

Lesson Three: Plant Life Cycle (50 min)

Driving Question: How do the land and weather in our state help plants grow?
Can we grow healthy food using just water and nutrients?

Vocabulary:

life cycle, seed, germination (sprout), microgreen, seedling, adult plant, flower, pollination, dispersal

Materials:

- Assembled Aquatree® Garden
- 5 varieties of Microgreen seeds (1 type per group)

Per group:

- Tablespoon (one per group)
- Ruler
- Paper cup
- Small amount of potting soil

Resources:

- **Aquatree® User Guide**
- **Seed to Salad Lab Book**

Background Knowledge:

The life cycle of a plant begins with a seed. Once the seed receives water and warmth, it sprouts, sending roots into the soil or water. Then a small shoot will begin growing up toward the sunlight. The seedling/microgreen grows larger as it absorbs nutrients, water, and energy from the sun through its leaves. As the plant matures, it develops flowers that are essential for reproduction. Pollination occurs when pollen from one flower reaches another, usually with the help of insects or wind. After pollination, the flower develops into a fruit containing new seeds. The seeds are dispersed by falling to the ground or carried by wind, water, or animals where they will germinate and begin the cycle again.

Plant the Seed (warm-up):

1. Explain to the students that today they will learn about the life cycle of a plant.
2. Have students take out their **Seed to Salad Lab Book**. Give each student a few minutes to go to the Aquatree® Garden and the seeds planted in soil. At each station, the students should record their measurements and observations in their Lab Book.
3. Take a few minutes for your students to share and discuss their observations.

Grow Time (lesson):

1. Review the driving question on the board: **How do the land and weather in our state help plants grow? Can we grow healthy food using just water and nutrients?**
2. Explain the plant life cycle: seed, germination (sprout), microgreen, seedling, adult plant, flower, pollination, dispersal.
3. Have students develop a skit representing the different stages of the plant life cycle. Give them 15 minutes to come up with their skit and then present to you.

Food for Thought (reflection/assessment):

1. Have students draw a diagram of the Life Cycle of a Plant in their **Seed to Salad Lab Books**.
2. Students should also answer the question in their lab books: ***"At what stage in the plant life cycle are the plants in the Aquatree® Garden, and how do you know?"***