Module 1 Lab: Ecosystem Observation

Objective

To observe and document ecological interactions in a local ecosystem.

Background

Field observations help us understand how organisms interact with each other and their environment. This lab involves observing a local ecosystem and documenting ecological relationships.

Materials

- Field notebook
- Pencil
- Camera (optional)
- Measuring tape
- Thermometer
- pH test strips
- Magnifying glass

Safety

- Be aware of your surroundings
- Do not disturb wildlife
- Watch for hazards (poisonous plants, animals)
- Stay on designated paths
- Work in pairs

Procedure

Part 1: Site Selection

1. Choose a study site (park, campus area, etc.)
2. Mark boundaries of study area
3. Note general characteristics (habitat type, location)

Part 2: Abiotic Factors

Measure and record: - Temperature (air and soil) - Light intensity - Soil pH - Moisture level - Wind conditions - Topography

Part 3: Biotic Factors

Observe and document: - Plant species present - Animal species observed - Evidence of animal activity (tracks, nests, etc.) - Interactions between organisms - Signs of competition or cooperation

Part 4: Food Web Construction

1. Identify producers
2. Identify primary consumers
3. Identify secondary consumers
4. Draw food web showing relationships
5. Note decomposers present

Data Collection

Create detailed field notes including: - Site description - Abiotic measurements - Species list - Interaction observations - Food web diagram - Photographs (if taken)

Analysis

1. How do abiotic factors influence the ecosystem?

2. What types of interactions did you observe?
3. How is energy flowing through this ecosystem?
4. What factors might limit population growth?

Conclusion

Summarize your observations and explain how they demonstrate ecological principles.