



Grace Lazzarini

Lesson Plan: Garden Systems (Grades K-1)

Teacher: Grace Lazzarini, Sequoyah School, Pasadena, Calif.

Context & Background

What comes before?

If the situation allows, teachers may consider taking students out on a neighborhood walk focusing on the gardens (what they see, notice, and question) before starting.

What comes after?

Students will make connections between the garden system and other components that make the garden system work and thrive. Students may be inspired to start a classroom garden, take what they have learned to teach the rest of the school community, or use the garden system to dive deeper into another topic of their choice (guided by the teachers).

What prior knowledge can students tap?

Students come into school having seen gardens, either where they live, in their neighborhood community, or school community. Students have seen flowers, have a basic understanding of plants and what they need, and perhaps of the critters that live in gardens as well

Standards & Goals

Related Next Generation Science Standards

- ***K-LS1-1***: Use observations to describe patterns of what plants and animals (including humans) need to survive.
- ***K-ESS3-1***: Use a model to represent the relationship between the needs of different plants or animals (including humans) and the places they live.

Related Common Core State Standards

- ***ELA: RI3***: Describe the connection between two individuals, events, or pieces of information in a text.
- ***ELA: W2***: 2. Write informative/explanatory texts to examine a topic and convey ideas and information clearly.
- ***ELA: SL1***: Participate in collaborative conversations with diverse partners about grade 1 topics and texts with peers and adults in small and larger groups.

United Nations Sustainable Development Goals



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- **Goal #15:** Life on Land
- **Goal #14:** Life below Water

Systems Principles

- Systems are connected
- Systems need energy
- Systems have cycles
- Systems adapt and change

Materials & Resources

Learning resource: [Up in the Garden, Down in the Dirt](#) by Kate Messner

Instruction

1. **Preliminary Work (done previously):**
 - Take a neighborhood/community walk focusing on nature and garden, document what students notice after the walking field trip, and go from there.
 - Prepare **guiding questions** about gardens that are aligned with standards being covered. Consider the following:
 - What are some other systems that help make the Garden System work?
 - How might the Garden System look like in different places, countries /cities/neighborhoods? (Teachers may even choose to do a study on different types of gardens)
 - What would happen if the ___ System was unbalanced or broken? Would the Garden System still work?
 - Do all parts of the Garden System need sun, water, air?
 - Are there living and non-living systems?
 - Where are the invisible systems in the garden (i.e., the systems we cannot see but which are still there)?
2. **Read** [Up in the Garden, Down in the Dirt](#) by Kate Messner.
3. **Map:** In the same day or a few days after reading the book, gather the students to map out the Garden System, using the story as an anchor for discussion.
**Click [HERE](#) for Grace's learning module on systems mapping for teachers*



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4. **Ask and Discuss** the prepared guiding questions (above) and be open to following the discussion where students may take it. Teachers should play a role as a co-learner in this process, as students may not always have the answers right away.
5. **Connect:** After creating the Garden Systems map, teachers can use it to highlight Systems Principles and the relevant UN Sustainable Development Goals, as well as plan future lessons around the Garden System.

For example: A related/connected idea that can arise from the Garden System is the Compost System. Teachers may take an opportunity to dive deeper into the Compost System by reading books about natural decomposers (i.e. worms) and then starting a classroom compost. See **Unit Lesson: Worms** for additional ideas.

So What?

The Garden System serves as a useful example to highlight most of the Systems Principles. Understanding System Principles will set the tone for the school year, and applying System Principles to everything students are learning.

Assessments

Teachers should consider the course of their assessments before conducting this lesson by asking the question: “What do students need to know at the end of your lesson?”

- **Formative Assessment** example: Briefly document what each student shares about the Garden System during the whole-class discussion to see what they already know.
- **Summative Assessment** example: Ask each student to write or dictate how the Garden System helps us and what we can do to help the Garden System.

Measure of success: Students should be able to identify at least one component of the Garden System, as well as how it is connected to another part of the same or a different system.

Applications

The class can consider starting their own garden or worm compost container (if space is available). Students can also study food waste at school or home, as well as write “All About” books to share their knowledge with others.



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Also, as students grow as systems thinkers, teachers may see students take on their own learning by diving deeper into a topic of interest. Some students may need time to get there as well as more guidance and support, other students will take this on independently.