

## Lesson # 4

**Project: 4-H Club School Enrichment Educational Series**

**Project Manual: Science-Horticulture**

**Grades:** 4th-6th

**Learning Activity:** Gardening for Health II

**Track:** Science - Horticulture

**Life Skill:** Decision Making

**Character Focus:** Responsibility and Caring

**Project Skills:** To gain awareness of the origin of vegetables and their growth as well as the nutritional value to humans.

### **Louisiana Content Standards Benchmarks and Grade Level Expectations:**

**LS-E-A1** identifying the needs of plants and animals, based on age-appropriate recorded observations 34. Describe what the human body needs to grow and be healthy

**LS-E-A6** recognizing the food groups necessary to maintain a healthy body 43. Explain the primary role of carbohydrates, fats, and proteins in the body

**LS-E-B1** observing and describing the life cycles of some plants and animals 4<sup>th</sup> Grade - 47. Sequence stages in the life cycles of various organisms, including seed plants

**LS-E-C2** examining the habitats of plants and animals and determining how basic **needs are met within each habitat** 4<sup>th</sup> grade - 52. Describe how some plants and animals have adapted to their habitats

**Time Allotted:** 35-45 minutes

**Number of Participants:** small or large groups

#### **Key Concepts:**

1. Vegetables grow in different types of environments.
2. Vegetables provide essential nutrition for humans.

#### **Objective:**

1. Participants will list three essential elements plants must have to grow.
2. Participants will list five food groups necessary to maintain a healthy body.

#### **Getting Ready:**

1. Familiarize yourself with all the background information provided.
2. Read lesson thoroughly, and get an understanding of the activities.
3. Gather artificial or real vegetables listed in What You Need for the Lesson at the bottom of this page. The vegetables need to be viewed from the inside, as well as the outside.  
Prepare copies of the Vegetable Eating, p.7 of this lesson plan.
4. Visit this website: <http://www.cannedveggies.org/learnmore/educators/Form.htm>

#### **What You Need for the Lesson:**

- |                               |                                |
|-------------------------------|--------------------------------|
| 1. One large potato (prop)    | 11. One broccoli flower (prop) |
| 2. Potato seeds               | 12. Broccoli seeds             |
| 3. One head of lettuce (prop) | 13. Six growing trays          |
| 4. Lettuce seeds              | 14. Soil                       |
| 5. One celery stalk (prop)    | 15. Plant food                 |
| 6. Celery seeds               | 16. Water source               |
| 7. One large carrot (prop)    | 17. Gardening tools            |
| 8. Carrot seeds               | 18. Gloves                     |
| 9. One large onion (prop)     | 19. Handouts                   |
| 10. Onion seeds               |                                |

**LESSON PLAN:**

<b>What You Say:</b>	<b>What You Show or Do:</b>	<b>What Participants Do:</b>
<p>1. The last time we met, we started a garden. Are the plants growing at this time? (<b>Possible answers:</b> The plants are growing sprouts, leaves, vines, etc.) What changes have you observed? (<b>Possible answers:</b> When plants receive rain or watering along with sunshine, they grow quickly. Growth is quicker for some plants than others, etc.) How long did these changes take? (<b>Possible answers:</b> Some plants appear to have a faster growth pattern than others.) Do the plants resemble the vegetables they are growing? (<b>Possible answers:</b> No, from looking at many of the plants, there is no indication they will be a vegetable plant or a landscaping plant.) How often did you water the plants? (<b>Possible answers:</b> Once a day, every other day, once a week, etc.) How often are you applying plant food (fertilizer)? (<b>Possible answers:</b> Once a week, every other week, etc.) How much sunlight are the plants receiving? (<b>Possible answers:</b> every day, only 3 days this week with full sun, 6 hours of full sun, then shaded for the rest of the day, etc.)</p> <p>2. What are vegetables? (<b>Possible answers:</b> Plants specially grown for food; carrots, corn, beans, etc. They provide nutrition and vitamins.) How do they grow? (<b>Possible answers:</b> vegetables grow on plants. They may be</p>	<p>1. Allow time for discussion and replies. Encourage quick answers and conversation to move along. If you used natural sunlight, note the differences between artificial light and natural sunlight.</p> <p>2. Allow time for observation and discussion. Show the students vegetables from the list under “What You Need for the lesson,” and compare them to the non-edible parts of the plants.</p>	<p>1. Respond to questions.</p> <p>2. Discuss and respond.</p>

What You Say:	What You Show or Do:	What Participants Do:
<p>grown outside or in green houses, etc.) Why are they important?</p> <p><b>(Possible answers:</b> because they provide our bodies with necessary nutrients to stay healthy, etc.) A vegetable is the edible part of a soft-stemmed plant. They are different from nuts and fruits produced by plants with woody stems such as shrubs and trees. How can vegetables be grouped together according to the edible part? <b>(Possible answers:</b> leaves (lettuce), stalks (celery), roots (carrots), tubers (potato), bulbs (onion), and flowers (broccoli). Most vegetables are valuable sources of vitamins, minerals and fiber and are low in fat and calories. Along with cereals and legumes, they are important to a healthy diet. Vegetables grow in an environment that provides healthy soil, adequate sunlight and fresh water. Two important facts about vegetables are:</p> <ol style="list-style-type: none"> <li>1. Vegetables are an important part of a healthy diet.</li> <li>2. We can learn how things grow by growing them ourselves.</li> </ol> <p>(Experience)</p> <ol style="list-style-type: none"> <li>3. Using the props of the vegetables, we will, as a group, find which part of your vegetable will be/is edible. As we work in groups (place participants in small groups 2-3 participants), each of you will take the vegetables given to you and decide what part of the vegetable is edible. Groups</li> </ol>	<ol style="list-style-type: none"> <li>3. Using the props, have participants observe and discuss with comparison what parts of the plant is edible. Allow time for participant discussion. If possible, locate posters and information available about vegetables.</li> </ol>	<ol style="list-style-type: none"> <li>3. Discuss and respond in the small group with vegetable props. Hold group discussion with props in a quick way. Place the outcomes under the correct categories given and then discuss those outcomes with the group to make sure they are correct.</li> </ol>

What You Say:	What You Show or Do:	What Participants Do:
<p>will share their conclusions. Consider these questions as you work with the props. (If no prop is available, consider purchasing the vegetables for this class and allow participants the chance to cut them open - with assistance - and view for this lesson.)</p> <p>(Share)</p> <p>How can these vegetables be eaten? (<b>Possible answers:</b> Some vegetables can be eaten raw or cooked.) What do they look like inside? (<b>Possible answers:</b> Some vegetables are soft inside, providing for easy eating. Others need to be cooked to allow for better flavor and ease of digestion.) Why is it important to eat vegetables grown in good conditions? (<b>Possible answers:</b> Healthy vegetables will provide the maximum amount of nutrients for our body and overall health.) How should the vegetable be prepared for eating? (see Handout – <b>Vegetable Eating</b>)</p> <p>4. Is everyone finished? The next thing we will do is present the information to the other groups. Does any group feel confident about its information? This will show how much you know and how much we will learn.</p> <p>(Process)</p> <p>5. What types of vegetables are grown by farmers in our</p>	<p>Allow time for Responses and discussion.</p> <p>4. Show the groups the correct way to consider eating the vegetables using the Vegetable Eating chart after the presentations. After they present their responses, let volunteers read how to care for tools the proper way and give possible consequences for those who have improper tool techniques.</p> <p>5. Allow time for responses and discussion.</p>	<p>Respond and discuss.</p> <p>4. Listen and respond to volunteers who present information.</p> <p>5. Response and discuss.</p>

What You Say:	What You Show or Do:	What Participants Do:
<p>area? (Locate this information before class.) Do any of you or your grandparents have gardens at home?</p> <p><b>(Possible Answers:</b> yes or no)</p> <p>What kinds of plants are grown in the garden?</p> <p>(Generalize)</p> <p>What did you learn about your knowledge of vegetables? Will you try new vegetables now that we have learned about them?</p> <p>Have you ever worked in a garden? What is necessary to keep the garden growing?</p> <p><b>(Possible answers:</b> vegetables, flowers, plants, pull weeds, hoe the weeds out, lots of watering, sunshine, not too much sunshine, plant food, etc.)</p> <p>(Apply)</p> <p>6. How can you use what you have learned now? <b>(Possible answers:</b> Teach lessons to other classmates, serve in community service projects.)</p> <p>How can you apply what you have learned in the future?</p> <p><b>(Possible answers:</b> Create learning groups to learn more on the topics of interest, use information learned to practice better environmental friendly habits.)</p> <p>7. Learning to plant a garden will also give you the opportunity to practice <b>citizenship</b>. Working with other people in your community, you can help provide food for homeless shelters, elderly members of</p>		

the community and childcare centers which provide meals for children.		
---	--	--

**Ways to Help Members Learn More:**

1. Visit a Web site titled HGTV.com to explore different tools, caring for tools and what tools are useful for completing a particular project or task.
2. Visit a local hardware store or Home Depot for brochures on gardening tools, descriptions of gardening tools and how to maintain their new conditions.
3. Contact the LSU AgCenter for seminar dates for kids to learn more about gardening tools and landscaping techniques for proper use of tools and tips for cleaning and maintenance.

**Resources:**

1. See attached sheet “*Garden Safety*”
2. Call 1-800-252-8772 for free copy of Homelite Inc.’s “*Safety Tips Handbook*”
3. Web sites to visit: [www.hgtv.com](http://www.hgtv.com)  
[www.pbskids.org](http://www.pbskids.org)  
[www.diynot.com](http://www.diynot.com)

**Author:** Duane Carkum, Extension Agent, 4-H, Orleans Parish/Shelia Woerner

**Coordinator:** Dr. Steve Mullen, Regional Director, LSU AgCenter, Crescent Region

**Reviewed by:** Dr. David G. Himelrick, Head, Department of Horticulture, Louisiana State University

**Editors:** Sarah Williams, Jane Honeycutt



## Vegetable Eating

1. Buy Fresh Vegetables or grow your own
2. Eat Raw Vegetables – be sure to clean them
3. Eat Vegetables steamed, not boiled or overcooked
4. Remember to eat both Vegetables and Fruit
5. Vegetables and fruit contain many vitamins and minerals



### Great reasons for eating vegetables:

- Low in fat
- Low in calories
- Low in sodium
- Fill stomach quickly - high in fiber

What Vegetables do you eat?

---

---

What Vegetables will you try to eat?

---

---