



# Science Log – 3<sup>rd</sup>

## Learning Goal:

1. Create a model ecosystem containing the living and nonliving components in different types of terrestrial and aquatic ecosystems.

### Topic: Ecosystems

<b>K</b> What do you already <b>know</b> about the topic?	<b>W</b> What do you <b>want to know</b> about the topic?	<b>L</b> What did you <b>learn</b> about the topic?

## Vocabulary

Living	All organisms of the same species that live in the same place at the same time.
Nonliving	Sunlight, water, nutrients, soil, and air.
Ecosystem	An environment that supports a diversity of organisms that interact with each other and their nonliving things.
Terrestrial Ecosystem	Dry-land ecosystems including deserts, grasslands, rain forests, and forest.
Aquatic Ecosystem	Water-related ecosystems that include those with freshwater or saltwater. Examples include ponds, marshes, swamps, streams, rivers, and oceans.
Producers	Organisms that make their own food and make up the first level of every food chain.
Consumers	Organisms that eat other living things.
Decomposers	Organisms that eat decaying matter (like dead plants and animals). They help to put nutrients back into the soil for plants to eat.
Food Chain	Shows a feeding relationship among organisms in a specific area or environment that illustrates the flow of energy in the ecosystem. The arrows point to the organism doing the eating (receiving the energy).



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## Ecosystem Triorama

**Supplies:** Scissors, glue/glue stick, construction paper, printer paper, crayons/colored pencils, pencil

**Directions:**

1. Choose an ecosystem that you would like to build a model for and read the detailed information about the organisms that are found in the ecosystem in the chart below.

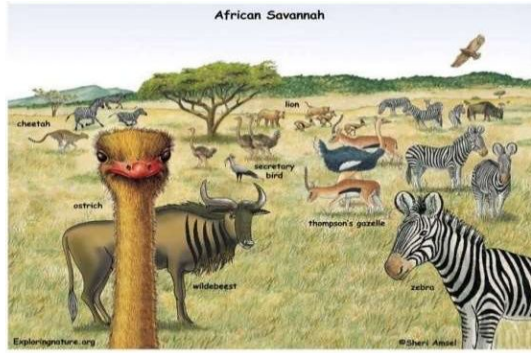


**DESERT:** Deserts are the driest places on Earth—they get fewer than 10 inches of rain a year. Only certain types of plants can survive the harsh environment of the desert. These include cactus, grasses, shrubs, and some short trees. Animals that live in deserts include lizards, geckos, toads, jackrabbits, camels, snakes, spiders and meerkats.



**RAINFOREST:** The rainforest gets more than 200 inches of rain a year. The rainforest can be divided up into three layers: the canopy, the understory, and the forest floor. Different animals and plants live in each different layer. The canopy is the top layer of trees. These trees are usually at least 100 feet tall. Thick, woody vines that grow up the trees. The understory has plants that are about 30 to 50 feet tall with very large leaves in order to collect as much light as possible. The flowers that grow here are brightly colored and have strong scents. The shrub layer is very dense with shrubs, ferns and other plants that need less light to grow here. The ground layer is the forest floor, which does not have any sunlight, so the vegetation is mostly fungi like mushrooms. Rainforests are populated with insects (like butterflies and beetles), arachnids (like spiders and ticks), worms, reptiles (like snakes and lizards), amphibians (like frogs and toads), birds (like parrots and toucans) and mammals (like sloths and jaguars).

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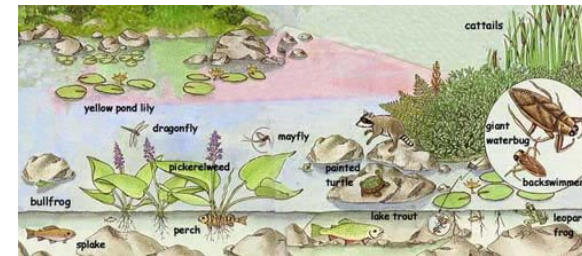
**GRASSLANDS:** Places that receive more rain than deserts but less precipitation than forests. Most of the plants here are grasses, which don't need as much water as forest vegetation. African grasslands are home to animals such as zebras, gazelles, wildebeests, cheetahs, lions, and leopards. In North America, deer, antelope, rabbits, buffalo (also called bison) and prairie dogs roam the grassland.



**DECIDUOUS FOREST:** A forest piece of land with many trees, plants, and animals. In the winter, snow covers the ground and the deciduous trees and plants lose their leaves. The decaying leaves help make the soil rich in nutrients. Many insects, spiders, snails, and worms make their homes in this rich soil. Wild flowers and ferns grow almost everywhere in the spring. New leaves capture the energy of the sun and sprout before the tall trees shadow them. Animals that we may see or hear include bears, deer, raccoons, otters, beavers, foxes, frogs, squirrels, snakes, salamanders, and birds such as woodpeckers, robins, owls, and blue jays.



**MARSH:** A type of wetland with grasses, rushes, reeds, sedges, and other herbaceous plants (possibly with low-growing woody plants) in shallow water. Crabs, snails, turtles, and many kinds of fish and birds are some of the animals that live in marshes.



**POND:** A body of fresh water surrounded by land. Ponds support a very wide range of wildlife: ducks, turtles, swans, beaver small fish, tadpoles and frogs can live in a pond. Usually, in most ponds, sunlight can reach to the bottom to help plants grow. Plants such as great willowherb and meadowsweet grow on the bankside. Water-lilies and crowfoot plant roots are buried in the mud at the bottom of the pond and their leaves float on the surface.



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2. Use 1 piece of printer paper to create a triangular display nook OR triorama by following the directions below:
  - Place your sheet of paper flat on the table so that the shorter ends are on the top and bottom of the paper.
  - Fold the bottom right-hand corner up so that the bottom edge of the paper is now even with the left edge of the paper. Cut off the extra rectangular piece at the top so that you now have a folded triangle.
  - Now fold that triangle in half
  - Unfold the piece of paper so that it is a square. Then cut along one of the folds, STOPPING AT THE CENTER point of the square.
  - Overlap the two free moving triangles and secure them together with glue.
  - The finished product is a triorama. This will be the background and ground for the model ecosystem you are creating
3. Glue down construction paper on the background and ground of the triorama's interior flat surface. You may choose to use crayons/colored pencils to add additional illustrations to the background or ground.
4. Use the construction paper to create and cut out the shapes of the living and nonliving organisms you would like to include your ecosystem. Be sure to cut out a small additional tab at the bottom of the shape to use as the surface to glue the shape so that it can be free standing.

### Triorama Examples

