

## Focus on: Producers

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.1.1 Explain why some organisms are capable of surviving as a single cell while others require many cells that are specialized to survive.

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

5.L.2.3 Infer the effects that may result from the interconnected relationship of plants and animals to their ecosystem

### Key Vocabulary:

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

- Organism
- cell
- Require
- Specialized
- Survive
- Ecosystem
- Function
- Producer
- Consumer
- Decomposer
- Biotic Factor
- Infer
- Interconnected Relationship
- Effects

### Focus Question(s):

Could too many producers be a bad thing in a garden ecosystem?

### Materials:

School Garden

**Activities:**

1. Review/Introduce the definition of a **producer**: Any organism that makes its own food from the sun's light using photosynthesis.
2. Take students to the garden and have them find examples of producers.
3. Present the Focus Question: Could too many producers be a bad thing in a garden ecosystem?
4. Use the “Guiding Questions” to the right as students explore. Discuss to find an answer to the Focus Question.
5. Be a friend to the garden! While visiting, pick a few weeds to prevent them from interfering with the growth of the producers that are meant to be there.

**Guiding Questions:**

- What is a producer?
- What purpose do producers have in a garden ecosystem?
- Are all of the producers that exist in this garden supposed to be in this garden?
- What is an example of a producer that is not wanted in a garden? (weed)
- What if weeds took over the garden?
- What impact would that have on the plants that are supposed to be here? (Weeds compete with plants that are supposed to be in the garden. They “steal” water and nutrients from the soil that plants need to survive. If they grow tall enough, they “steal” the solar radiation that the other plants need for photosynthesis.)
- What impact would that have on the animals that depend on those plants?
- Is there a situation where weeds may be helpful to a garden ecosystem? - Yes! Contrary to popular belief, a garden with clover and dandelions (prior to or after the growing season) is not just a good thing—it’s a great thing! It would be a haven for honeybees (and other native pollinators too). Wildflowers, many of which we might classify as weeds, are some of the most important food sources for native North American bees. If they are not harming your primary producers, let them bloom before you remove them from the garden.