May 2021

Lesson Plan - Garden Deliverables

Center for Urban Resilience

LESSON #7: Garden Deliverables

"From Farm to Table"

OVERVIEW:

Now that the garden is in, and the plants are planted, the hard work begins … maintaining the garden as well as assessing and preparing for garden deliverables (fruits, vegetables, flowers …). It will be important to conduct research on specific aspects related to the plants in the garden, create a plan, divide the tasks, and implement the plan. This will give students a great sense of accomplishment, as they will be a vital part in planning for stewardship of the Garden. Research has shown that this can establish a great sense of self, a connection to nature, and lays a foundation for healthy eating for life … "children who grow vegetables eat vegetables".

SUB-QUESTIONS:

Part of assessing garden deliverables is understanding the process that gets you to the point of having actual fruit and/or vegetables ripe for picking, or flowers ready for pollination and/or nectar for wildlife. Consider the following:

- Fruit trees produce their fruit during certain times of the year
- Vegetables have seasons and must be timed according to weather and water availability
- Make sure you can either utilize the produce or store it for later use
    - For example, if cucumbers will become ripe during the summer months when no students are there, have a plan for someone to come in and harvest
    - If your goal is to have a salsa party at the end of the school year, you must first make sure of the following:
        - Tomatoes, cilantro, peppers are ripe at the time of picking

    - Lime, salt and onions are available
    - Mixing bowls are available to make the salsa
    - An audience is available to enjoy the food
- Make sure you have chosen plants that will give you what you want when you want it
    - For example, melons usually ripen in the Fall, if you plant them mid-year and expect them to be ripe at the end of the school year you will be disappointed
- Plants that flower and produce nectar will be available during certain times of the year depending on their growth cycle
    - Make sure you understand the growth cycles of the plants selected **BEFORE** planning what plants to put in your garden for successful desired outcomes
    - For example, if you are planting Milkweed to be ready in time for migrating Monarch butterflies, you will need to plant it in time to mature

WAYS OF KNOWING URBAN ECOLOGY:

	Students will…
Understand	. Assign and complete the different tasks and needs required to plan for the deliverables, maintain the garden, harvest the fruits & vegetables, or protect flowers for wildlife to use
Talk	. Discuss how to coordinate students and volunteers and ask for needs
Do	. Manage a checklist with tasks and goals to measure progress
Act	. Coordinate a Garden Team to do their part

SAFETY GUIDELINES:

Review field guidelines when taking students outside to do any site visit.

PREPARATION:
Time: 5 class periods

MATERIALS (enough for # groups @ 4 in each group):
Activity 7.1 – (one class period): Think-Pair-Share; Lesson Introduction PowerPoint

- Student Handout M10_L7_A1
- Flip chart paper and pens
- Computer, projector and screen to show PowerPoint

Activity 7.2 – (one-two class periods): Expert Groups Conduct Research on Garden Topics

- Student Handout M10_L7_A2
- Computers for conducting research or access to computers in a lab/library

Activity 7.3 – (one class period): Group Share-Out on Research Topics

- Completed research notes

Activity 7.4 – (one class period): Garden Deliverables Planning Checklist

- Student Handout M10_L7_A3
- Computers and access to Excel to customize the Final Planning Checklist

INSTRUCTIONAL SEQUENCE:
Activity 7.1 – (one class period): Lesson Activator: Think-Pair-Share; Lesson Introduction PowerPoint

- **Step 1:** Introduce Lesson by reading only the Lesson Overview at the beginning of the Lesson Plan.
- **Step 2:** Hand out the **Student Handout M10_L7_A1** graphic organizer and have students work with a partner on the activity. Allow 10 mins for this activity.

- **Step 3:** Have partners **share their brainstorming** whole-group. Chart answers on a flip chart paper. Allow 20 mins for this activity.
- **Step 4:** Read the **Sub-Questions** from the Lesson Plan. Allow time for questions.
- **Step 5:** Show the **Lesson PowerPoint**.
- **Step 6: Ticket Out / Exit Ticket**: As students are leaving ask them to name one thing that is important when planning for garden deliverables. This can be a verbal ticket out; or you can have students write it as a journal entry in their science journals; or you could create exit slips / tickets, have them write on those, and hand them in on their way out of class. (Many ways to do exit tickets.)

Activity 7.2 – (two class periods): Expert Groups Conduct Research on Garden Topics

- Now that students have brainstormed ideas for what they think should be considered to maintain the garden and harvest deliverables, and have seen the Lesson PowerPoint, advise students now they will be divided into research Expert Groups, to research the various topics that will need to be considered.
- Note: if students came up with additional valid topics, add them to the research topic list and have an expert group research that topic also. It is important to include the students' ideas in this activity.
- **Step 1: Divide the group into the various Expert Groups**. This can be done however deemed appropriate by the teacher, such as counting, drawing group names, assigning, etc.
- **Step 2: Distribute the Student Handout** for this Lesson (M10.7.2).
- **Step 3: Review the goals** of the Activity 2 and be sure to allow time for student questions.

- **Step 4:** Have students conduct their research, reinforcing the taking of good notes for the group share-out on Day 3.

Activity 7.3 – (one class period): Group Share-Out on Research Topics

- **Step 1:** Have students gather at tables in their Expert Groups.
- **Step 2:** Have students rotate sharing information they learned about each topic. **Chart information to include in the final check checklist for Activity 4.**
- **Step 3:** Discuss whole-group the benefits of researching these topics before designing the Planning Checklist for maintaining the garden and planning for deliverables.

Activity 7.4 – (one class period): Garden Deliverables Planning Checklist

- **Step 1:** Distribute the Sample "Garden Deliverables Planning Checklist" that has been prepared.
- **Step 2:** Review with students the purpose of having the checklist (read intro information and categories).
- **Step 3:** Now have students cross-reference the chart that was created from the research students did, to see if anything was left off of this Sample Planning Checklist.
- **Step 4:** Add important items from students' research.
- **Step 5:** Amend the Planning Chart / Schedule, as needed, to include new information learned in the student research activity; for example timelines for watering, weeding, harvesting, etc.
- **Step 6:** Have students work together as a class to Assign Tasks and agree on timelines for all the tasks.
- **Step 7:** Have student(s) volunteer to enter the new tasks, persons assigned each task, timelines, etc. in the Excel document, as an update to the Sample provided.
- **Step 8:** The Planning Checklist should be posted in an agreed-upon location in the classroom, so all students are aware of the tasks assigned, and timelines.

- *Don't forget to incorporate ideas charted in Activity 1 and Activity 3 in the Final Plan.*

Summary Notes – By the end of the Lesson, Students will be able to (SWBAT):

- Brainstorm tasks for maintaining a garden site and ensure successful garden deliverables.
- Conduct research effectively and thoroughly.
- Communicate research with peers.
- Present work to a larger audience.
- Create checklists and plan for tasks to be divided and completed.
- Cooperate in teams and divide tasks to accomplish a desired end goal.
- Utilize technology (Internet, Excel, Word) to complete computer tasks.

Lesson Standards Alignment (CA-NGSS) - see Module 10 Educator Instructional Materials.
Lesson Adaptations and Extensions - see Module 10 Educator Instructional Materials.