

## Lesson Two: Planting Time (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:

seed coat, food supply, embryo

### Materials:

- Assembled Aquatree® Garden
- 5 varieties of Microgreens seeds (share among the kids)

Per group:

- Tablespoon - Aquatree scoop
- Small sticky notes
- Ruler
- Paper cup
- Small amount of potting soil

### Resources:

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

### Background Knowledge:

Prior to today's lesson:

Familiarize yourself with the hydroponic garden and how it works using the Aquatree® User Guide. Assemble the garden (<https://youtu.be/myHKC6dfVpQ>) and place it in a safe place in the home where your children will be able to observe the plant growth easily.

Read the instructions in the Aquatree® User Guide and watch the Aquatree® How to Plant Seeds Video (<https://youtu.be/xr7maxfDSm8>) for visual instructions on planting the seeds.

Parts of a seed:


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1. Seed Coat: The outer layer that protects the seed
  2. Embryo: The tiny plant inside the seed that will grow into a new plant
  3. Food Supply: nutrients the embryo needs to grow

## Plant the Seed (warm-up):

1. Explain to the kids that today they will be planting 5 varieties of microgreens seeds in the garden.
2. Use your family calendar to mark what day the seeds are planted, and have students make predictions about when they think the seeds will first begin to sprout. Place their predictions on the calendar with small sticky notes.
3. Draw the student's attention to page 13 of their **Seed to Salad Lab Book**. Explain that the students will measure and then record the growth and observations of their assigned microgreens on the table in their **Seed to Salad Lab Book**. (Assign a different color marker for each seed to chart their growth.)
4. Review or explain the different parts of the seed using the **Parts of a Seed** diagram on page 3 in their Lab Book.
5. Next, give each child a few unwashed seeds from their assigned microgreens and ask them to measure them and observe them through a microscope or magnifying glass. Students should draw a picture of their observations in the **Parts of a Seed** section in their **Seed to Salad Lab Book** and label the parts of the seed: seed coat, food supply, and embryo. *Note: Teacher discretion on units of measurement and to whole or fractional parts.*

## 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 to the students that before they can plant the seeds, they must first rinse them in water. **NOTE:** Save a few seeds for each group to plant in soil for comparison.
3. Have each child
  - a. Add 3/4 tbsp of microgreens seeds into a Reusable Micro Lid.
  - b. Rinse the seeds in the sink using the Micro Lid.
  - c. Evenly distribute seeds in the Micro Lid
  - d. Insert Micro Lid into Irrigation Tray
  - e. Add water & nutrients into the Tank and plug in the Pump
  - f. Allow microgreens seeds to sprout

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- g. Adjust Microgreens Grow Light to 3" above Trays
  - h. Turn on Microgreens Grow Lights for 8–10 hours each day after you start seeing any growth. The kit comes with a timer that you can program using your smartphone.
4. Plant the remaining seeds in a small cup of potting soil and place them on the windowsill. Be sure to label the seed type on the cup and check if the seeds need water throughout the week.

### Food for Thought (reflection/assessment):

1. Have the students finish recording their predictions and measurements of the seeds, and the drawings of the observations of the seeds in the Observations section of their **Seed to Salad Lab Books**.
2. Students should also answer the question in their lab books, *"What did you learn about hydroponic gardens today that helped your brain grow?"*