

Photo Description



This backyard garden has many colorful flowers and green plants. There are orange and purple flowers growing near rocks and water. The plants are different sizes and grow in different places in the yard.

Scientific Phenomena

The Anchoring Phenomenon is plant growth and survival in a designed garden ecosystem. Plants are thriving because they are receiving the basic needs for life: sunlight, water, air, and nutrients from soil. Different plants grow at different heights and locations because they have adapted to use resources efficiently. The garden demonstrates how living things interact with their environment and how humans can create habitats that support plant life.

Core Science Concepts

1. Living vs. Non-living: The garden contains living things (plants, flowers) and non-living things (rocks, water, soil) that work together.
2. Plant Needs: All plants need sunlight, water, air, and nutrients from soil to grow and stay healthy.
3. Plant Parts: Plants have different parts (roots, stems, leaves, flowers) that help them survive and grow.
4. Habitats: Gardens are human-made habitats where plants can find everything they need to live.

Pedagogical Tip:

Use the "See-Think-Wonder" thinking routine with this image. Have students first observe what they see, then share what they think is happening, and finally ask questions about what they wonder about the garden.

UDL Suggestions:

Provide multiple ways for students to share observations by offering drawing, verbal sharing, or acting out what they notice. Consider bringing in real flowers, leaves, and seeds for tactile exploration alongside the visual image.

Zoom In / Zoom Out

1. Zoom In: Inside each plant, tiny tubes carry water from the roots up to the leaves and flowers, like drinking through a straw. The roots underground spread out to find water and food in the soil.
2. Zoom Out: This garden is part of a larger neighborhood ecosystem where birds, bees, and butterflies visit to find food and help plants make seeds. The garden connects to other yards and parks in the community.

Discussion Questions

1. What do you notice about where different plants are growing in this garden? (Bloom's: Analyze | DOK: 2)
2. How do you think these plants get everything they need to stay alive? (Bloom's: Apply | DOK: 2)
3. What would happen if these plants didn't get water for a long time? (Bloom's: Evaluate | DOK: 3)
4. Which plant in this garden would you like to learn more about and why? (Bloom's: Evaluate | DOK: 2)

Potential Student Misconceptions

1. Misconception: Plants eat soil for food.
Clarification: Plants make their own food using sunlight, air, and water. They get nutrients from soil, but soil is not their food.
2. Misconception: All plants need the same amount of water and sun.
Clarification: Different plants have different needs - some like lots of sun while others prefer shade, and some need more water than others.
3. Misconception: Plants don't need air.
Clarification: Plants need air just like animals do, and they also help clean the air for us.

NGSS Connections

- Performance Expectation: K-LS1-1 Use observations to describe patterns of what plants and animals (including humans) need to survive.
- Disciplinary Core Ideas: K-LS1.C Organization for Matter and Energy Flow in Organisms
- Crosscutting Concepts: Patterns

Science Vocabulary

- * Habitat: A place where living things find everything they need to survive.
- * Nutrients: Special things in soil that help plants grow strong and healthy.
- * Roots: The parts of plants that grow underground and take in water.
- * Sunlight: Light from the sun that plants need to make their own food.
- * Garden: A place where people grow plants and flowers.

External Resources

Children's Books:

- The Tiny Seed by Eric Carle
- Planting a Rainbow by Lois Ehlert
- From Seed to Plant by Gail Gibbons

YouTube Videos:

- "What Do Plants Need to Grow? | Needs of Plants | Science for Kids" - Simple explanation of plant needs with colorful animations (<https://www.youtube.com/watch?v=YP7t6WVFhYE>)
- "Parts of a Plant | Educational Video for Kids" - Kid-friendly overview of plant parts and their functions (<https://www.youtube.com/watch?v=oxdELGWaGAc>)