



Essential Question(s): What do plants need to grow? How can we help plants grow?

Objective:	Materials/Resources	Essential Vocabulary
<p><u>LS2.A: Interdependent Relationships in Ecosystems</u></p> <p><u>Plants depend on water and light to grow. (2-LS2-1)</u></p> <p><u>Plants depend on animals for pollination or to move their seeds around. (2-LS2-2)</u></p>	<ul style="list-style-type: none"> • empty 2-liter soda bottle • small plants (ivy is a good choice) • small rocks or stones (aquarium rocks) • Soil³ • plastic Spoons, • AG IN THE BAG™ Classroom Kit • water • seeds • gallon-sized Ziploc bags • play sand • large shoe box • black sharpie markers • Plants Need graphic organizer Plant Needs Lab • Soda Bottle Terrarium 	<ul style="list-style-type: none"> • air • sunlight • water • space • soil • nutrients • terrarium
Learning Experience		
<p>Background Information:</p>	<p>Engage: Activating Strategy: Plant Needs</p> <ul style="list-style-type: none"> • Introduce the lesson singing the song The Needs of a Plant • Students complete the Plants Need graphic organizer. 	



Student Misconceptions:

- Some students may misclassify a mushroom as a plant because of the stem.
- Students may not consider trees to be plants because they tend to think of plants as things that grow in gardens. This can be the same for weeds.
- Students may think that sunlight is helpful but not necessary. This may be due to their lack of knowledge of sunlight's role in photosynthesis. Many young children think the role of sunlight is for warmth.
- Students may give plants human traits (eating, drinking, breathing).

Explore: Activities: Plant Needs Lab (This can be done as a whole group, small group, or individually)

- After studying what plants need to grow, students will conduct a seed growing experiment. Students will investigate how plants grow without one of the basic needs (sunlight, water, air, soil).
- This lab can take several days. You can speed the process by planting lima beans that have been soaked in water.
- Students complete hypothesis, needs matrix, and observation, Day 1 on the lab sheet.

Explain: Results: Observation Logs

- Over the next few weeks, students should complete the observation logs for the Grow a Plant Lab.
- After several weeks, students should complete the Conclusion and Further Studies section of the lab.
- Students transplant their “best” plant to the Soil³ growing pouch.

Elaborate: Extending: Soda Bottle Terrarium

- Introduce the students to the word terrarium (a self-contained garden that includes plants)
- Students will use the Soda Bottle Terrarium directions to build terrariums.

Evaluate: Summarizing Strategy: Fish Bowl Summarizer

- Give each student an index card. Each student writes a question about the lesson or unit topic. (NO NAME ADDED)
- Put all questions into a jar (fish owl).
- Students pair up and take two questions from the fish bowl.
- The student pairs discuss the question and write possible answers on the back of the card. (It can be left blank if they do not know.)
- Once completed, all index cards go back into the fish bowl.
- Pull out as many cards as time permits. Read the question and the answer.
- The students respond to the answer with a thumbs up or thumbs down.
- If the correct answer is not given, have the class decide on the correct answer.

Differentiation Strategies

Virtual Connections

[Plant Songs](#)

[Grow Your Own Plant From Seed to Fruit](#)

[Seed Survivor Games](#)

STEAM Opportunities

- Design and create a water sprinkler for your garden.
- Design and create a planter from recycled materials.

<p>Requires an account: Gizmos, Growing Plants</p> <p>Preschool: Get Growing</p>	
<p>Assessment(s) Options:</p>	
<p>Teacher Reflection: (Next steps?)</p>	
<p>Resources:</p> <p>https://www.youtube.com/watch?v=dUBIQ1fTRzI</p>	