_____	_____
_____	_____

**Types of Ecosystems**

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

\*\*Foldable: Fortune teller foldable on types of ecosystems.

**The Abiotic Environment**

- The \_\_\_\_\_ parts of the environment.
- The upper and \_\_\_\_\_ limits in which an \_\_\_\_\_ can survive is called the organisms' \_\_\_\_\_.

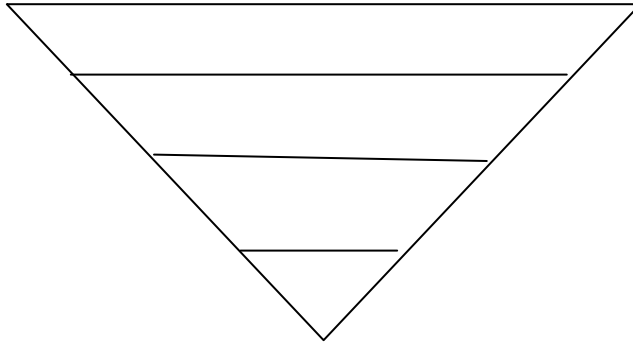
Examples Include:

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

**The Biotic Environment**

- The \_\_\_\_\_ parts of the environment.
- Includes MANY \_\_\_\_\_ of organisms.
- Species refers to a group of \_\_\_\_\_ that can reproduce to \_\_\_\_\_ similar, fertile organisms.

Levels of Organization



**Habitat vs. Niche**

Habitat: the \_\_\_\_\_  
address; where does it \_\_\_\_\_?

Example: A moose's habitat is the \_\_\_\_\_ forest.



Niche: the organism's \_\_\_\_\_, what role does the organism play in its \_\_\_\_\_.

It includes:

- \_\_\_\_\_
- \_\_\_\_\_
- \_\_\_\_\_

Example: A moose lives in the boreal \_\_\_\_\_, it is a \_\_\_\_\_ (plant eater), it provides a \_\_\_\_\_ for parasites and it provides \_\_\_\_\_ for coyotes.

## Interactions in the Environment

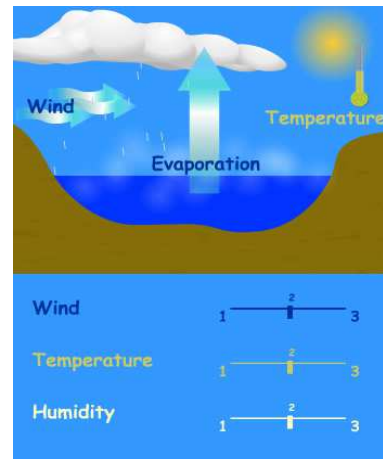
- Biotic – Abiotic

Ex: \_\_\_\_\_



- Abiotic – Abiotic

Ex: \_\_\_\_\_



- Biotic – Biotic

Ex: \_\_\_\_\_



**Key Terms**

Abiotic:

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Adaption:

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Biotic:

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Ecosystem:

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Habitat:

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Organism:

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Range of Tolerance:

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Community:

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Individual:

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Niche:

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Population:

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Species:

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### Comprehension Questions

1. List two examples of abiotic and biotic parts of a forest ecosystem.

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2. Give an example of a change in conditions that could affect an ecosystem.

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3. List four abiotic factors that affect the survival of organisms in an ocean ecosystem.

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4. Describe the habitat of a grasshopper.

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5. What is a treeline?

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6. How is a dandelion adapted to windy conditions?

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7. Describe an interaction between any organism and an abiotic part of its ecosystem.

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8. Using the term range of tolerance, explain why shallows fly south from Newfoundland and Labrador during tthe winter.

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9. What is a species?

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10. Name three levels of biological organization that can be studied in an ecosystem.

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11. Is it possible for two organisms to live in the same habitat, but have different niches? Explain.

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12. Draw a picture below of an ecosystem, be sure to include several organisms and three abiotic factors.

## Field Trip to the Schoolyard

**Question:** What abiotic and biotic factors can you observe and measure in your schoolyard ecosystem?

**Hypothesis:** 2 abiotic factors I expect to find are: \_\_\_\_\_

(2 marks)

2 biotic factors I expect to find are: \_\_\_\_\_

**Materials:**      Notebook                      Camera                      Drawing paper  
                         Thermometer                      Pencil                      Magnifying glass

**Procedure:** Refer to text, page 21.

**NOTE:** *Do NOT pick or break plants or damage flowerbeds. If you turn over a rock or log to see what is underneath, replace it afterwards.*

**Observations:**

Table #1: The Abiotic and Biotic Factors Found in My Schoolyard      (10 marks)

Abiotic	Biotic



**Analysis:**

1. Describe how the abiotic conditions your recorded might affect one type of: (4 marks)

(a) Animal

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(b) Plant

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2. Explain why you might get different results in the winter. (2 marks)

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3. Name an animal or plant that you know lives in your province but does not live in your schoolyard ecosystem. Explain why it does not live there. (3 marks)

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4. Suggest some ways in which your schoolyard ecosystem might change if a pond was added to it. (2 marks)

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**Conclusion: (What did you learn about your schoolyard ecosystem?) (2 marks)**

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## Salty Seeds

Use the table below to record your observations.

Starting Bean Seeds	24 Hours in Salt Water	24 Hours in Fresh Water

1. Describe any differences you observed in the appearance of the seeds from the two groups.

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2. What abiotic factor was studied in this activity?

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3. What variables were controlled (kept the same) for the two groups of seeds?

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4. What variable was changed (manipulated)?

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5. Predict whether seeds from another species of plant would respond to salt in the same way as bean seeds. How could you find out?

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## Chapter 1 Key Terms

1. A particular place where an organism lives (7 letters)	
2. Non-living parts of the environment (7 letters)	
3. The role a species plays in its community, including where it lives, how it obtains its food, and how it affects its environment (5 letters)	
4. Interacting populations (9 letters)	
5. An entire group of individuals of the same species that live together in one ecosystem at the same time (10 letters)	
6. Living parts of the environment (6 letters)	
7. One member of a species (10 letters)	
8. A group of organisms that can reproduce among themselves to produce offspring of the same type that can also reproduce successfully (7 letters)	
9. A characteristic that makes an organism well-suited to its environment (10 letters)	
10. Another term that means "living thing" (8 letters)	
11. All the interacting non-living and living things in a part of the environment (9 letters)	
Hidden message: the span of non-living conditions within which a living thing can survive (3 words)	

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

## Chapter 1 Practice Test

Circle the letter of the best answer.

1. Temperature is an example of which kind of ecosystem condition?
  - A. abiotic
  - B. biotic
  - C. habitat
  - D. niche
2. Which of the following ecosystems can be found in Newfoundland and Labrador?
  - A. desert
  - B. pond
  - C. prairie
  - D. rainforest
3. Which option arranges the given levels of environmental organization from smallest to largest?
  - A. ecosystem, species, individual, population
  - B. individual, community, population, ecosystem
  - C. individual, population, community, ecosystem
  - D. species, individual, community, ecosystem
4. Organisms can only survive within certain abiotic conditions. What is this span of conditions known as?
  - A. adaptation
  - B. niche
  - C. range of tolerance
  - D. treeline
5. Which of the following is a biotic component of soil in a forest?
  - A. air
  - B. fragments of dead plants
  - C. small particles of rock
  - D. water
6. Which of the following best describes an adaptation?
  - A. A developed characteristic that helps a species survive in its population
  - B. A developed role that a species carries out in its community
  - C. An inherited characteristic that helps a species survive in its environment
  - D. An inherited role that a species carries out in its ecosystem

Match the term on the left with the best description on the right.  
Each description may be used only once.

Term	Description
_____ 7. species _____ 8. population _____ 9. habitat _____ 10. community _____ 11. biotic _____ 12. ecosystem	A. one member of a species B. an entire group of individuals of the same species that live together in one ecosystem at the same time C. the biotic parts of a community, together with the abiotic parts of the environment that affect the community D. a group of interacting populations E. non-living things F. a group of organisms that can reproduce among themselves to produce offspring of the same type that can also reproduce successfully G. living things H. a particular place where an organism lives

### Short Answer Questions

13. Read the statements below. In the space provided, indicate whether each statement is true (T) or false (F). If the statement is false, rewrite it to make it true.

\_\_\_ (a) A rotting tree stump on a forest floor is too small to be considered an ecosystem.

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\_\_\_ (b) Rivers, lakes, and ponds are all freshwater ecosystems.

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\_\_\_ (c) The altitude at which tree growth becomes impossible is called the treeline.

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\_\_\_ (d) A community can include several populations of different species.

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14. Mosquitoes and dragonflies live in the same habitat, but have different niches.  
Explain why this statement is true.

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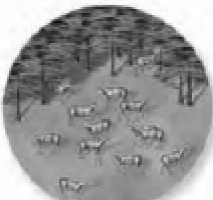

15. Describe three interactions a duck may have with the abiotic parts of its ecosystem.

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16. Examine the four illustrations below. Choosing from the terms given below, correctly write the term that best matches the illustration in the space provided.  
Terms: ecosystem, population, individual, community

			
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17. Use the term "range of tolerance" to explain why a polar bear cannot survive in a desert. Refer to at least two specific abiotic conditions in your answer.

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