

Focus on: Ecosystems

This lesson is meant to support the unit on Structures & Functions of Living Organisms. It can be done to generate background knowledge prior to teaching the unit, during the unit to reinforce lessons, or as a follow up to the unit to increase the retention of information. How you guide your students will depend on the information you have already taught and the information you want to introduce. Please remember that many gardens run on a yearly cycle and it will be easier to find more components of that ecosystem when it is at its peak season. You can, of course, utilize the garden at different times of the year, but the components of the ecosystem will be most evident during the peak growing season.

Clarifying Objectives:

5.L.2.1 Compare the characteristics of several common ecosystems, including estuaries and salt marshes, oceans, lakes and ponds, forests, and grasslands.

5.L.2.2 Classify the organisms within an ecosystem according to the function they serve: producers, consumers, or decomposers (biotic factors)

Focus Question(s):

What makes our school garden an ecosystem?

Key Vocabulary:


Definitions can be found at <http://learnersdictionary.com>

- Compare
- Characteristics
- Biotic Factor
- Organism
- Ecosystem
- Function
- Producers
- Consumers
- Decomposers
- Infer
- Interconnected Relationship

Materials:

School Garden
Science Notebook
Photographic technology (iPad, camera, etc)

Activities:

1. Review/Introduce the definition of an **ecosystem**: An interconnected community of organisms interacting with and depending on one another and the physical environment
2. Introduce the school garden as an ecosystem - Though it may be relatively small, a garden is a complete ecosystem in and of itself. It has the same components as larger, more elaborate ecosystems, and requires the same elements to survive.
3. Challenge the students to visit the garden to find evidence that the garden is, in fact, an ecosystem.
(If you have already taught the ecosystem unit, you will be looking for students to use vocabulary such as producers, consumers, decomposers. If you are using this as a background building lesson, students may just find examples of organisms that are dependent upon each other. You can introduce the vocabulary as they find the organisms.)
4. Have students explore the garden. As they explore, have them record organisms they find. They can sketch them in their journal, label them and record what they know about the organism in relation to it living in the garden.
(Ex.  Ladybug – It was on a plant. I think it eats other bugs. It is a consumer. It is a carnivore. OR Tomato Plant – It is a producer and provides food for animals in the garden. It needs soil and sun to grow. A caterpillar was eating it.)
5. Optional: Have students photograph animals or plants they don't know much about and have them research them later. (Some school gardens have signs, books, or websites available that help with this task. Websites such as <http://bugguide.net/> can help as well. You can also do a Google image search by describing the animal and typing North Carolina. Often an image of your creature will appear and you can click on the website for the image to find out more information.)
6. Discuss: What makes a school garden an ecosystem? Did you find evidence that the garden is a community of organisms that interact and depend on one another and their physical environment? What organisms? Have students share notes and categorize their findings.
7. If needed, invite someone who is knowledgeable about gardens to help with your discussion or to answer questions about your students' findings.

Guiding Questions:

- What organisms can you find?
- What does that organism need to survive?
- Why is that organism in the garden?
- Is that organism dependent on another organism to survive?
- Is the organism beneficial to the garden or is it a garden pest? Why?