

## CHICAGO SCIENCE WRITERS

*Student-Created Textbook*

# How an Ecosystem Works

by \_\_\_\_\_

*About the Author:*

I am

I have learned about this science topic by

## INTRODUCTION

Everyone should know how an ecosystem works.

You need to know this because of at least three reasons:

1.

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2.

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3.

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In my book, I will explain the ecosystem.

Here are some words you will need to know to read my book. I have written a short definition of each word.

ecosystem: \_\_\_\_\_

environment: \_\_\_\_\_

balance: \_\_\_\_\_

variable: \_\_\_\_\_

interdependence: \_\_\_\_\_

imbalance: \_\_\_\_\_

scientist: \_\_\_\_\_

\_\_\_\_\_ :

\_\_\_\_\_ :

\_\_\_\_\_ :

\_\_\_\_\_ :

\_\_\_\_\_ :

\_\_\_\_\_ :

***The Chicago Ecosystem: Water***

Here is a map of Chicago. It shows the waterways. These are important to the Chicago ecosystem.



An ecosystem has to have water. Some ecosystems have more than others.

Here is what the map shows about water in the Chicago ecosystem.

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### ***The Chicago Ecosystem: Land***

The land in Chicago has changed a lot. People have changed it. They have filled in parts of the lake shore. They have turned the river backwards. This timeline shows some of the changes that have affected the Chicago ecosystem.

date

event



This is what I think is a very important change.

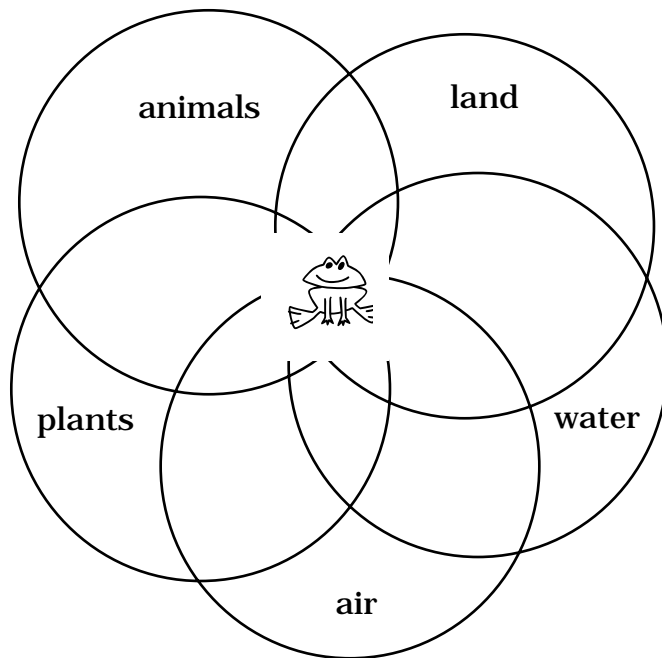


This is why I think it is important.



## INTERDEPENDENCE

All the parts of an ecosystem are related.  
This diagram shows that they are connected.



This diagram shows that a frog in Chicago needs all the other parts of the ecosystem. This chart shows how a frog needs those other parts.

PART OF THE ECOSYSTEM	HOW A FROG DEPENDS ON IT
land	
air	
water	
plants	
animals	

The ecosystem needs frogs, too.  
These are two ways that frogs help the Chicago ecosystem work.

1. \_\_\_\_\_

2. \_\_\_\_\_

## Changing the Environment

A variable is something that changes. In some science experiments, people change one variable to see what will happen. First they make a prediction.

In Chicago, this is one way people can change the plants.  
One way people can change the plants in Chicago is

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My picture shows the plants before the change and after the change.

Before	After

When you change one variable in an ecosystem, it affects all the other parts. This is how this change in the plants would affect a frog.

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This is how it would affect other parts of the environment.

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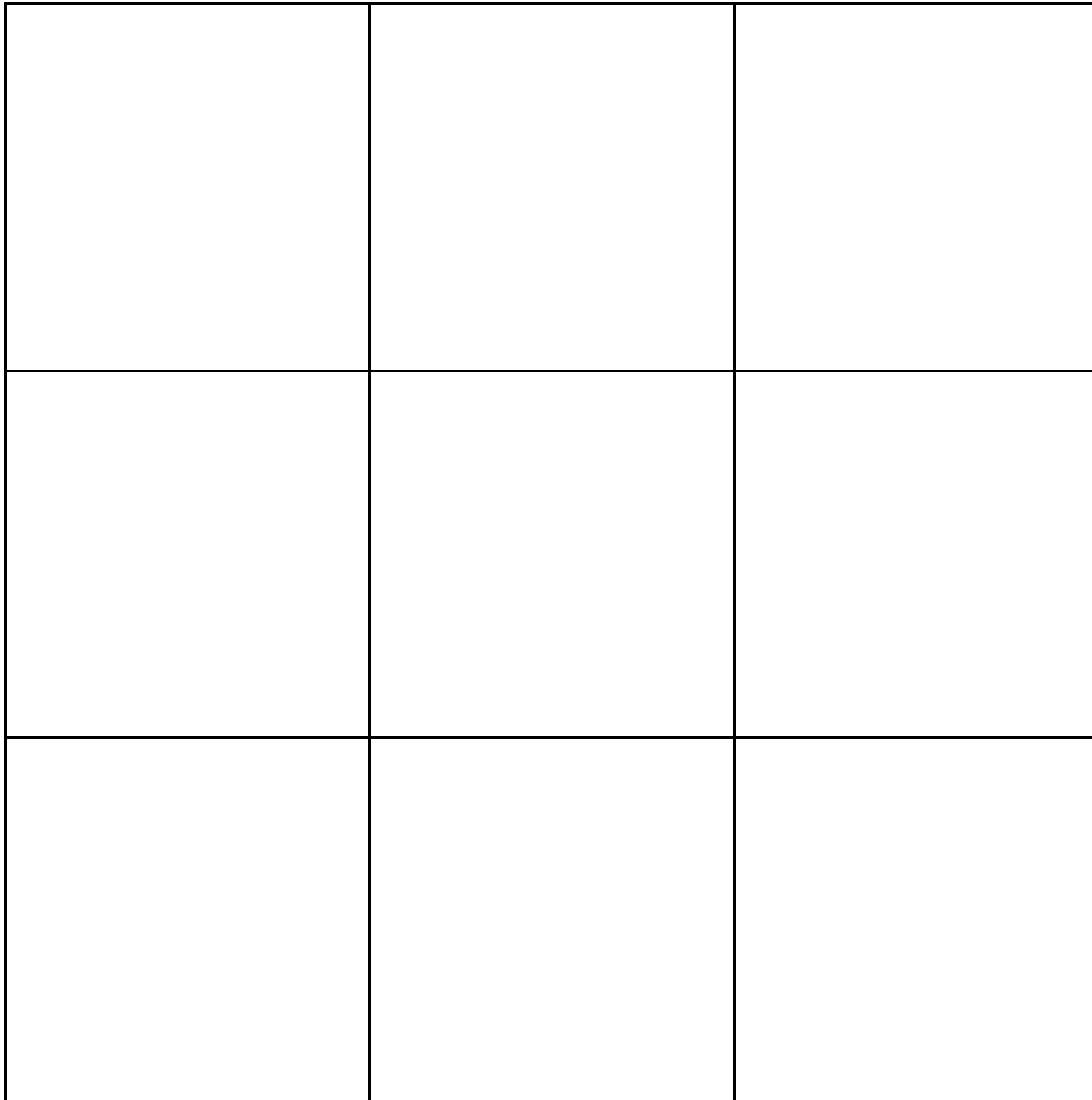
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**BALANCE AND IMBALANCE**

When you change part of the environment, you change the balance.

Balance means \_\_\_\_\_  
\_\_\_\_\_.

This cartoon strip shows how one change can change the balance in an ecosystem.



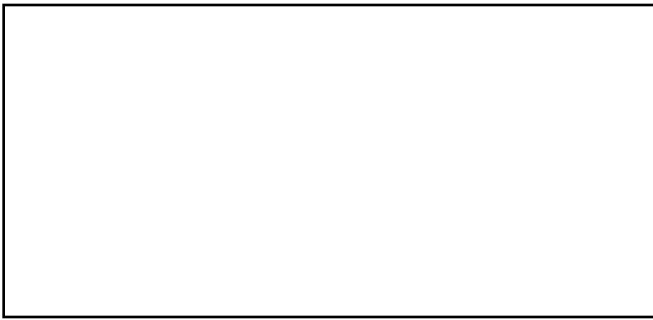
**Tell How**

Write the story of the Chicago Ecosystem. **Write it as if you are a scientist. You have studied the environment. Now you are explaining it. Include pictures and diagrams that you draw.**

TITLE:

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DIAGRAM



Caption: \_\_\_\_\_

Introduction

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THE ECOSYSTEM'S MAIN FEATURES

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HOW THE ECOSYSTEM HAS BEEN CHANGED

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WHAT WE SHOULD DO TO MAINTAIN THE BALANCE OF THE ECOSYSTEM

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## ASSESSMENT

Did you learn from my book?

If you did, you can answer these questions. Here are eight multiple choice questions I made up about this part of science.



Here are three open-ended questions about ecosystems.

- 1. \_\_\_\_\_?
- 2. \_\_\_\_\_?
- 3. \_\_\_\_\_?

## **CRITERIA FOR WRITING**

These criteria are based on the Writing Scoring Guides of the Illinois State Board of Education IGAP Student Assessment

You can share them with students directly--have them use this set of criteria to assess their own work before they re-write it to make sure they meet these standards. First, have the students write their own explanations of just what these standards mean. Then have students exchange their papers with each other and review them with these criteria. You also can use this list to have students focus on just one criterion at a time.

### **FOCUS**

The subject is clear.

The reader knows what the purpose of the writing is.

The reader knows what the main ideas are.

### **SUPPORT/ELABORATION**

Information helps the reader understand the key points the writer is making.

### **ORGANIZATION**

The writer has organized the paper clearly.

There is a logical beginning.

There is a clear development of ideas within the paper.

There is a clear conclusion.

### **GRAMMAR/CONVENTIONS**

The writer follows the rules of punctuation, spelling, capitalization, sentence construction, paragraph construction.

### **INTEGRATION**

The paper does its job--it accomplishes the purpose.