

Learning Aid: Plant Mini Educational Hydroponics System Class Pack (5-pack)

Recommended Lesson: *Lesson 2: Plant Life*

Required Materials:

- *Introduction to Hydroponics* slide presentation, slides 37-41 (printed out)
- *Plant Structure* worksheet
- *Seed Selection and Germination Activity*
- Hydroponics User Guide (optional)
- Germination tray with hood
- Seeds
- Rockwool
- Water
- *Plant Growth Activity* worksheet
- *Plant Growth Results and Reflection* worksheet

Steps:

FOCUS:

1. Using the printed slides 37-41 of the *Introduction to Hydroponics* slide presentation, work on the *Plant Structure* notes worksheet. This is a great introduction to the structure of a plant and definitions you will use throughout this whole station.
2. After you have completed the *Plant Structure* notes and have checked for accuracy, use the *Seed Selection and Germination Activity* to learn about what you are looking to grow, what conditions you will need to have, and general information about a specific plant you are looking to grow. It is important that you take time to research the plants you are looking to grow and what you need to know for proper germination.
3. Begin doing research on your plant. You may need to research on different websites for types of seeds (see Seed Notes Area) and answer any questions to help make clear decisions about what type of plants you would be interested in growing.
4. Use the activity to work on getting all supplies ready for germinating your plants.

NOTE: You should have your seeds ready at this point. If you have a small selection of seeds, it is important to do your research on the plant seeds you have as you will use those seeds to do actual planting.

LEARN:

1. Using slides 42-51 of the *Introduction to Hydroponics* slide presentation, it is time to prepare to start your plants. You should work to plant your real seeds from the research you have done.
2. After reading the *Introduction to Hydroponics* slides, you should use the *Plant Growth Activity* to prepare to grow your seeds. Remember that this activity is to be used with actual plants and should be done when you have picked your seeds and have done the seedling growing.
3. In Step 2 and Step 3 of the *Plant Growth Activity*, you will want to start by planting the seeds and getting them to germinate. Work on having the seeds in the germination tray and watered in the rockwool. The germination will be the next stage which will take up to 7 total days, so you are doing the prep work now.
4. You will collect data on this, so work to prepare a system to collect that data. Think about what a good amount of time will be to collect data (everyday, once a week, twice a week, etc.).
5. Chart out the placement for the plants and put them in the hydroponic unit. Create the needed Step 4 graph information to be able to plot the graph as the plants start to grow.
6. Print and add *Plant Growth Activity* worksheets as needed. You will use these to chart the growth over several days as the plants grow in the hydroponics system.
7. Let the plants start to grow in the germination tray.

REVIEW:

1. After the plants start to grow, transfer them to the hydroponic trays. This is when you will really start to see them grow. Collect data each day or at whatever intervals you have decided to use.
2. As you are working on this, jot down notes and thoughts on the *Plant Growth Results and Reflection* worksheet.
3. This is a great time to reflect on what you could do better or what to repeat next time around.