



# Exploring 4-H at Home



Sustainable Agriculture  
and Food Security

**Pillar: Sustainable Agriculture and Food Security**

**Activity: Mini Ecosystems**

# Ecosystems

Ecosystems can be very large or quite small, but every part has an important job. Every living thing and non-living thing must work together to stay healthy. Here are some of the major parts:

## Non-Living Things

### Atmosphere

This contains many gasses, like oxygen and carbon dioxide, which allow plants and animals to breathe. Clouds may also form as water evaporates into the air.

### Sun

The sun is the source of energy in an ecosystem. Plants use the sun's energy to make food in photosynthesis, and then animals can eat the plants to gain that energy. Heat from the sun can also provide warmth.

### Water

Water is important to all living things. It would be pretty hard to survive in an ecosystem without water!

### Soil

The soil contains nutrients for plants to grow and can also provide shelter.

## Living Things

### Plants

As we said before, plants make energy available to the ecosystem through photosynthesis. This makes them **autotrophs** – they make their own food!

### Herbivores

These animals eat only plants and are often prey to larger animals.

### Predators

These animals could be **carnivores** (they only eat meat) or **omnivores** (they eat both plants and meat). You and I are omnivores!

### Insects

Insects are very important to an ecosystem as well! Some help plants pollinate, others help with breaking down dead material and some are prey for larger animals.

## **Activity**

### **Materials**

- Natural materials (dirt, rocks, sticks, leaves, plants)
- Small container

### **Instructions**

In this activity, you will create a mini ecosystem for animals to live in. Think about what needs to be present. How will creatures get water? How much sun is there? Where will they live? Will plants have a lot or very little soil? What kind of soil? What other features would you add to make your mini ecosystem as realistic as possible?

**Don't forget to post a picture of your creation on the 4-H Saskatchewan Exploring 4-H At Home Page and use #exploring4hathome**