

## Worksheet 1

Name :

Subject:

Science

Class:

Sixth grade

Date:

### Ecosystem

- **What are ecosystems ?**

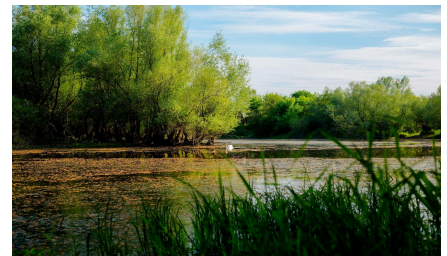
—> Ecosystems are made up of organisms, the physical environment surrounding them, and the interactions between them.

- **What components make up an ecosystem?**

—> Organisms

—> The physical environment

—> Their interactions



#### Notes:

- **Ecosystem Components:** Made up of biotic (living) and abiotic (non-living) factors.

- **Biotic Factors:** Include living things like animals, plants, fungi, and bacteria.

- **Energy Transfer:** Occurs when organisms get energy from other organisms, e.g., animals eating plants.

- **Biotic Interactions:** Involve mutualism, disease, decomposition, predation, parasitism, and reproduction.

- What are biotic factors?

—> They are living components of an ecosystem like animals, plants, fungi, and bacteria.

- **How do organisms transfer energy?**

—> 1. Through eating

2. absorbing nutrients

3. photosynthesis in plants.

- **What are examples of biotic interactions?**

- > 1. Mutualism (helping each other).  
2. Disease.  
3. Decomposition (breaking down dead things).  
4. Predation (hunting).  
5. Reproduction.

- **Are dead organisms considered biotic factors?**

—> Yes, because they were once alive and still affect the ecosystem through decomposition.

**Notes:**

- **Abiotic factors:** Non-living elements in an ecosystem.
- **Examples:** Temperature, precipitation, light intensity, water, soil, air, pollutants, and nutrients.
- **Swamp example:** Includes both abiotic (muddy soil, water, air, climate)  
and biotic factors (otters, alligators, trees).

- **What are abiotic factors?**

—> Non-living components of an ecosystem.

- **Give examples of abiotic factors.**

—> Temperature, light intensity, water, soil, air, pollutants, and nutrients.

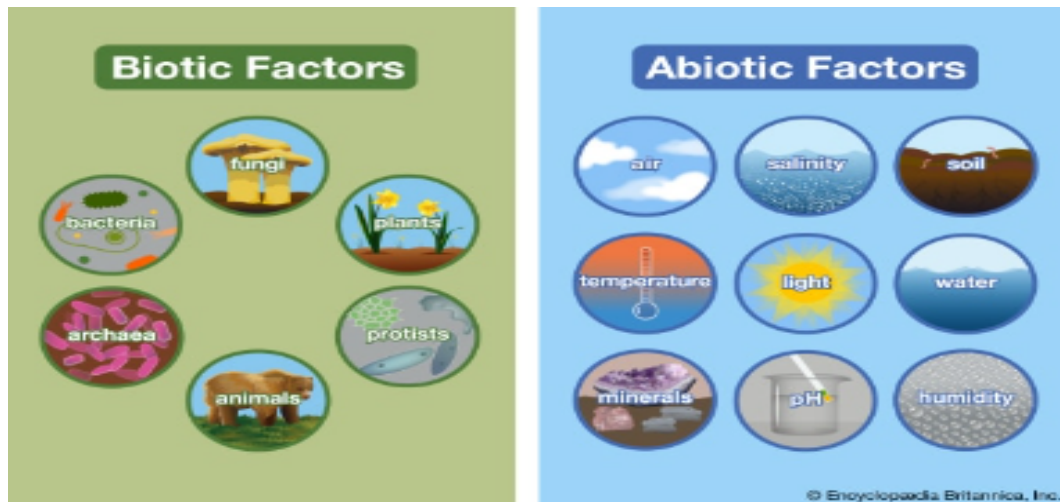
- **How do abiotic factors affect ecosystems?**

—> They influence the environment and determine which organisms can live there.

- **What factors make a swamp different from other environments?**

—> Abiotic factors like climate, air, water, muddy soil, and shady areas, combined with biotic factors like wildlife and plants.

- **📺 Ecosystem and Its Major Components**



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## Practice

**Part A: Define the following terms:**

**1. Ecosystem:**

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**2. Biotic Factors:**

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**3. Abiotic Factors:**

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**4. Energy Transfer:**

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**5. Biotic Interactions:**

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## Part B: Fill in the Blanks:

non-living , water, air / plants, animals, microorganisms / absorption /  
biotic, abiotic, environment

1. Ecosystems are made up of \_\_\_\_\_, the \_\_\_\_\_ environment, and their \_\_\_\_\_.
2. Biotic factors include living things like \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_.
3. Energy transfer occurs when organisms get energy through \_\_\_\_\_, absorbing \_\_\_\_\_, and consumption in plants.
4. Abiotic factors are \_\_\_\_\_ elements in an ecosystem like \_\_\_\_\_, \_\_\_\_\_, and \_\_\_\_\_.

## Part C: Multiple Choice Questions

### 1. Which of the following is a biotic factor?

- |                |             |
|----------------|-------------|
| A) Air         | C) Bacteria |
| B) Temperature | D) Water    |

### 2. What is an example of energy transfer?

- |                          |                 |
|--------------------------|-----------------|
| A) Rocks eroding         | C) Rainfall     |
| B) Animals eating plants | D) Wind blowing |

### 3. Which of the following is NOT an abiotic factor?

- |                    |          |
|--------------------|----------|
| A) Soil            | C) Fungi |
| B) Light intensity | D) Water |

### 4. What type of interaction involves hunting?

- |               |                  |
|---------------|------------------|
| A) Mutualism  | C) Predation     |
| B) Parasitism | D) Decomposition |

### 5. Dead organisms are considered biotic because:

- |  |                             |
|--|-----------------------------|
| A) They are non-living   | C) They affect temperature  |
| B) They were once alive and affect ecosystems through decomposition. | D) They are part of the air |

### Part D: Short Answer

- How do abiotic factors affect ecosystems?

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- What makes a swamp different from other environments?

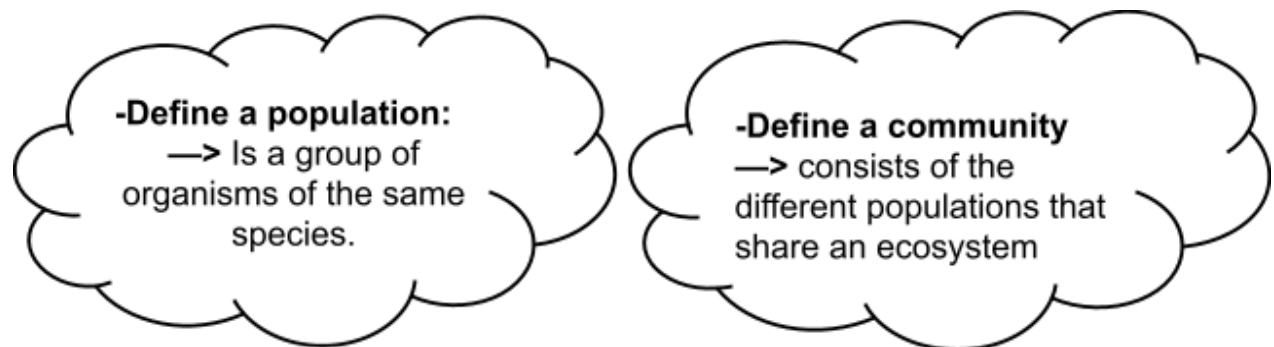
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- Give two examples each of biotic and abiotic factors.

Biotic Factors	Abiotic Factors

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### Population and Communities



### Notes:

- **Competition:** Interaction between populations to meet needs (food, water, space, shelter, mates).
- **Limiting Factors:** Resources that control population size.

- **What is competition?**
- > Interaction between populations for necessary resources.
- **What are examples of resources populations compete for?**
- > Food, water, space, and shelter.
- **What are the limiting factors?**
- > Resources that control the size of populations.
- **How do limiting factors affect populations?**
- > They determine how many individuals can survive in an ecosystem.

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Diversity
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**Notes:**

- Biodiversity refers to the variety of species in an ecosystem.
  - Ecosystems with diverse species are healthier and more stable.
  - Climate and location affect biodiversity; it's richer near the equator.
  - Human activities like deforestation and over-hunting reduce biodiversity.
  - Coral reefs and rainforests are examples of highly diverse ecosystems.
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- **What is biodiversity?**
  - > The variety of species in an ecosystem.
  - **Why is biodiversity important?**
  - > It helps ecosystems stay healthy and stable.
  - **How do climate and location affect biodiversity?**
  - > Biodiversity is higher in warm, stable climates like near the equator.
  - **Give examples of ecosystems with high biodiversity.**
  - > Coral reefs and rainforests.

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Practice
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**Part A: Define the following terms:**

1. **Population:**

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**2. Community:**

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**3. Competition:**

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**4. Limiting Factors:**

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**5. Biodiversity:**

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**Part B: Fill in the Blanks:**

Limiting / Community / Biodiversity / Competition / Population

1. A group of the same species living in an area is called a \_\_\_\_\_.
2. \_\_\_\_\_ refers to different populations living together.
3. When organisms compete for resources, this is called \_\_\_\_\_.
4. \_\_\_\_\_ factors limit the size of populations.
5. The variety of life in an ecosystem is known as \_\_\_\_\_.

### **Part C: Multiple Choice**

#### **1. Which of the following describes a community?**

- A) A group of lions in the savannah
- B) All living and non-living things in a pond
- C) Different species living together in one area
- D) A single tree in a forest

#### **2. What is a limiting factor?**

- A) A factor that increases population size
- B) A factor that has no effect on populations
- C) A factor that restricts population growth
- D) A predator always present in an ecosystem

#### **3. Which of the following is an example of competition?**

- A) Birds migrating south for winter
- B) Two species of birds fighting over food
- C) Fish swimming in a lake
- D) A tree growing taller

#### **4. Biodiversity refers to:**

- A) The number of ecosystems in an area
- B) The variety of species in a particular habitat
- C) The size of a population
- D) The amount of trees in a forest

#### **5. Which of the following is NOT a limiting factor?**

- A) Water availability
- B) Space for shelter
- C) Unlimited food supply
- D) Disease

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