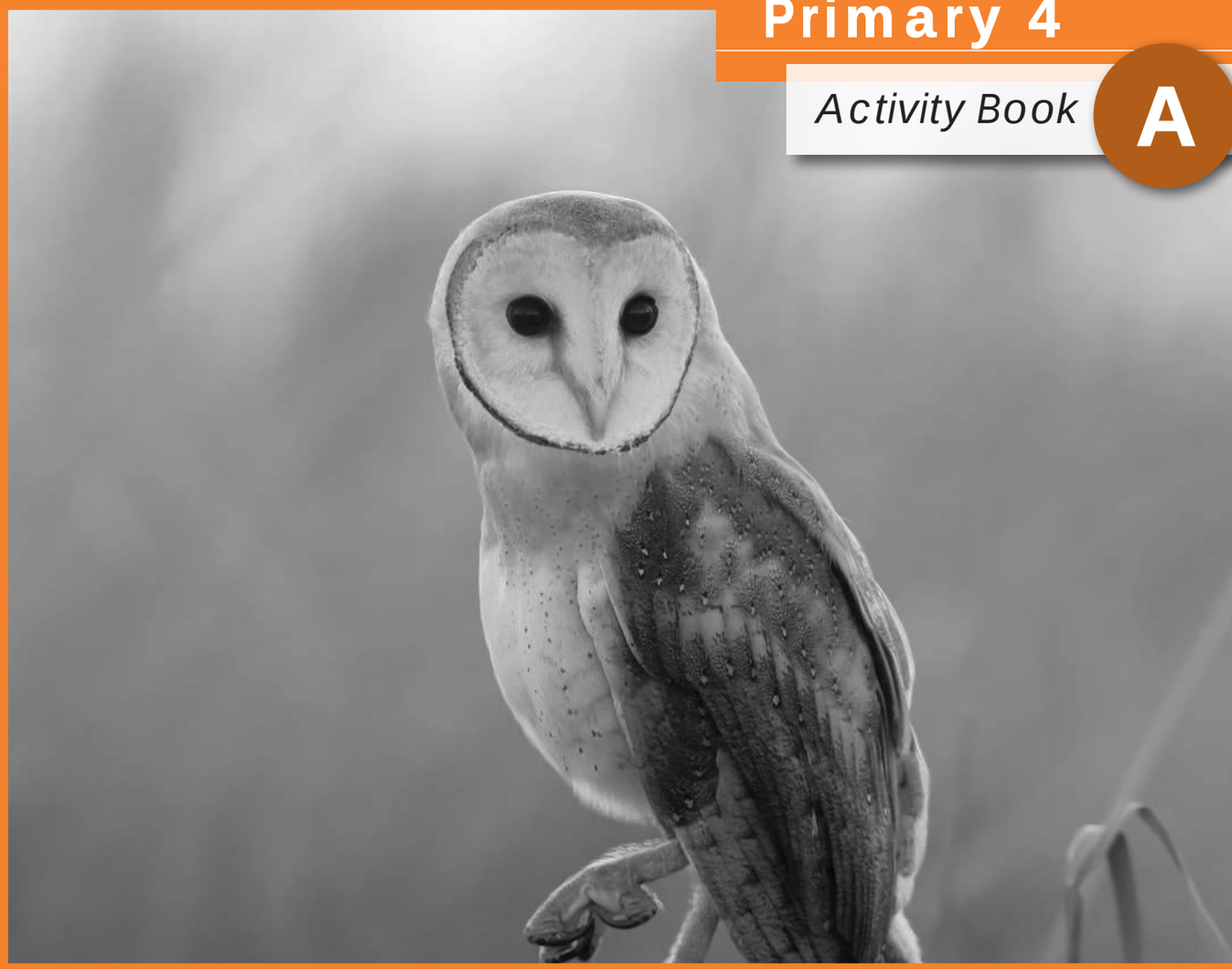
# Let's Do SCIENCE

Primary 4

*Activity Book* **A**



# Let's Do Science

Let's Do Science is based on the United States Next Generation Science Standards (NGSS). The series consists of full-color textbooks and full-color activity books for Grades K to 6.

Let's Do Science engages students with a highly visual presentation of the disciplinary core ideas in the textbooks and places an emphasis on applying scientific knowledge using NGSS practices through numerous scientific investigations. Let's Do Science sees engineering as an essential element of science education and as such is tightly integrated into both the textbooks and activity books.

The Let's Do Science activity books include the follow features:

**AB Activity**

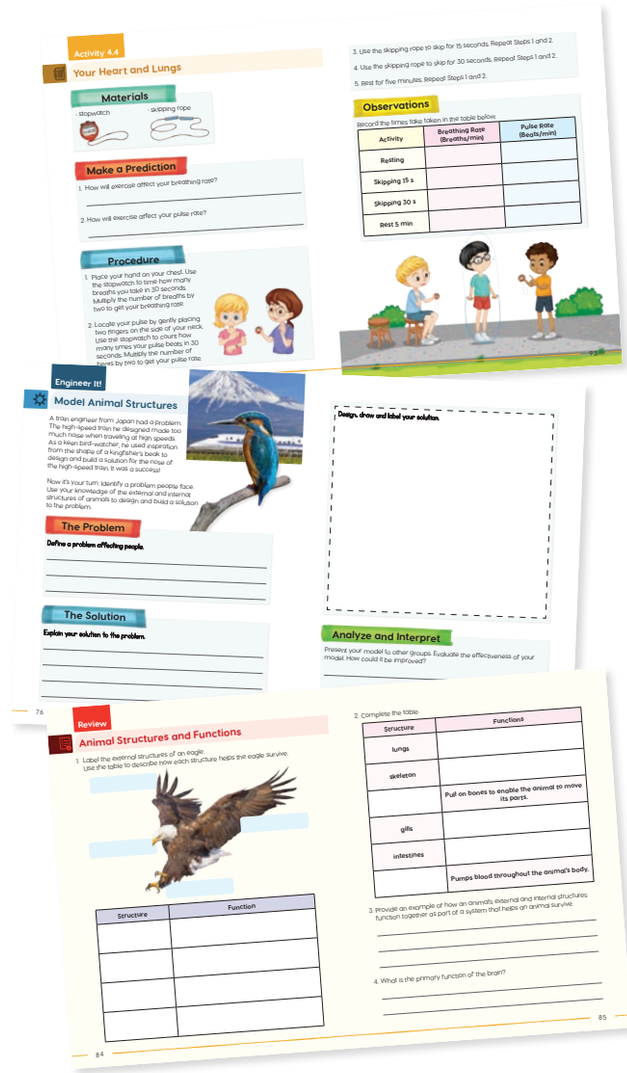
Activities and investigations related to concepts and topics covered in the Let's Do Science Textbook.

**Engineer It!**

Goes beyond inquiry by encouraging students to design, model and build to engineer solutions to defined problems.

**Review**

Topical questions at the end of each chapter for formative assessment.



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Activity 1.1

# Organisms in the Schoolyard

## Materials

- hand lens
- camera

## Procedure

1. In small groups, go into your schoolyard and choose a place where you are likely to find organisms.

2. Look for organisms around you. Use the hand lens to observe the smaller organisms you spot. For each organism, discuss its characteristics and needs that let you know it is a living thing.

3. Take a photograph or draw three living things.

4. In the classroom, print and paste the photographs of the living things you spotted. Explain how you know they are living things.

# Observations

Record your observations in the spaces below

Organism: _____

How you know it's an organism:

_____

_____

_____

Needs of the organism:

_____

_____

Organism: _____

How you know it's an organism:

_____

_____

_____

Needs of the organism:

_____

_____

Organism: _____

How you know it's an organism:

_____

_____

_____

Needs of the organism:

_____

_____

## Analyze and Interpret

Ethan spotted a plant in his schoolyard. It has dried, withered leaves. He thinks it may no longer be alive. What could he do to find out?

_____

_____

_____

_____

_____

Activity 1.2

# Characteristics of Life – Comprehension

Use your textbook to help you fill in the blanks.

1. A living thing is called an _____ . We can tell if something is a living thing by looking at its needs and _____ .

2. Animals need _____ , food, _____ and a place to live. They also need the gas _____ .

3. Plants are organisms that make their own food through a process called _____ . To do this, they need _____ and a gas called _____ .

4. All organisms _____ as they get older. When they do, they usually get taller and _____ . As organisms get older, they look more like their _____ .

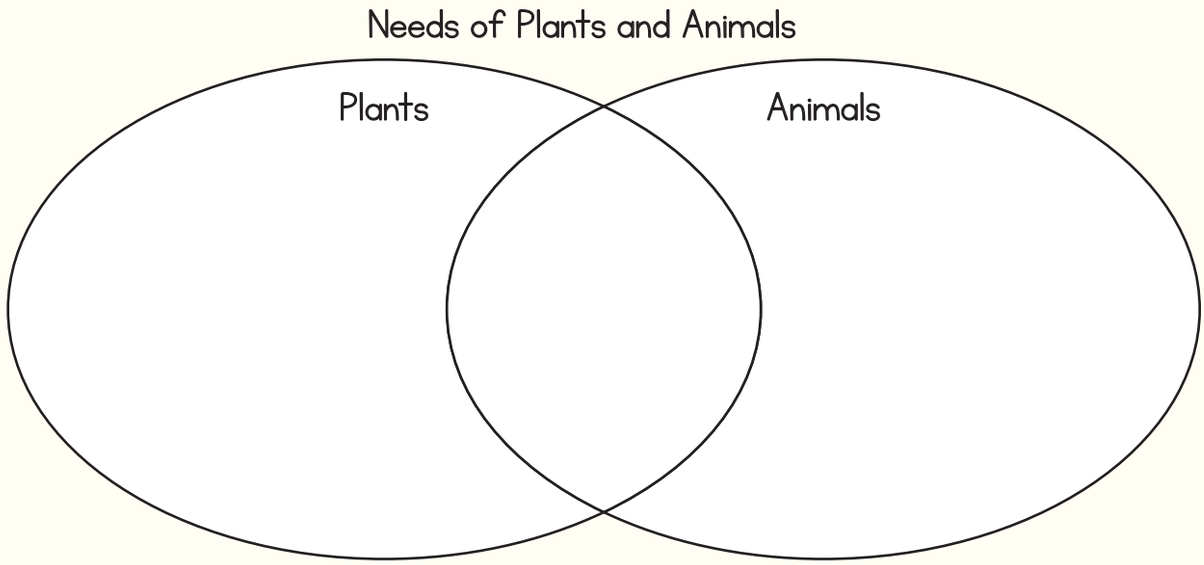
5. All organisms can _____ . This means they are able to produce _____ of the same kind.

6. Organisms also _____ to changes around them.

Review

# Classification of Organisms

1. Use the Venn diagram to compare the needs of plants and animals.




2. Circle. Which is true about all organisms?

   (a) They move from place to place.

   (b) They are made of more than one cell.

   (c) They photosynthesize.

   (d) They reproduce.

3. What are unicellular organisms?

   _____

   _____

4. List three unicellular organisms.

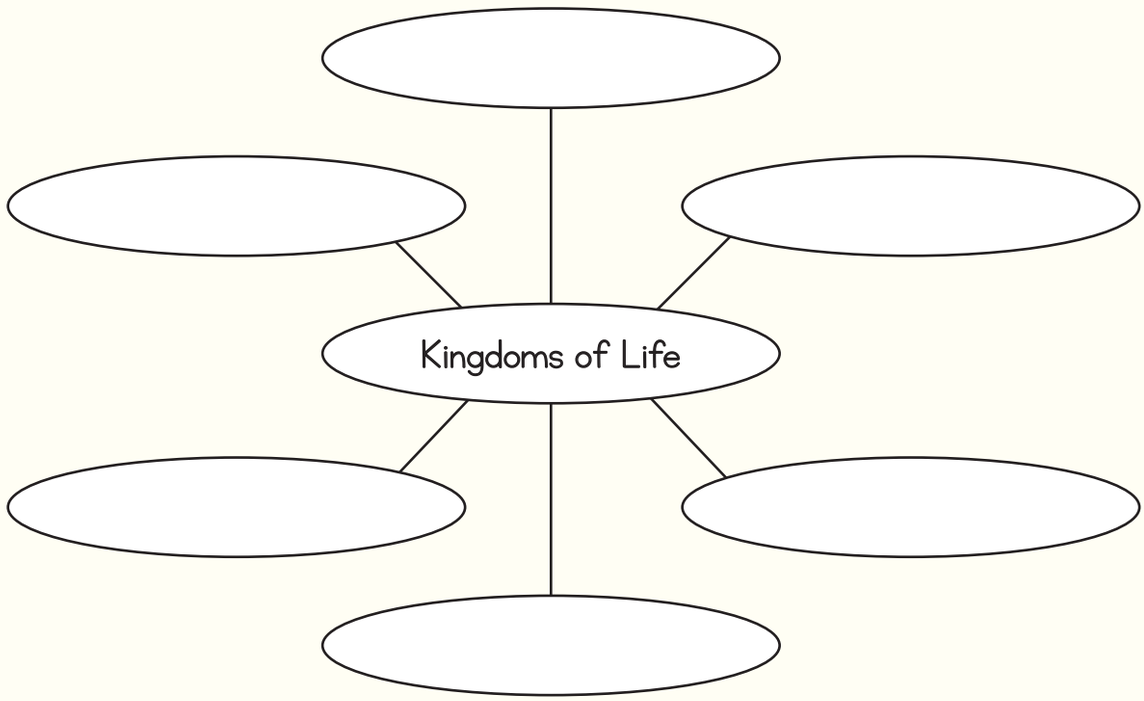
   _____ _____ _____

5. Why do many multicellular organisms have different types of cells?

_____

_____

6. Complete the diagram.




7. List one way fungi can be helpful to people.

_____

8. How can fungi be harmful to people?

_____

9. What is the main difference between vertebrates and invertebrates?

_____

_____

Activity 3.1

# External Structures for Movement

1. Label the external structures for movement.
   Describe how the structures help the animal to survive.

(a)

(b)

(c)

(d)

2. Describe how external structures for movement help animals to reproduce.

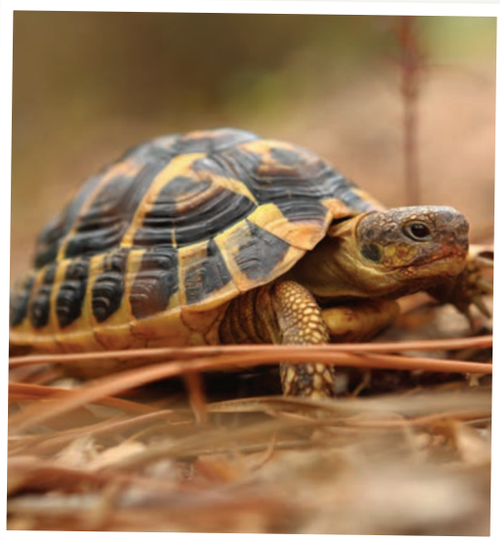
Activity 3.2

# Animal Body Coverings

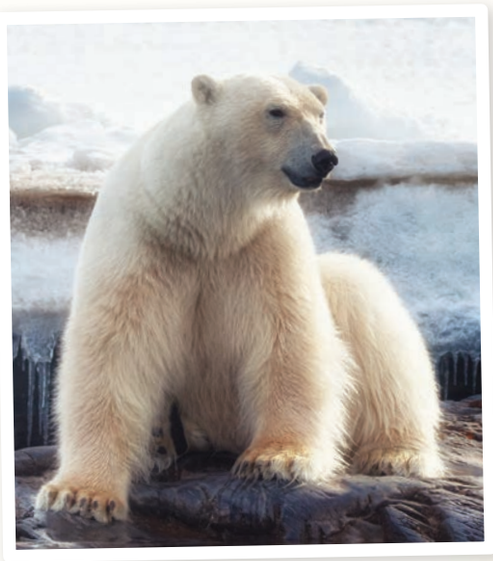
1. List the body coverings. Describe how the body covering helps the animal survive.

(a)

(b)



(c)



(d)

2. How can an animal's body covering help it survive?

# Design and Build an Exoskeleton

Many invertebrate animals have a hard outer covering called an exoskeleton. The exoskeleton provides their soft bodies with support. It also helps to protect them against predators. Now it's your turn to use the concept of an exoskeleton to design and build a solution to a human problem. Define the human problem and demonstrate how your design provides a solution.

## The Problem

Define the problem.

## The Solution

Explain how your design provides a solution to the problem.

Design, draw and label your solution.

## Analyze and Interpret

Present your model to other groups. Evaluate the effectiveness of your model. How could it be improved?

Review

# Animal Structures and Functions

1. Label the external structures of an eagle.
   Use the table to describe how each structure helps the eagle survive.

| Structure | Function |
|---|---|
| | |
| | |
| | |
| | |

2. Complete the table.

| Structure | Functions |
|---|---|
| **lungs** | |
| **skeleton** | |
| | **Pull on bones to enable the animal to move its parts.** |
| **gills** | |
| **intestines** | |
| | **Pumps blood throughout the animal's body.** |

3. Provide an example of how an animal's external and internal structures function together as part of a system that helps an animal survive.

4. What is the primary function of the brain?

Activity 5.1

# Our Local Ecosystems

Visit two different ecosystems in your area. Record your observations below.

Ecosystem name: _____

Location: _____

Description:

_____

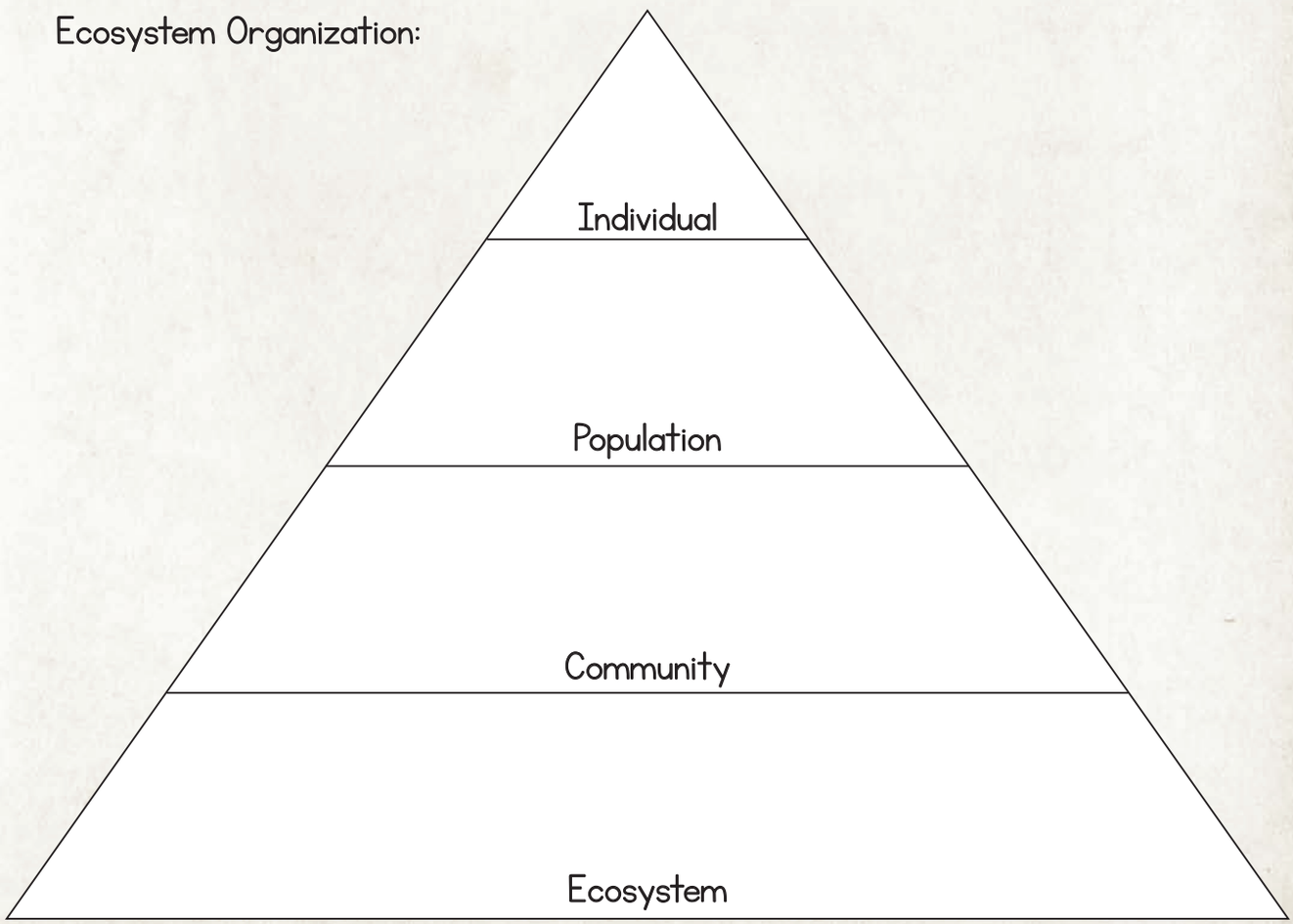
_____

_____

Drawing or photograph:

| Living Things | Non-living Things |
| --- | --- |
| | |

Ecosystem Organization:



Ecosystem name: _____

Location: _____

Description:

_____

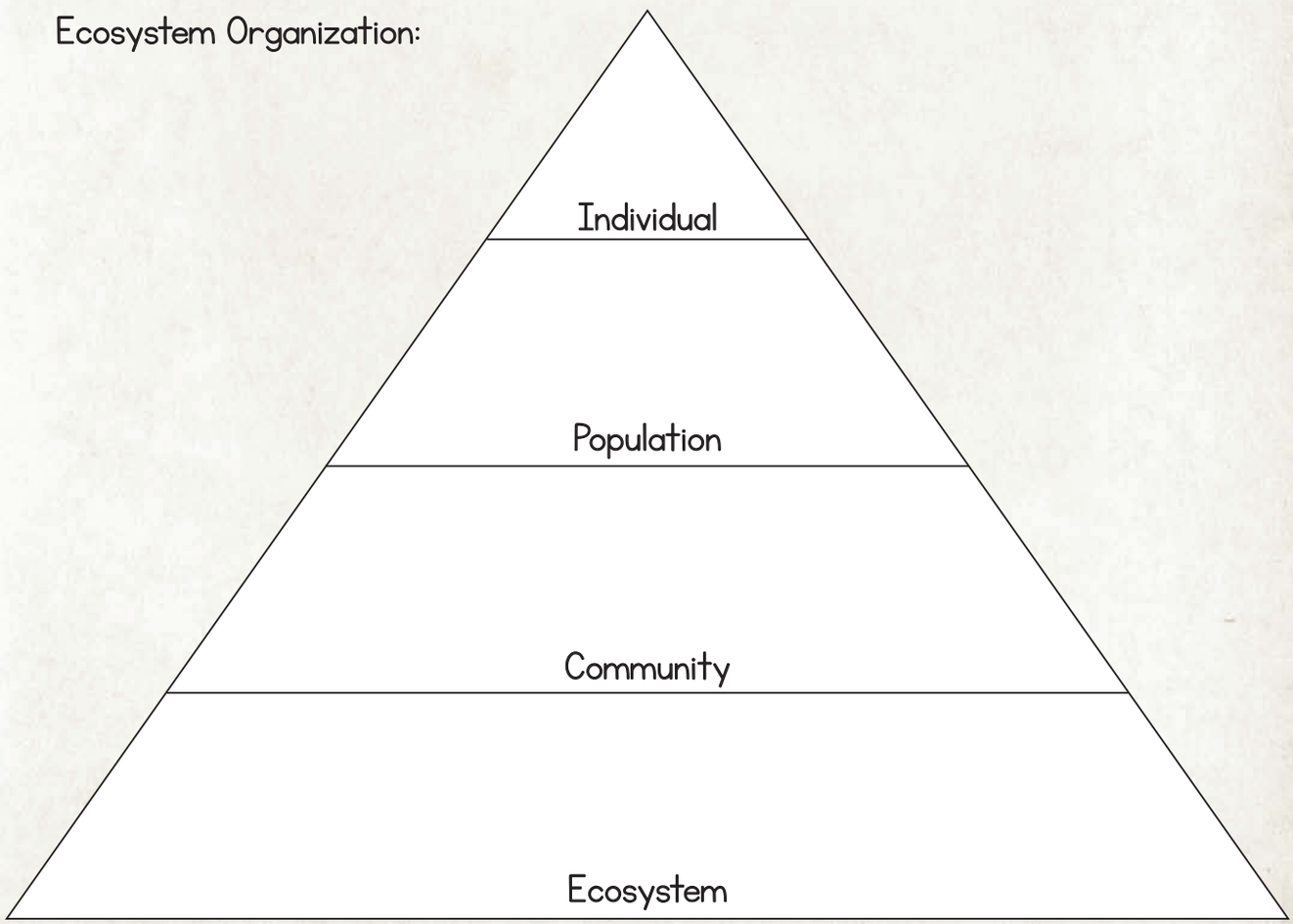
_____

_____

Drawing or photograph:

| Living Things | Non-living Things |
| --- | --- |
| | |

Ecosystem Organization:



Activity 5.2

# Ecosystems and Habitats

Fill in the blanks for each ecosystem.

## Tropical Rainforest

Characteristics of the ecosystem

_____

_____

Example organism: _____

Describe the organism's habitat within the ecosystem.

_____

_____

## Desert

Characteristics of the ecosystem

_____

_____

Example organism: _____

Describe the organism's habitat within the ecosystem.

_____

_____

## Coral Reef

Characteristics of the ecosystem

_____

_____

Example organism: _____

Describe the organism's habitat within the ecosystem.

_____

_____

## Wetland

Characteristics of the ecosystem

_____

_____

Example organism: _____

Describe the organism's habitat within the ecosystem.

_____

_____

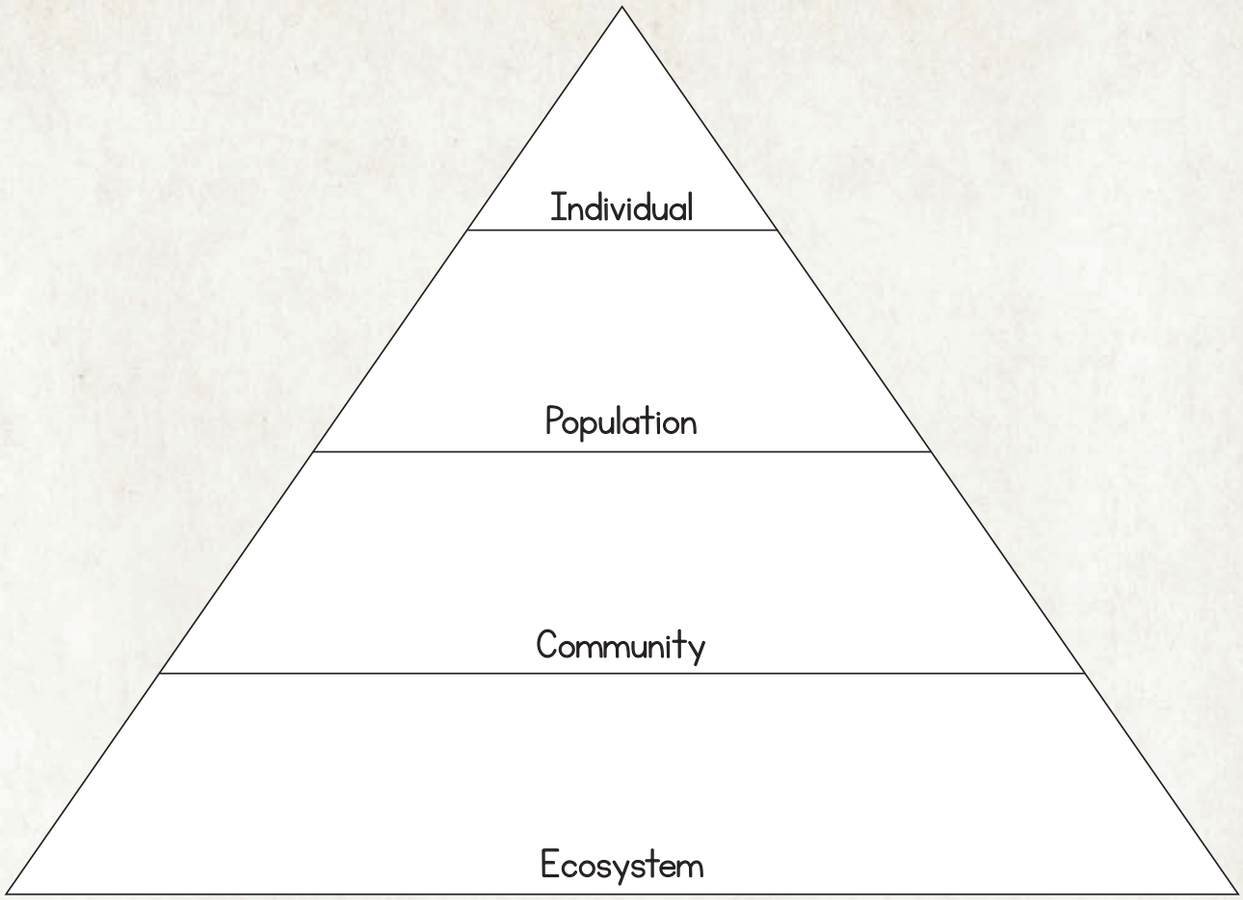
Activity 5.3

# Wetland Ecosystems

Use your textbook and conduct your own research to describe wetland ecosystems and the interactions that take place within them.

Description:

| Living Things | Non-living Things |
| --- | --- |
| | |




Ecosystem interactions:

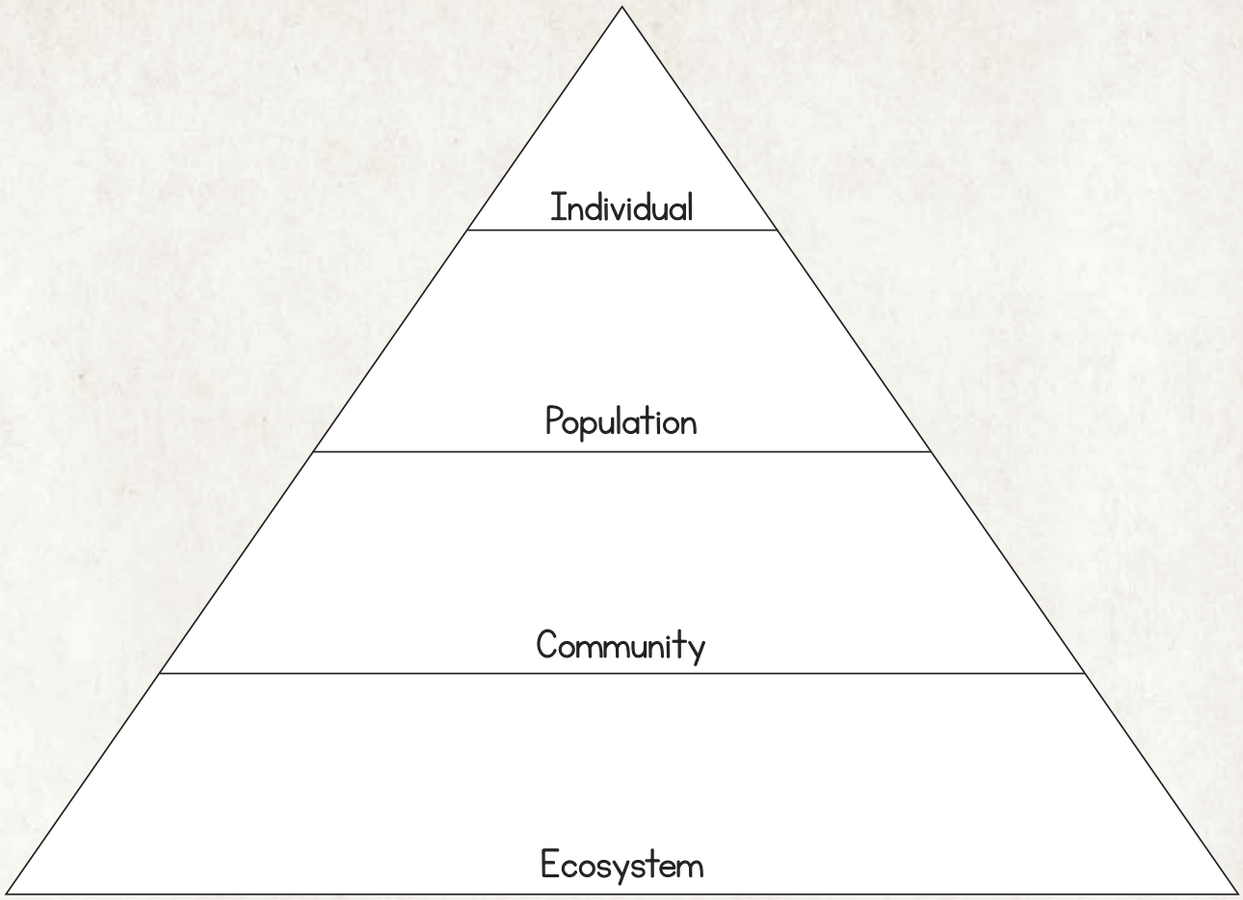
Activity 5.4

# Tropical Rainforest Ecosystems

Use your textbook and conduct your own research to describe tropical rainforest ecosystems and the interactions that take place within them.

Description:

| Living Things | Non-living Things |
| --- | --- |
| | |




Ecosystem interactions: