Lesson 5: Maintaining Your Plants & Enjoying Your Harvest

Grades 9 – 12

I. Nutrition Education Objective:
Goal 1: Students will comprehend concepts consistent with USDA guidance related to eating and physical activity for good health.

Objective: As a result of Pennsylvania’s SNAP-Ed plan, student will know, understand, analyze and apply concepts, as developmentally appropriate, that are consistent with USDA guidance about the benefits of:

1. Eating a variety of whole grain products, fruits and vegetables, low fat milk, and calcium-rich foods for meals and/or snacks
2. Being physically active every day as part of a healthy lifestyle

II. Pennsylvania Educational Standards:
A. 10.1 Concepts of Health
B. 11.3 Food Science and Nutrition

III. Content:
A. Students will identify each food group in MyPlate.
B. Students will identify which food groups are products of plants.
C. Students will learn how to care for their plants as they grow.
D. Students will know how to identify when herbs and vegetables are ready for harvest.

IV. Materials:
A. MyPlate Poster, mini poster of handouts.
B. Harvesting Your Garden sheet
C. One or two inexpensive herb plants from the Harvesting Your Garden sheet: parsley, cilantro, basil
D. “The Gardener” Game
E. Food Taste: Fresh pea pods
F. Hand wipes, gloves, napkins, plates.
G. Reinforcement that conveys the appropriate nutrition message

V. Procedure:
A. Introductory:
a. Ice Breaker
   i. Follow-up on plant progress if students have already planted.
ii. Review the benefits of physical activity and the USDA guidelines for physical activity. Discuss how gardening can be a form of physical activity.

b. Introduction
   a. Review MyPlate using the MyPlate handout. Ask the students to identify the different food groups. Ask them for examples of foods for each food group. Ask them which groups on MyPlate have foods that are products of plants. Remind the class that the food groups in MyPlate provide us with the needed nutrients that we need to grow and maintain our health.

i. Observe plants that have been planted and discuss the progress that has been made. Depending on the type of plant, your seeds should begin germinating. What do you do now to ensure that they have everything they need to continue growing? Discuss the need for water, nutrients, air and sunlight to maintain the growth and health of the plants.

B. Developmental:
   a. Maintaining Your Plants—
      i. MyPlate tells us that we need to strive to nourish ourselves properly everyday. We need to have adequate diets that provide us with the necessary nutrients each and every day. By doing this, we will grow healthy bodies.

      ii. Plants also need proper nourishment so that they will grow into healthy plants that will produce nutritious foods. Different types of plants have different care needs. Make sure you follow recommendations on seed packets for light, water, and spacing for best results.

   b. Check your garden every day and continue watering, weeding, fertilizing, and thinning as needed. This is a great way to be physically active.

      i. Watering—gently poke a finger about 1 inch into the soil near your plant. If it feels dry, you should water the plant. Make sure when watering that you moisten the soil down to about 1 inch, not just on the surface.

      ii. Weeding—helps ensure that your plant does not have to compete with weeds (any plants that you did not place there) for nutrients, water, or light. After identifying a weed, grab its stem just above or below the soil surface and pull firmly to remove the whole plant with its root system. Many weeds will grow back if roots are left behind.

      iii. Fertilizing—place a small handful of compost or other fertilizer around the base of each plant 1-2 times during the season. This will help provide your plants with a continual supply of nutrients.

      iv. Thinning—use as necessary to ensure plants obtain enough nutrients and are not stifled by overcrowding. Pick two strong plants that are the desired distance apart. Remove other plants in between them by clipping them at the base. Some of these may be good for consumption, such as thinned onions or carrots, even though they are young and small.
v. Pest control—some bugs are helpful, while others may damage your plants. Contact your local cooperative extension office if you have questions about controlling pests without resorting to pesticides. (See http://philadelphia.extension.psu.edu/ for more information).

c. Harvesting Your Plants
   i. Hand out the Harvesting Your Garden sheet.
   ii. Review the Harvesting Your Garden sheet, focusing on the “Harvesting” column. Explain that herb leaves can be picked as soon as they are present. New leaves will grow in, but don’t pick all the leaves at once. Pick only what you are going to use on the day of the harvest. Follow specific instructions for harvesting each type of vegetable.
   iii. Show the class the herb plants you brought. Let them identify, smell, and pick leaves from them. Ask for ideas for using them in a healthy recipe.
   iv. Encourage students to research any plants they are interested in growing that are not included on the Harvesting Your Garden sheet. They should learn the growing time and how to determine when plants are mature and ready to be picked and eaten.
   v. Explain the terms ‘perennial’, ‘biennial’, and ‘annual’ listed in the Harvesting Your Garden chart.
      1. Perennial: a type of plant that typically lives for more than two years. Perennials grow and bloom during the spring and summer, then die in the fall and winter. The roots remain intact in the ground during cold months and resume growing in the spring. Examples include: chives, alfalfa, apple trees, banana trees, tomato, sweet potatoes, and bell peppers. The last three are usually grown as annuals.
      2. Biennial: a type of plant that typically takes two years to complete its biological lifecycle. During the first year the plant grows basic vegetative structures (stem, leaves, roots) before lying dormant during the winter. In the second spring the plant grows and develops flowers, fruits, and seeds before dying. Examples include: parsley, carrots, cabbage, celery, lettuce, and beets, although these are often grown as annuals.
      3. Annual: a type of plant that typically germinates, grows, blossoms, and dies within one year. They survive for only one growing season and new seeds must be sowed at the start of a new season. Examples include: corn, peas, beans, cauliflower, and watermelon.
   vi. If you work hard throughout the growing season, your plants should reward you with a bountiful harvest. You can enjoy tasty, nutritious garden treats during the season as plants mature and ripen. Then begin planning and preparing for a successful garden again next year—it’s never too early to start planning!
d. Activity—“The Gardener” Game (see separate document)

C. Concluding:
   a. Caring for your plants will help you get physical activity as you help them thrive.
   b. Nourishing your plants properly will help them to grow into a food that will help to nourish your body.

D. Taste Testing:
   a. Distribute hand wipes to the students.
   b. Handout napkins.
   c. Sample pea pods, one per student
## Harvesting Your Garden**

<table>
<thead>
<tr>
<th>Plant Name</th>
<th>Type</th>
<th>Growing Season</th>
<th>Harvesting</th>
<th>Eating</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chives</td>
<td>Perennial Herb</td>
<td>Start indoors 6 weeks before planting outside or sow in early spring in a sunny spot</td>
<td>Begin snipping chives from base 6 weeks after planting</td>
<td>Use chives in salads, soups, or as garnish</td>
</tr>
<tr>
<td>Parsley</td>
<td>Biennial Herb</td>
<td>Start indoors or sow outdoors in sun after last frost; soak in lukewarm water 1 hour before planting</td>
<td>Pick leaves throughout season when plants are 4” or taller</td>
<td>Use in stews, sauces, salads, or almost anything</td>
</tr>
<tr>
<td>Cilantro</td>
<td>Annual Herb</td>
<td>Sow outdoors in full sun after last frost; cool weather</td>
<td>Pick leaves before flowers form. Flowers makes leaves taste bitter.</td>
<td>Chop fresh and use in salsa or soups</td>
</tr>
<tr>
<td>Dill</td>
<td>Annual Herb</td>
<td>Sow directly in full sun; needs lots of room, so grow with vegetables or at back of garden</td>
<td>Pick leaves anytime during growing season—young leaves are best</td>
<td>Eat in salads or soups, or use to pickle cucumbers</td>
</tr>
<tr>
<td>Basil</td>
<td>Annual Herb</td>
<td>Start indoors 6 weeks before planting outside or plant when ground is warm</td>
<td>Pick in early morning by pinching off whole leaves before flowers form</td>
<td>Use with tomatoes for seasoning</td>
</tr>
<tr>
<td>Pepper</td>
<td>Annual Vegetable</td>
<td>Start indoors 8 wks before transplant or outdoors in full sun after last frost; 70-90 days to harvest</td>
<td>Pick at any size—pick when small to encourage new growth; let some mature</td>
<td>Eat raw as meal or snack; sauté for use in many dishes</td>
</tr>
<tr>
<td>Radish</td>
<td>Annual Vegetable</td>
<td>Sow outdoors in full sun after last frost; cool, moist soil; 28 days to harvest</td>
<td>Harvest when visible under soil</td>
<td>Eat raw as is or in salads</td>
</tr>
<tr>
<td>Onion</td>
<td>Annual Vegetable</td>
<td>Start indoors 3 months before last frost or in spring; about 60 days to harvest</td>
<td>Begin snipping scallions when pencil-thick; harvest young onion at 1 month (young) or 3-4 months (mature)</td>
<td>Add to salads, soups, or sandwiches</td>
</tr>
<tr>
<td>Cucumber</td>
<td>Annual Vegetable</td>
<td>Sow in warm ground in full sun; about 60 days to harvest</td>
<td>Pick when at least 5” long; bitter when too large</td>
<td>Eat fresh in salads or plain</td>
</tr>
<tr>
<td>Arugula</td>
<td>Annual Vegetable</td>
<td>Early spring or fall; cool weather; about 40-60 days to harvest</td>
<td>Pick outer leaves as plant gets taller</td>
<td>Add to salad with other greens</td>
</tr>
<tr>
<td>Tomato</td>
<td>Annual Vegetable</td>
<td>Start indoors 6 wks before last frost; transplant when warm and plant has 4-6 leaves; 120 days to harvest</td>
<td>Harvest when tomatoes easily come off plant with a gentle tug</td>
<td>Eat raw as a snack or in salads, salsas, sandwiches, or soups</td>
</tr>
</tbody>
</table>