



Plant Needs & Care

Connected Next Generation

Science Standard

K-LS1-1 Use observations to describe patterns of what plants and animals need to survive.

2-LS2-1. Plan and conduct an investigation to determine if plants need sunlight and water to grow

Featured Science and Engineering Practice

Constructing explanations and designing solutions

Featured Cross-Cutting Concept

Cause and effect

Depending on how you set up classroom expectations, it might be helpful to have garden rules posted by the garden or create a garden classroom agreement that students sign.

Rule of 5 - Students can pick a leaf or fruit from a plant only if it has more than 5 leaves or fruits. Set your own number as needed.

Overview

This lesson is intended as an introduction to the school garden. Students will begin to understand how to interact with and care for garden plants based on plant needs. Use this lesson to build student familiarity in the garden. Other lessons will further investigate plant parts and how they keep plants alive.

Students will

- Design garden behavior expectations.
- Describe plant needs - sun, soil, water, and air
- Plant seeds or seedlings.

Teacher Preparation

- Clear and loosen soil in a garden to plant with students. If you don't have raised beds, you can plant in pots or hay bundles.
- Check the seed packet or Gateway Greening planting calendar to decide if it is an appropriate time to plant your seeds.
- Write Be Nice to People, Plants, and Animals on a small whiteboard.

Guiding Question - What do plants need to survive?

Explore

- Either in the classroom or on the way out to the garden, introduce the idea that they are going to be visiting the garden as a part of class. It is an outdoor classroom. *What are some classroom expectations we should follow when we are outside?* Collect student responses, add classroom rules as needed, and write down the most important rules under **Be Nice to People**.
- The garden is a special classroom since there are many things outside that we won't find in the classroom. *What do you think we will see in the school garden?* Popcorn a few students' responses.
- *How should we treat the plants we find?* Write down a few responses under **Be Nice to Plants**. Add walk around the garden beds, ask before picking, or the Rule of 5 if not mentioned.



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Materials

- Teacher – small whiteboard, chalkboard, or poster-board
- Garden notebooks or worksheets and clipboards
- Pencil
- Seeds or seedlings
- Hose, watering cans, or cups
- Optional: hand trowels, ruler, and magnifying glasses, garden scavenger hunt

Setting

- School garden or green schoolyard
- Spring or early fall

Bee fingers – when students see a bee, they stand very still and calm but wiggle their fingers. (Finger wiggling distracts students without bothering the bees.) Most garden bees will not bother students, but be aware of students with bee allergies.

"A garden requires patient labor and attention. Plants do not grow merely to satisfy ambitions or to fulfill good intentions. They thrive because someone expended effort on them." – Liberty Bailey

- Ask, *how should we treat the animals in the garden?* Add student ideas under **Be Nice to Animals**. Encourage but don't require students to gently touch or pick up animals like worms. If possible, demonstrate how to hold a worm during the garden exploration. Mention how students should act around bees or wasps. Gateway Greening likes using **bee fingers**.
- Once students understand how to safely and kindly visit the garden, tell students they now get to explore the garden and find the most interesting plant they can. You can also use an online garden scavenger hunt or a concept from class (colors, number, senses, etc.) to guide exploration.
- Pass out magnifying glasses, if available. Remind students how to use magnifying glasses and to return when you blow a whistle/ call the class back.
- Allow student to explore for 5-10 minutes. Point out interesting smells and textures to students. The goal should be for students to get comfortable exploring and looking closely at plants, not completing a worksheet.

Digging Deeper

- Bring the class back together and collect magnifying glasses. Do a whip-around (each student quickly says one word while going around the circle) of the most interesting plant they noticed.
- Tell students that even though the garden has many unique plants, they all need the same things to grow. *What do they think all plants need to grow?* Have students briefly pair-share and then collect student responses.
- Write down **sun, water, air, and soil**. (Soil is a simplification. In older grades, students will learn that plants need nutrients, not soil.)
- Go through each plant need and brainstorm where plants get it from.
- *How do people help plants get all the things they need to survive?*



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If planting seedlings instead of seeds, demonstrate how to plant the seedling so it is even with the surrounding soil. Space seedlings out the length of a hand tool.

Recommended tool rules

- Walk with pointy side down
- Keep the tool below your waist
- Return tools where you find them
- Move soil to the side, don't fling.

Gateway Greening

Resources

Connect with us on Facebook or Eventbrite to discover upcoming Educator Workshops.



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Discover season-specific gardening how-to's and examples of current lessons:



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Looking for Field Trip opportunities or need to ask a question about our education services? Contact education@gatewaygreening.org or 314-588-9600 ext 106

Making Connections

- Tell students we are now to plant seeds but need to think about the plant's needs as we do so. Seed packets have directions on the back to tell us how much water, sun, and space they need.
- To plant seeds we will gently put a seed on top of the soil and push it in. Each seeds need to be pushed to a certain depth or it will not survive. Students can either use rulers or their finger to figure out the correct depth. From fingertip to first knuckle is usually about an inch and a good distance to push in many seeds.
- The seeds will also need space to grow. Plant seeds a finger length or handspan away from each other, depending on plant spacing needs.
- Give each student a small handful of seeds and show where to plant. While planting, point out that the garden bed is in a sunny spot, has soil, and we are giving the plants space to grow.
- What do the seeds still need to grow? If possible, allow students to water the seeds with water cans, hoses, or cups. Seeds need a gentle showering, so use a fine-mist hose setting or poke small holes in the bottom of recycled cups and yogurt containers.
- Inside the classroom, make a list of what students are still curious about in the garden and want to learn more about.