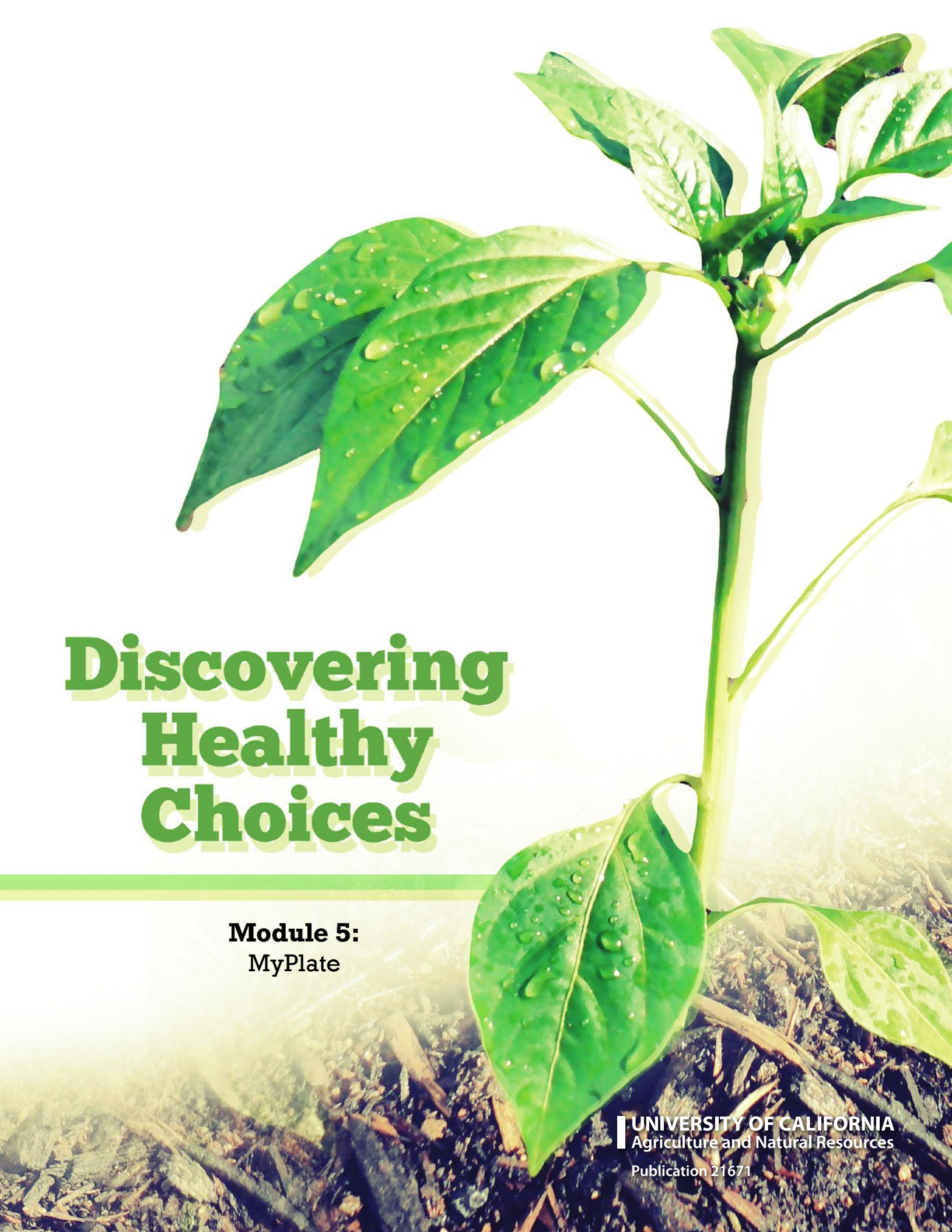

Discovering Healthy Choices

Module 5:
MyPlate

UNIVERSITY OF CALIFORNIA
Agriculture and Natural Resources
Publication 21671

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UNIVERSITY OF CALIFORNIA Agriculture and Natural Resources

UC DAVIS CENTER for NUTRITION in SCHOOLS

Shaping Healthy Choices

Adapted from *Nutrition to Grow On*

This curriculum is an adaptation of *Nutrition to Grow On*, a garden-enhanced nutrition curriculum for upper elementary school children. Authors: Jennifer Morris and Sheri Zidenberg-Cherr, Department of Nutrition, University of California, Davis in collaboration with the California Department of Education and Mary Shaw, Solano County Master Gardener, University of California Cooperative Extension.

Results from Research

This curriculum was tested as part of the Shaping Healthy Choices Program research project during the 2012–2013 school year. Fourth grade youth participating in the Shaping Healthy Choices Program increased knowledge about nutrition and consumption of vegetables, and the rates of obesity were reduced from 56% to 38% (Scherr et al. 2014). In a subsequent study the Discovering Healthy Choices curriculum was implemented by fourth-grade teachers as part of the Shaping Healthy Choices Program in the 2013–2014 school year. Participating youth improved their knowledge about nutrition, critical thinking skills, and ability to identify vegetables (Linnell et al. 2016). Additionally, there was a significant reduction in average body mass percentile-for-age. The Shaping Healthy Choices Program was then piloted through the University of California CalFresh SNAP-Ed program and University of California Cooperative Extension and positive outcomes were observed, though they varied among implementation sites (Bergman et al. 2018). The research team attributed the variation to differences in fidelity to the curriculum, with the highest fidelity corresponding to the greatest improvements in outcomes.

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Facilitator Tips: How to Get the Most from This Curriculum

Teaching and Learning Strategies

All activities in the *Discovering Healthy Choices* curriculum were designed using experiential learning and inquiry. Experiential learning is grounded in the idea that experience is essential to learning and understanding. Specifically, experiential learning involves a recurring sequence of three distinct steps: 1) an experience ("Procedure/ Experiencing") that involves learner exploration; 2) a period of discussion and reflection ("Sharing, Processing, and Generalizing"), where learners share their reactions and observations, process their experience, and make generalizations to real-life examples; and 3) an opportunity to apply ("Apply") new knowledge and skills in an authentic manner, which helps learners deepen and broaden their understanding (it helps learning last!).

Inquiry is a teaching and learning strategy whereby learners are engaged in activities that require the observation and manipulation of objects and ideas in order to construct knowledge and develop skills. Inquiry is grounded in experience, focuses on the use and development of critical thinking skills, and targets the learning and application of specific content knowledge. Furthermore, inquiry starts with a question, and effective questioning strategies are critical when facilitating inquiry-based learning. Open-ended questions or prompts (e.g., "Explain what you know about…"; or "Discuss your understanding of…") promote learner inquiry and are considered more effective than closed-ended questions or prompts (e.g., "Name the parts of…"; or "What is the name of…?").

The inquiry-based activities in the *Discovering Healthy Choices* curriculum were designed using the 5-step Experiential Learning Cycle by Pfeiffer and Jones (1983): Experience, Sharing, Processing, Generalizing, and Application. It is recommended that adequate time be allotted for youth learners to proceed through each step in order for learning to be maximized.

Behavior Change Strategies

As part of *Discovering Healthy Choices*, learners will discover nutrition concepts through hands-on and garden-based nutrition activities. Garden-based activities allow youth to enhance nutrition knowledge, preferences for vegetables, and consumption of fruits and vegetables, and also gives them an opportunity to explore agriculture and the environment while improving life skills, self-esteem, social skills, and behavior (Heim et al. 2009; Jaenke et al. 2012; Lineberger and Zajicek 2002; Linnell et al. 2016; McAleese and Rankin 2007; Morgan et al. 2010; Morris and Zidenberg-Cherr 2002; Parmer et al. 2009; Robinson-O'Brien et al. 2009; Scherr et al. 2014).

The *Discovering Healthy Choices* curriculum activities were designed using the Social Cognitive Theory as a framework (Glanz and Viswanath 2008). The structure and content of the activities address Social Cognitive Theory domains of behavioral capabitlity, self-efficacy, and reciprocal determinism. A detailed description of how the behavior change strategies were applied is available elsewhere (Linnell et al. 2016).

Target Audience

Discovering Healthy Choices was developed for youth in upper elementary school (grades 4–6) and to be used in formal and non-formal educational settings. Curriuclum activities support educational standards for grades K–12 and may be adapted for use in other grade levels.

Facilitator Tips: How to Get the Most from This Curriculum (cont.)

Organization of the Learning Environment: Creating Environments Where Learning Happens

The activities in the *Discovering Healthy Choices* curriculum were designed to be facilitated in a small group-learning environment. Learners construct understanding through inquiry using observations, the manipulation of objects and ideas, and personal reflection. However, learning is a social endeavor where dialogue and reflection with others are critical elements. Therefore, creating physical and social environments where learners can carry out inquiry will help learners organize their thoughts and develop an understanding of the content and processes being emphasized in specific curriculum activities.

Organization of the Curriculum

The modules are sequenced so that foundational concepts are discovered first and then built upon with more advanced concepts as they continue through the modules.

Each module consists of one hands-on activity, one application activity in the instructional garden, and multiple take-home application activities. When learners apply their new knowledge and skills in authentic situations, this is when they are able to develop deeper understanding of the subject matter. At this point, youth have already completed the hands-on activities that have introduced new concepts and skills. The application activities provide the youth with the opportunity to take what they have learned and apply it to independent, real-world situations in the instructional garden, at home, or in the classroom. This application of knowledge is a critical step of the learning process.

Curriculum Activity Layout

- **Activity Title**
  The activity title introduces the facilitator to the topic that will be addressed during the activity.

- **Background Information**
  This introductory section provides facilitators with a brief overview of the subject matter and provides examples that help to explain the importance of the topic.

  > **Facilitator Tip:** The background information is not meant to be shared with the youth prior to the activity. Rather, it is intended to support facilitators by providing factual information that may help ground and inform group discussions.

- **Life Skills**
  Life skills are abilities that help youth become productive, contributing members of society. The activities are designed to provide youth with the opportunity to practice particular life skills that are utilized in everyday life. The life skills targeted are listed for each activity (Norman and Jordan n.d.).

- **Subject Links**
  This describes other subject areas that are connected to the module.**Education Standards Supported**

  This curriculum supports Common Core State Standards, Next Generation Science Standards, and California Nutrition Education Competencies. Specific details for standards addressed for each grade level is described in the "Education Standards Supported" section on page 9.

- **Time Required**
  Each module includes an estimate of the time needed to complete the activities. The actual time required for the activities will vary based on level of learner interest, size of the group, age of the group members, and the setting in which the activities take place.

Facilitator Tips: How to Get the Most from This Curriculum (cont.)

- **Learning Objectives: Concepts and Vocabulary**
  Facilitators are provided with a list of defined concepts and vocabulary that is meant to be discovered by the youth during their exploration and completion of the activities. The list should not be provided to the youth at the beginning of the activity. At the end of each activity, the facilitators should ensure that the appropriate terms and concepts have been discovered by or introduced to the youth.

- **Suggested Groupings**
  Suggestions are provided for the group size designed for each activity. The suggested groupings are meant to help facilitate quality learning among the youth. Some activities are designed for youth to work in either small groups, large groups, or individually.

- **Materials Needed**
  A list of the materials needed to complete the activities is provided for the facilitator. The list describes the materials to be used. Most materials are provided (these are marked with an *); however, other materials will need to be obtained prior to activity implementation.

- **Getting Ready**
  This list describes what needs to be done by the facilitator to prepare for the activity, how many of each of the materials to prepare, and what tasks need to be completed prior to the beginning of the activity.

- **Opening Questions/Prompts**
  Questions or prompts presented at the beginning of each activity are meant to draw the youth into the topic being addressed in the activity. Responses to the questions will provide the facilitator with an understanding of what the youth already know about the topic. Facilitators should encourage the youth to record their answers to these introductory questions on the provided flip chart paper, as this is an important part of the learning process. This is the point when the activity begins with the youth. Opening Questions/Prompts should be asked as they are written. Open-ended questioning is a key element of inquiry-based learning.

- **Procedure (Experiencing)**
  This is the part of the curriculum when the youth experience and complete the activity itself. It is highly recommended that facilitators read the procedure in its entirety before implementing with the youth so that the activity flows smoothly. It is important for youth to record their observations, ideas, and other thoughts during the procedure on the flip chart paper provided, as this is an important part of the learning process.

- **Facilitator Tips**
  These are suggestions and additional information for the facilitator.

- **Sharing, Processing, and Generalizing**
  Following the procedure, there is a period of reflection, during which time the youth come back together as one group and share their observations with each other. This phase provides youth an opportunity to communicate their findings, listen to what others discovered, consider the various thought processes, and learn from each other. It helps to solidify what the youth have learned throughout the course of the activity. This phase also contains prompts that allow the youth to engage in thinking about how they went about solving a problem. This is called meta-cognition, which is considered a key element in developing a deeper understanding.

- **Concept and Term Discovery/Introduction**
  At this point of the activity, most of the concepts will have most likely already been discovered by the youth. Many concepts will have already been defined by now as well. However, some concepts may have been missed or poorly understood and need to be clarified; additionally, technical terms may need to be introduced to the youth. Ensure that all terms/concepts have been discovered or introduced to the youth. Additionally, make certain that any misconceptions have been addressed.

Facilitator Tips: How to Get the Most from This Curriculum (cont.)

Starting an Instructional Garden

- **Books and Downloadable Resources**
  Gardens for Learning: A Guide for Creating and Sustaining Your School Garden. Available at the California School Garden Network website, http://www.csgn.org.

  Getting Started: A Guide for Creating School Gardens as Outdoor Classrooms. Available at the Center for Eco Literacy website, http://www.ecoliteracy.org/downloads/getting-started.

  Sunset Western Garden Book (9th ed). 2012. New York, NY: Time Home Entertainment.

- **School Garden Grant Opportunities**
  California Fertilizer Foundation awards grants of $1,200 to California K–12 school garden programs. Awards include educational materials. Applications reviewed in January and June. The grant application is available at the California Fertilizer Foundation website, http://www.calfertilizer.org.

  KidsGardening offers a variety of grant programs with awards of up to $500. Information about grants is available at the KidsGardening website, https://kidsgardening.org.

  Western Growers Foundation offers grants and start-up supplies for school gardens in California and Arizona. Information and grant applications are available at the Western Growers Foundation website, http://www.wga.com.

Extension Opportunities Beyond the Learning Setting

Discovering Healthy Choices was developed as part of the Shaping Healthy Choices Program. The Shaping Healthy Choices Program is a multicomponent approach to improving children's food choices. Other components of this program include a curriculum for cooking demonstrations, *Cooking Up Healthy Choices*, and family newsletters called *Team Up for Families*.

Cooking Up Healthy Choices is directly linked to *Discovering Healthy Choices*. It was developed to offer more opportunities for youth to apply the concepts they have learned through the participation in five cooking demonstrations.

The *Team Up for Families* newsletters include messages about what the youth are learning in the *Discovering Healthy Choices* curriculum, in addition to positive nutrition-related parenting practices. Each of the eight newsletters is designed to link to each of the eight modules in *Discovering Healthy Choices*.

Food Safety and Other Considerations

The *Discovering Healthy Choices* curriculum includes activities where food is prepared for consumption and for handling. When preparing foods, it is important to follow food safety guidelines published by the Food and Drug Administration at their website, http://www.fda.gov/Food/FoodborneIllnessContaminants/BuyStoreServeSafeFood/ucm255180.htm. It is also important to be aware of youths' food allergies and alter recipes accordingly.

Facilitator Tips: How to Get the Most from This Curriculum (cont.)

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Educational Standards Supported

Next Generation Science Standards Supported

	Modules	K	1	2	3	4	5	6	7	8	9	10	11	12
Life Science Progression														
LS1.A Structure and function	2, 3				•	•	•	•	•	•	•	•	•	•
LS1.C Organization for matter and energy flow in organisms	2, 3, 5	•	•	•	•	•	•	•	•	•	•	•	•	•
LS2.A Interdependent relationships in ecosystems	2, 3, 7	•	•	•	•	•	•							
LS2.B Cycles of matter and energy transfer in ecosystems	2, 3, 7	•	•	•	•	•	•	•	•	•	•	•	•	•
LS4.D Biodiversity and humans	2, 3, 7	•	•	•	•	•	•							
Science and Engineering Practices														
1. Asking questions and defining problems	1, 2, 3, 4, 5, 6, 7, 8	•	•	•	•	•	•	•	•	•	•	•	•	•
3. Planning and carrying out investigations	2, 3, 4, 5, 7	•	•	•	•	•	•	•	•	•	•	•	•	•
4. Analyzing and interpreting data	2, 3, 4, 5, 7, 8	•	•	•	•	•	•	•	•	•	•	•	•	•
5. Using mathematics and computational thinking	2, 4, 6	•	•	•	•	•	•	•	•	•	•	•	•	•
6. Constructing explanations and designing solutions	2, 3, 4, 8	•	•	•	•	•	•	•	•	•	•	•	•	•
7. Engaging in argument from evidence	1, 2, 3, 4, 7	•	•	•	•	•	•				•	•	•	•
8. Obtaining, evaluating, and communicating information	1, 2, 3, 4, 5, 6, 7, 8	•	•	•	•	•	•	•	•	•	•	•	•	•
Crosscutting Concepts														
1. Patterns	2, 3, 4, 5, 7, 8	•	•	•	•	•	•	•	•	•				
3. Scale, Proportion, and Quantity	2, 3, 4, 6, 8	•	•	•	•	•	•							

- **Standard is not applicable for grade level**
- **Supports standard for grade level**
- **Can be adapted to support standard for grade level**

Educational Standards Supported (continued)

Common Core State Standards in English Language Arts Supported

	Modules	K	1	2	3	4	5	6	7	8	9	10	11	12
Reading Standards for Literature														
Key Ideas and Details	1	•	•	•	•	•	•	•	•	•	•	•	•	•
Craft and Structure	1, 2, 3, 4, 5, 6, 7, 8	•	•		•	•		•	•	•	•	•	•	•
Range of Reading and Level of Text Complexity	1, 2, 3, 4, 5, 6, 7, 8	•	•											
Reading Standards for Informational Text														
Key Ideas and Details	1, 2, 3, 5	•	•	•	•	•	•	•	•	•	•	•	•	•
Craft and Structure	1, 2, 3, 5, 6	•	•	•	•	•	•	•	•	•	•	•	•	•
Integration of Knowledge and Ideas	1, 3, 7	•	•	•	•	•	•	•		•				
Range of Reading and Level of Text Complexity	1, 2, 3, 4, 5, 6, 7, 8	•	•	•	•	•	•							
Reading Standards: Foundational Skills														
Print Concepts	1, 2, 3, 4, 5, 6, 7, 8	•	•	-	-	-	-	-	-	-	-	-	-	-
Phonological Awareness	1, 2, 3, 4, 5, 6, 7, 8	•	•	-	-	-	-	-	-	-	-	-	-	-
Phonics and Work Recognition	1, 2, 3, 4, 5, 6, 7, 8	•	•	•	•	•	•	-	-	-	-	-	-	-
Fluency	1, 2, 3, 4, 5, 6, 7, 8		•	•	•	•	•	-	-	-	-	-	-	-
Writing Standards														
Text Types and Purposes	1, 2, 3, 4, 5, 6, 7, 8				•	•	•	•	•	•	•	•	•	•
Production and Distribution of Writing	1				•	•	•	•	•	•	•	•	•	•
Research to Build and Present Knowledge	1, 2, 3, 4, 5, 6, 7, 8	•	•	•	•	•	•	•	•	•	•	•	•	•
Range of Writing	1, 2, 3, 4, 5, 6, 7, 8	-	-	-	•	•	•	•	•	•	•	•	•	•
Speaking and Listening Standards														
Comprehension and Collaboration	1, 2, 3, 4, 5, 6, 7, 8	•	•	•	•	•	•	•	•	•	•	•	•	•
Presentation of Knowledge and Ideas	1, 2, 3, 4, 5, 6, 7, 8	•	•	•	•	•	•	•	•	•	•	•	•	•
Language Standards														
Conventions of Standard English	1, 2, 3, 4, 5, 6, 7, 8	•	•	•	•	•	•	•	•	•	•	•	•	•
Knowledge of Language	1, 2, 3, 4, 5, 6, 7, 8	-	-	•	•	•	•	•	•	•				
Vocabulary Acquisition and Use	1, 2, 3, 4, 5, 6, 7, 8	•	•	•	•	•	•	•	•	•	•	•	•	•

- Standard is not applicable for grade level
• Supports standard for grade level
• Can be adapted to support standard for grade level

Educational Standards Supported (continued)

Common Core State Standards Supported in Literacy in History/Social Studies, Science, and Technical Subjects 6-12

	Modules	6	7	8	9	10	11	12
Reading Standards for Literacy in History/Social Studies								
Integration of Knowledge and Ideas	1, 2, 4	•	•	•	•	•		
Reading Standards for Literacy in Science and Technical Subjects								
Key Ideas and Details	2, 3, 4	•	•	•	•	•	•	•
Integration of Knowledge and Ideas	2, 3, 4	•	•	•	•	•	•	•
Range of Reading and Level of Text Complexity	2, 3, 4, 5, 6, 7, 8	•	•	•	•	•	•	•
Writing Standards for Literacy in History/Social Studies, Science, and Technical Subjects								
Text Types and Purposes	1, 2, 3, 4, 5, 6, 7, 8	•	•	•	•	•	•	•
Production and Distribution of Writing	1, 2, 3, 4, 5, 6, 7, 8	•	•	•	•	•	•	•
Research to Build and Present Knowledge	1, 2, 3, 4, 5, 6, 7, 8	•	•	•	•	•	•	•
Range of Writing	1, 2, 3, 4, 5, 6, 7, 8	•	•	•	•	•	•	•

- Standard is not applicable for grade level
• Supports standard for grade level
• Can be adapted to support standard for grade level

Educational Standards Supported (continued)

Common Core State Standards in Mathematics

	Modules	K	1	2	3	4	5	6	7	8	9	10	11	12
Counting and Cardinality	2, 4, 5, 6	•	-	-	-	-	-	-	-	-	-	-	-	-
Operations and Algebraic Thinking	2, 3, 4, 5, 6	•	•	•	•	•		-			-	-	-	-
Number and Operations in Base Ten	2, 4, 5, 6				•		•	-			-	-	-	-
Number and Operations - Fractions	4, 5, 6, 7	-	-	-	•	•	•	-			-	-	-	-
Measurement and Data	2, 3, 4, 5, 6	•	•	•	•	•	•	-			-	-	-	-
Geometry	2, 3, 4, 5	•	•				•				-	-	-	-
Ratios and Proportional Relationships	2	-	-	-	-	-	-	•			-	-	-	-
The Number System	4, 5, 6	-	-	-	-	-	-	•			-	-	-	-
Statistics and Probability	2	-	-	-	-	-	-	•			-	-	-	-
Number and Quantity														
Quantities	2	-	-	-	-	-	-	-	-	-	•	•	•	•

- Standard is not applicable for grade level
• Supports standard for grade level
• Can be adapted to support standard for grade level

Educational Standards Supported (continued)

Nutrition Education Competencies Supported

	Modules	K	1	2	3	4	5	6	7	8	9	10	11	12
1. Overarching Nutrition Competency: Essential Nutrition Concepts - All youth will know the relationships among nutrition, physiology, and health.														
1a. Know the six nutrient groups and the functions.	3, 5	•	•	•	•	•	•	•	•	•	•	•	•	•
1b. Know nutrition and health guidelines.	4, 5, 6, 8	•	•	•	•	•	•	•			•	•	•	•
1c. Know factors affecting energy balance.	2, 5, 6	•	•	•	•	•			•	•				
1d. Describe how nutritional needs vary throughout the life cycle.	5	•	•	•	•	•	•	•	•	•	•	•	•	•
1e. Identify the physiological processes in digestion, absorption, and metabolism of nutrients.	3, 5	•	•	•					•	•				
1f. Explain the influence of nutrition and physical activity on health.	2, 3, 5, 8	•	•	•	•	•	•	•						
1g. Know principles of handling (growing, harvesting, transporting, processing, storing, and preparing) foods for optimal food quality and safety.	8	•	•	•	•	•	•	•	•	•	•	•	•	•
1h. Consider the interactions among nutrition science, ecosystems, agriculture, and social systems that affect health, including local, national, and global perspectives.	1, 2, 3	•	•	•	•	•	•	•	•	•	•	•	•	•
2. Overarching Nutrition Competency: Analyzing Nutrition Influences														
All youth will demonstrate the ability to analyze internal and external factors influencing food choices and health outcomes.	7	•	•	•	•	•	•	•	•	•	•	•	•	•

- Standard is not applicable for grade level
• Supports standard for grade level
• Can be adapted to support standard for grade level

Educational Standards Supported (continued)

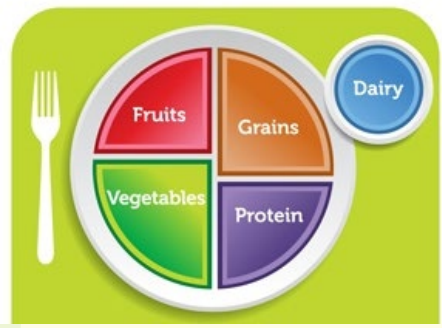
Nutrition Education Competencies Supported (continued)

	Modules	K	1	2	3	4	5	6	7	8	9	10	11	12
3. Overarching Nutrition Competency: Accessing Valid Nutrition Information														
All youth will demonstrate the ability to access and analyze nutrition information, products, and services to analyze the accuracy and validity of nutrition claims.	2, 5, 6, 7	•	•	•	•	•	•	•	•	•	•	•	•	•
4. Overarching Nutrition Competency: Interpersonal Communication about Nutrition														
All youth will demonstrate the ability to use interpersonal communication skills to optimize food choices and health outcomes.	7						•	•						
5. Overarching Nutrition Competency: Decision Making for Nutrition Choices														
All youth will demonstrate the ability to use decision-making skills to optimize food choices and health outcomes.	2, 3, 5, 6, 8	•	•	•	•	•	•	•	•	•	•	•	•	•
6. Overarching Nutrition Competency: Goal Setting for Nutrition														
All youth will demonstrate the ability to use goal-setting skills to enhance nutrition and health.	2, 3, 5, 6, 8		•	•	•	•	•	•	•	•	•	•	•	•
7. Overarching Nutrition Competency: Practicing Nutrition-Enhancing Behaviors														
All youth will demonstrate the ability to practice nutrition-related behaviors that reduce risk and promote health.	2, 3, 5, 6, 8	•	•	•	•	•	•	•	•	•	•	•	•	•
8. Overarching Nutrition Competency: Nutrition Promotion														
All youth will demonstrate the ability to promote and support a sustainable, nutritious food supply and healthy lifestyles for families and communities.	1, 2, 3, 5, 8	•	•	•	•	•	•	•	•	•	•	•	•	•

- Standard is not applicable for grade level
• Supports standard for grade level
• Can be adapted to support standard for grade level

Module 5: MyPlate

Background Information



MyPlate is a nutrition guide developed by the United States Department of Agriculture (USDA). It illustrates the five food groups that are the building blocks for a healthy diet using a familiar image —a place setting for a meal. The five food groups included in MyPlate are fruits, vegetables, grains, protein, and dairy. MyPlate includes recommendations relative to the amounts of each food that should be consumed within each group depending on age, gender, and amount of physical activity. One of the recommendations illustrated by MyPlate is to make half of a person's plate fruits and vegetables.

Fruit: Focus on fruits. Fruits are an important source of vitamins, minerals, and fiber. Servings of fruit can be from fresh, canned, dried, pureed, or frozen fruit, as well as 100% fruit juices. Examples of fresh fruits are oranges, apples, bananas, and strawberries. Common dried fruits include raisins, apricots, and prunes (dried plums).

Vegetables: Vary your veggies. Vegetables offer many vitamins and minerals, as well as fiber. Vegetables are divided into five subgroups, depending on the types of nutrients they contain:

1. Dark green vegetables (e.g., spinach, kale)
2. Starchy vegetables (e.g., potatoes, corn)
3. Red/orange vegetables (e.g., carrots, red bell peppers, tomatoes)
4. Beans and peas (e.g., black beans, kidney beans)
5. Other (e.g., beets, avocados, bok choy)

Servings of vegetables can come from fresh, canned, dried, pureed, or frozen, as well as 100% vegetable juice.

Grains: Make at least half your grains whole. Grains are foods made from wheat, rice, oats, cornmeal, barley, or another cereal grain. They provide nutrients such as carbohydrates, B-vitamins, iron, and dietary fiber. Grains are organized into two groups: whole grains and refined grains. It is suggested that **whole grains** comprise at least half of the recommended serving of grains because they have more nutrients than refined grains. Whole grains include whole wheat flour, bulgur (cracked wheat), oatmeal, and brown rice. **Refined grains** are foods that have been milled to a finer texture, removing the bran and germ. This process removes nutrients like B vitamins, iron, and fiber. Many refined grain products are enriched, meaning the vitamins and minerals are added back into the final product. However, fiber is not put back into the product. Refined grains include white flour and white rice.

Protein: Go lean with protein. Protein can come from animal and plant sources. Examples of foods rich in protein include meats, like beef and pork; poultry, like chicken and turkey; eggs; beans and peas; soy products; nuts and seeds; and seafood. In addition to the **amino acids** found in proteins, which are important to humans' diets, these foods provide iron and B vitamins.

Dairy: Get your calcium-rich foods. Dairy foods are important sources of calcium and also provide other nutrients like protein, vitamins, and minerals. Dairy foods include products made from milk that are high in calcium, including liquid milk, milk-based desserts, cheese, and yogurt. Calcium-fortified soy beverages also count as dairy foods. However, foods that are made from milk and low in calcium, like cream, butter, and cream cheese, do not count as dairy foods. MyPlate recommends that calcium-rich foods should be fat-free or low-fat (1% milk fat).

Although not included as one of the five food groups, **oils** are included in MyPlate because they are a source of important nutrients. Oils represent a type of fat that is liquid at room temperature. Oils can be founds in foods like olives, avocados, nuts, and some fish.

Concepts and Vocabulary

- **Dairy:** foods that are made from milk and are high in calcium, like liquid milk, cheese, and yogurt. Calcium-fortified soy beverages count as dairy. Examples of one serving of dairy: 1 cup of milk; 1 cup of calcium-fortified soy beverage; 1½ ounces of cheese; or 1 cup of yogurt.
- **Fruits:** foods that are whole fruits, 100% fruit juice, or dried fruit. Fruits may be fresh, canned, frozen, or dried, and may be whole, cut up, or pureed. Examples of one serving of fruit: 1 cup of fresh fruit; 1 cup of 100% fruit juice; or ½ cup of dried fruit.
- **Grains:** foods made from wheat, rice, oats, cornmeal, barley, or another cereal grain. Examples of one serving of grains: 1 cup of cereal; 1 slice of bread; 1 cup of rice; or 1 cup of oats.
- **Protein foods:** foods that are good sources of protein, like meat, fish, eggs, peanut butter, nuts, and beans. Examples of one serving of protein: 1 ounce of meat; 1 ounce of fish; 1 egg; 1 tablespoon of peanut butter; ½ ounce of nuts; or ¼ cup of cooked beans.
- **Oils:** fats that are liquid at room temperature and can provide important nutrients.
- **Refined grains**: grains that have been milled, a process that removes the bran and germ of the grain kernel. This process gives grains a finer texture and improves their shelf life, but it also removes dietary fiber, iron, and many B vitamins.
- **Vegetables:** foods that are whole vegetables or 100% vegetable juice. Vegetables may be raw or cooked; fresh, frozen, canned, or dried/dehydrated; and may be whole, cut-up, or mashed. Examples of one serving of vegetables: 1 cup of raw or cooked vegetables; 1 cup of 100% vegetable juice; 2 cups of raw leafy greens; or 1 cup of cooked leafy greens.
- **Whole grains**: grains that contain the entire kernel, including the bran, germ, and endosperm.

Life Skills

Critical Thinking, Organizing, Record Keeping, Portion Sizing, Mathematically Converting, and Basic Arithmetic

Subject Links

Science, Mathematics, Nutrition, Health Education

Educational Standards Supported

Discovering Healthy Choices curriculum supports Next Generation Science Standards, Common Core State Standards, and California Nutrition Education Competencies. For specific details on standards and grade levels, please see page 9.

5.1

Activity 5.1: Classroom Activity

Getting Ready

Time Required
45 to 60 minutes

Suggested Groupings
Small groups of 3 to 4 youth

Materials Needed for Each Group
(*Materials provided in curriculum)

- Flip chart paper
- Markers or writing utensils
- Calculators for each group (optional)
- **MyPlate Icon* (Appendix 5A)
- **Character Profiles* (Appendix 5B)
- **Food photos* (Appendix 5C)
- **MyPlate Recommendations* (Appendix 5D)
- **MyPlate for a Day* (Appendix 5E)

1. Make copies of the *MyPlate Icon* (Appendix 5A), one for each group.
2. Make copies of the *Character Profiles* (Appendix 5B), one character for each group.
3. Make copies of the *Food Photos* (Appendix 5C), one set for each group.
4. Make copies of *MyPlate Recommendations* (Appendix 5D), one for each group.
5. Make copies of *MyPlate for a Day* (Appendix 5E), one for each group.
6. Organize the class into small groups of 3 to 4 youth.

   Facilitator Tip: These can be the same groups that were formed in Lesson 1.1. By doing so, the youth may continue developing teamwork skills with the same group members.
7. Provide each group with a copy of the MyPlate icon to answer opening questions.
8. Provide each group with a sheet of flip chart paper and markers to answer opening questions.

Opening Questions/Prompts

Ask youth to respond to each question below by recording them on the flip chart paper provided and sharing their ideas verbally.

- Based on what you observe on the handout, explain what you think the purpose of this illustration might be.
- Explain how this might or might not relate to the foods you eat.

Procedure (Experiencing)

1. Provide each group with one character profile. Ask the youth to read about their character.
2. Provide each group a set of the *Food Photos*. Ask the youth to look through them to become familiar with the foods, paying attention to the food groups and what counts as one serving from each food group.
3. Provide each group with the *MyPlate Daily Recommendations* handout. Explain that the chart includes recommendations for different ages, genders, and physical activity levels. Ask the youth to use this chart to determine the recommendations for their character.
4. Provide each group with the *MyPlate for a Day* handout. Ask the youth to use the *Food Photos* as a guide to select the foods they want to choose for each meal. Ask them to record the food and the number of servings needed to meet the MyPlate recommendations for their character on the *MyPlate for a Day* handout.

   Facilitator Tip: Youth may need to be reminded that not all five groups need to be represented in each meal; however, it is important to meet the recommendations of all five food groups in one day. Youth may also choose foods that are not pictured, but should use the explanation of what counts as a serving in each food group when choosing alternate foods.

Sharing, Processing, and Generalizing

1. Have the groups present their character profile and the foods and number of servings they chose for each meal on the *MyPlate for a Day* chart.
2. Follow the groups' lines of thinking developed through general thoughts, observations, and questions, and if necessary, ask more targeted questions/prompts:
    - Explain what you noticed about the different foods that count as a serving in each of the food groups.
    - Explain how you went about choosing the foods to meet the MyPlate daily recommendation.
    - Explain what you noticed about your character's physical activity level and the MyPlate recommendations for him/her.
    - Explain why a person's physical activity level might be important in considering how much food to eat.
    - Explain why a person's gender or age might make a difference in choosing how much food to eat.
    - Explain what you think about how the recommendations might vary for you compared with the character profile.

Concept Term Discovery/Introduction

Make sure that youth understand the importance of the different MyPlate recommendations for every food group based on age, gender, and physical activity level. Youth should also understand that in each food group there are different amounts of foods that count as one serving. Make sure that the key messages of MyPlate are either discovered by the youth or introduced to them. These include

- making half your plate fruits and veggies
- making half your grains whole
- going lean with protein
- switching to fat-free or low-fat (1%) milk

Additionally, make certain that vocabulary terms are either discovered by the youth or introduced to them: **fruits, vegetables, grains, protein foods, dairy, refined grains,** and **whole grains.**

5.2

Activity 5.2: Classroom Concept Application

Getting Ready

1. Make copies of *MyPlate Recommendations* (Appendix 5D), one for each youth.
2. Make copies of *MyPlate for a Day* (Appendix 5E), one for each youth.

Time
15 to 20 minutes
Facilitator Tip: this can be done during classroom time, or as a homework assignment.

Materials Needed
(*Material provided in the curriculum)
- **MyPlate Recommendations* (Appendix 5D)
- **MyPlate for a Day* (Appendix 5E)

Procedure (Experiencing)

1. Provide a copy of *MyPlate Recommendations* and *MyPlate for a Day* handouts to every youth.
2. Ask the youth to complete the *MyPlate for a Day* chart for themselves, using the *MyPlate Recommendations*.

Sharing, Processing, and Generalizing

1. When the youth have returned with the completed *MyPlate for a Day* chart, have the youth share them.
2. Follow the youths' lines of thinking through general thoughts, observations, and questions, and if necessary, ask a more targeted question/prompt:
   - Explain how your recommendations differed from those for the character profile in the previous activity.

5.3

Activity 5.3: Garden Concept Application

Getting Ready

1. Make a copy of the *Vegetable Comparison Chart* (Appendix 5F), one for each youth.
2. Purchase or harvest vegetables from each of the five MyPlate vegetable subgroups. Recommended foods are provided in *Examples of Vegetables* (Appendix 5G). Enough vegetables are needed for each group of youth to have one whole vegetable from each MyPlate subgroup, and each youth to have one sample from every MyPlate subgroup.
3. Prepare the whole vegetables by washing them.
4. Prepare the vegetable samples in each MyPlate subgroup by cutting washing and cutting them into bite-size pieces, if necessary. Place the samples into small paper cups, one for each youth.

   Facilitator Tip: In order to reinforce the connection with the garden, choose vegetables that are growing in the garden.
5. Organize the class into small groups of four youth.

   Facilitator Tip: These can be the same groups that were formed in Lesson 1, Activity 1. By doing so, the youth may continue developing teamwork skills with the same group members.
6. Provide each group with a sheet of flip chart paper and markers to answer opening questions.

Time Required
60 to 75 minutes

Suggested Groupings
Small groups of 3 to 4 youth

Materials Needed
(*Materials provided in curriculum)
- Flip chart paper
- Markers or writing utensils
- Small paper cups
- Napkins
- **MyPlate Vegetable Comparison Chart* (Appendix 5F)
- Whole vegetables from each MyPlate subgroup
- Vegetable samples for tasting from each MyPlate subgroup

Opening Questions/Prompts

Ask youth to respond to each question below by sharing their ideas on flip chart paper.

- Name some vegetables that you eat. Explain why you like them.
- Explain what you know about the different nutrients found in different vegetables.
- Explain some of the similarities and differences you notice about the different vegetables.

Procedure (Experiencing)

1. Provide each youth with the *MyPlate Vegetable Comparison* chart. Explain that the youth need to fill it out during both the observation and the tasting parts of the activity.

   Facilitator Tip: Youth may need some prompting to describe each of the sensory questions. Visually, they may describe color, size, and texture. From the standpoint of touch, they may describe the texture, weight, temperature, and softness. For its smell, they can describe the character of the smell, or compare it to something familiar to them. Youth may even use their sense of hearing. They can tap the vegetable with their index finger and describe the volume or pitch. In describing the taste of the vegetable, they can describe the taste as well as texture of the vegetable in their mouth.

2. Provide each group with one whole vegetable from the **Dark Green Vegetables** group. Ask each youth to observe the vegetable using sight, sound, touch, and smell. Then ask them to discuss it within their groups, and record their thoughts on the *MyPlate Vegetables Comparison* chart.
3. Give each youth a bite-sized sample from the **Dark Green Vegetables** group. Have each youth taste the vegetable. Ask them to discuss their observations within their groups, and record their thoughts on the *MyPlate Vegetables Comparison* chart.
4. Provide each group with one whole vegetable from the **Beans and Peas** group. Ask each youth to observe the vegetable using sight, sound, touch, and smell. Then ask them to discuss it within their groups, and record their thoughts on the *MyPlate Vegetables Comparison* chart.
5. Give each youth a bite-sized sample from the **Beans and Peas** group. Have each youth taste the vegetable. Ask them to discuss their observations within their groups, and record their thoughts on the *MyPlate Vegetables Comparison* chart.
6. Provide each group with one whole vegetable from the **Starchy Vegetables** group. Ask each youth to observe the vegetable using sight, sound, touch, and smell. Then ask them to discuss it within their groups, and record their thoughts on the *MyPlate Vegetables Comparison* chart.
7. Give each youth a bite-sized sample from the **Starchy Vegetables** group. Have each youth taste the vegetable. Ask them to discuss their observations within their groups, and record their thoughts on the *MyPlate Vegetables Comparison* chart.
8. Provide each group with one whole vegetable from the **Red and Orange Vegetables** group. Ask each youth to observe the vegetable using sight, sound, touch, and smell. Then ask them to discuss it within their groups, and record their thoughts on the *MyPlate Vegetables Comparison* chart.
9. Give each youth a bite-sized sample from the **Red and Orange Vegetables** group. Have each youth taste the vegetable. Ask them to discuss their observations within their groups, and record their thoughts on the *MyPlate Vegetables Comparison* chart.
10. Provide each group with one whole vegetable from the **Other Vegetables** group. Ask each youth to observe the vegetable using sight, sound, touch, and smell. Then ask them to discuss it within their groups, and record their thoughts on the *MyPlate Vegetables Comparison* chart.
11. Give each youth a bite-sized sample from the **Other Vegetables** group. Have each youth taste the vegetable. Ask them to discuss their observations within their groups, and record their thoughts on the *MyPlate Vegetables Comparison* chart.

5.3

Sharing, Processing, and Generalizing

1. Have the youth share their observations from their *MyPlate Vegetables Comparison* chart.
2. Follow the lines of thinking developed through general thoughts, observations, and questions raised by the youth as they share and compare their thoughts and ideas relative to the vegetable food groups and MyPlate recommendations. If needed, use more targeted questions/prompts:
    - Explain what you noticed about the vegetables you just observed and tasted.
    - Explain how you went about making the observations of each vegetable.
    - Describe your reaction to the taste of each vegetable. Did you like it? Why or why not?
    - Explain why you think MyPlate categorizes these vegetables in different groups.
    - Discuss some other vegetables that may go in the different groups.
    - According to MyPlate, half of our plate should be fruits and vegetables. Discuss what vegetables you might choose to eat to fulfill your MyPlate recommendation.

Concept Term Discovery/Introduction

Make sure that youth understand that there are five different MyPlate vegetable subgroups, which are categorized based on the different nutrients. They should understand that it is recommended that we consume vegetables from all five subcategories. They should also learn the types of vegetables that belong in each category:

- dark green vegetables (e.g., broccoli, kale, swiss chard, romaine lettuce)
- beans and peas (e.g., black beans, garbanzo beans, lentils, split peas)
- starchy vegetables (e.g., potatoes, corn)
- red and orange vegetables (e.g., red bell peppers, sweet potatoes, carrots)
- Other vegetables (e.g., cauliflower, beets, green beans)

5.4

Activity 5.4: Goal Setting

Getting Ready

1. Make copies of *MyPlate Recommendations* (Appendix 5D), one for each youth.
2. Make copies of *MyPlate Goal Setting* (Appendix 5H), one for each youth.

Materials Needed
(*Material provided in the curriculum)

- **MyPlate Recommendations* (Appendix 5D)
- **MyPlate Goal Setting* (Appendix 5H)

Procedure (Experiencing)

1. Provide a copy of *MyPlate Goal Setting* handouts to every youth.
2. Ask the youth to bring home this lesson's goal-setting worksheet and complete it with a family member. They will answer the following questions:
    - How many servings of vegetables are recommended for you to eat every day?
    - How many servings of vegetables are recommended for your family members to eat every day?
    - Describe some things you can do to help meet your MyPlate vegetable recommendations.
    - Describe some things your family members can do to help meet the MyPlate vegetable recommendations.
3. When the youth return with the completed worksheet, ask them to share the goals that they set for eating their recommended amounts of vegetables.

5.5

Activity 5.5: Home Concept Application

Getting Ready

1. Make copies of *Growing a Garden for MyPlate* (Appendix 5I), enough for each youth.

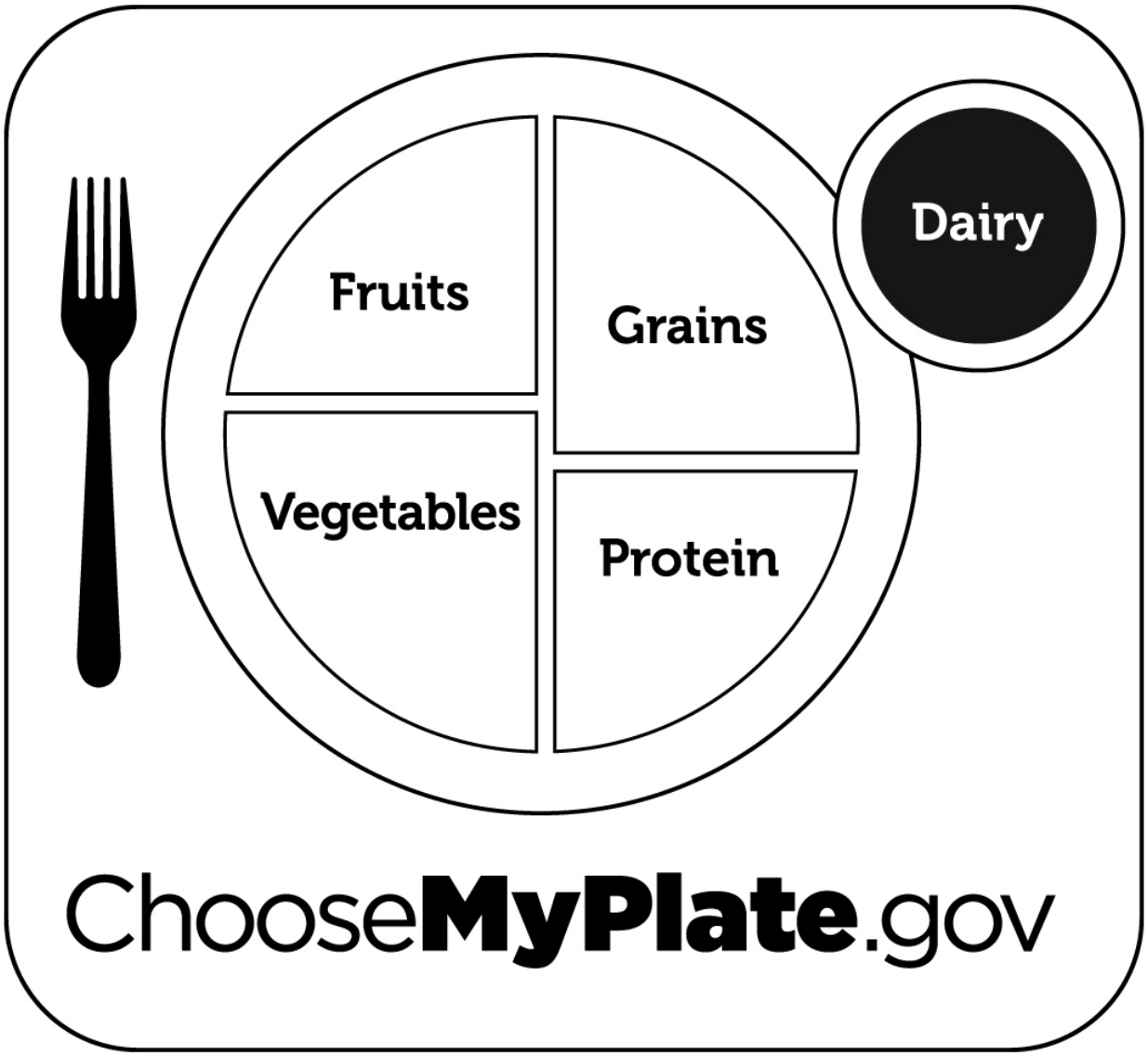
Materials Needed
(*Material provided in the curriculum)
- **MyPlate Garden* (Appendix 5I)

Procedure (Experiencing)

1. Provide a copy of the *Growing a Garden for MyPlate* handouts to every youth.
2. Explain to the youth this is an optional home project. Tell them they can work with their families to create a MyPlate Garden at home. Explain that if they have space to grow multiple plants, to try and grow one vegetable from each MyPlate subcategory. If they have limited space, try growing one vegetable in a container.

5A

APPENDIX 5A: My Plate Icon



5B

APPENDIX 5B: Character Profiles

Hi, I'm **Lily**!

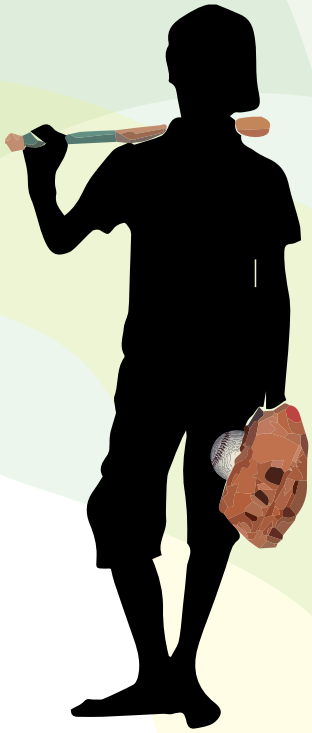
6-year-old Lily is about to go into the 1st grade. She takes ballet classes for 30 minutes, three times a week. She loves the color pink and likes to twirl in her pink tutu. Right when she gets home from practice, Lily likes singing and dancing to her favorite songs.

Hi, I'm **Karla**!

Karla is 6 years old. Her favorite things to do are draw, paint, and color. She does not like to play sports because she always seems to get hurt. Karla wants to be a painter when she grows up.

5B

APPENDIX 5B: Character Profiles



Hi, I'm **David**!

14-year-old David is growing fast. In just one year, David was able to grow 2 inches taller. David loves baseball. He plays baseball for at least 1 hour, five days a week. When he is not playing baseball, David also loves to ride his bicycle with his friends.

Hi, I'm **Alexander**!

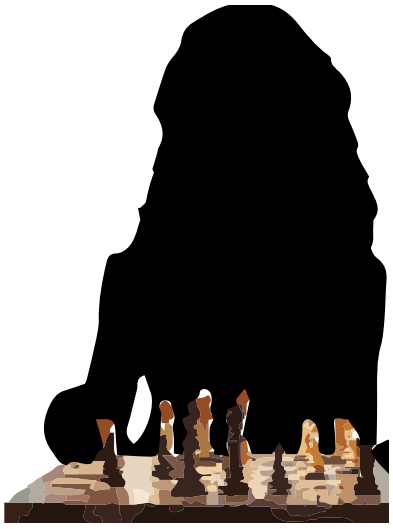
Alexander is 14 years old and is in the 8th grade. He learned to read when he was 4 years old. Ever since then, he hasn't been able to put a book down. His favorite books are comic books. He reads them whenever he can.

5B

APPENDIX 5B: Character Profiles

Hi, I'm **Louisa**!

Louisa is 23 years old and is a college student. She plays volleyball at the college and that is how she met a lot of her friends. Recently she decided to coach volleyball at an elementary school. Louisa also runs 2 miles at 7:00 am every morning, five days a week. She also plays volleyball with her friends three times a week, and games can last 2 to 3 hours.



Hi, I'm **Olivia**!

Olivia, 23 years old, has never been athletic. She loves to read and watch TV. Olivia's favorite book of all time is *James and the Giant Peach*. She is a secretary at Dr. Stone's dental office. She and her husband like to play board games together.

5B

APPENDIX 5B: Character Profiles

Hi, I'm **Joseph**!

30-year-old Joseph is a successful manager at an accounting firm. His job is very demanding, and he typically works starting at 7:00 am, and is usually not home until 8:00 pm. When he gets home from work, he is so exhausted that all he wants to do is relax on the couch and then go to sleep.

Hi, I'm **Anthony**!

Filip, 30 years old, has been playing soccer since he was seven. He plays professional soccer and is one of the best players on his team. He practices 6 days a week for five hours a day. When he doesn't have practice, he runs at least 5 miles per day.

5B

APPENDIX 5B: Character Profiles

Hi, I'm **Mrs. Strutter**!

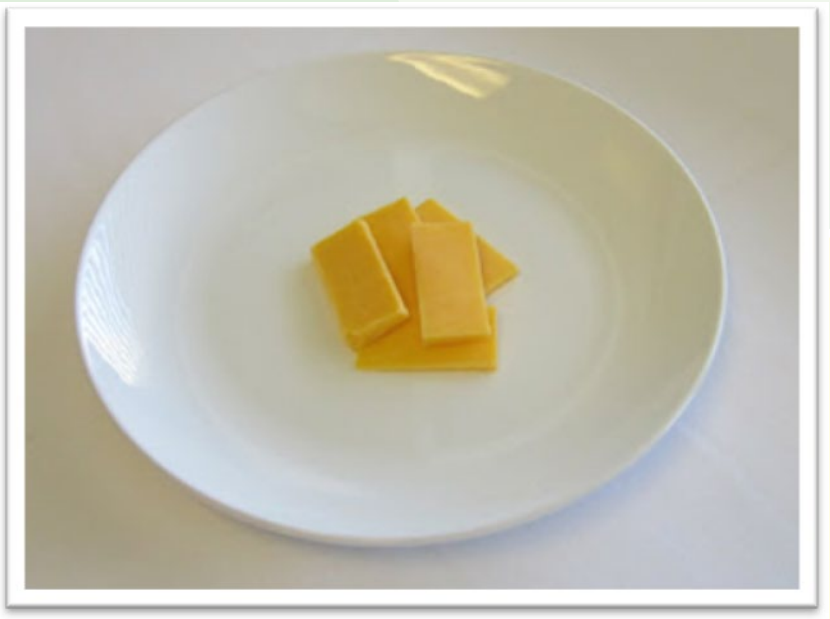
45-year-old Mrs. Strutter is a mother of two children that are in middle school. While they are at school, she does errands, cooks and cleans her home. Her favorite thing to do is to tend to her well-kept, vegetable garden. She spends at least 30 minutes in her garden every day. Mrs. Strutter tries to stay physically active and eat healthfully.

Hi, I'm **Ms. Rodriguez**!

Ms. Rodriguez is 45 years old and is a math teacher at a high school. She lives with her cat named Lucy. In the evenings after she is done grading her students' math homework, she likes to watch movies. One of Ms. Rodriguez's favorite hobbies is to make scrapbooks with her favorite photos.

5C

APPENDIX 5C: Food Photos



Cheddar Cheese

1.5 ounces

Dairy

1½ ounces of cheese counts as 1 cup of dairy

Yogurt

1 cup

Dairy

1 cup of yogurt counts as 1 cup of dairy

5C

APPENDIX 5C: Food Photos

1% Milk

1 cup

Dairy

1 cup of milk counts as
1 cup of dairy

White Rice

½ cup

Grains

½ cup of rice counts as
1 ounce of grains

5C

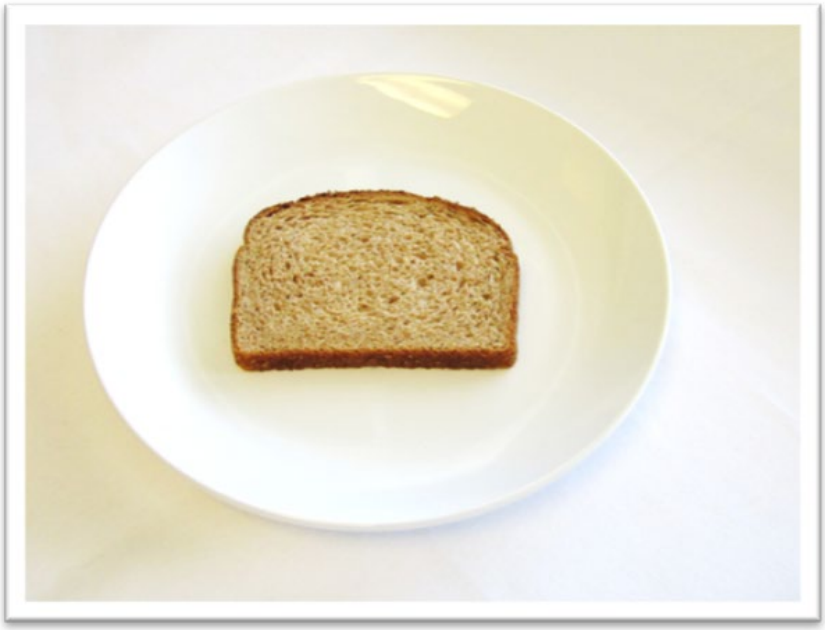
APPENDIX 5C: Food Photos

Cereal

1 cup

Grains

1 cup of cereal counts as 1 ounce of grains



Whole Wheat Bread

1 slice

Grains

1 slice of whole wheat bread counts as 1 ounce of grains

5C

APPENDIX 5C: Food Photos

Raw Spinach

2 cups

Vegetables

2 cups of raw leafy greens count as 1 cup of vegetables

Cooked Spinach

1 cup

Vegetables

1 cup of cooked leafy greens counts as 1 cup of vegetables

5C

APPENDIX 5C: Food Photos

Corn
1 cup

Vegetables
1 cup of corn counts as
1 cup of vegetables

Turkey Deli Meat
1 ounce

Protein
1 ounce of meat or fish counts as 1 ounce of protein

5C

APPENDIX 5C: Food Photos

Egg

1 egg

Protein

1 egg counts as
1 ounce of protein

Black Beans

¼ cup

Protein

¼ cup of beans counts as
1 ounce of protein

5C

APPENDIX 5C: Food Photos

Fish

1 ounce

Protein

1 ounce of meat or fish counts as 1 ounce of protein

Mixed Nuts

½ ounce

Protein

½ ounce of nuts counts as 1 ounce of protein

5C

APPENDIX 5C: Food Photos

Peanut Butter

1 tablespoon

Protein

1 tablespoon of peanut butter counts as 1 ounce of protein

100% Orange Juice

1 cup

Fruit

1 cup of 100% fruit juice counts as 1 cup of fruit

5C

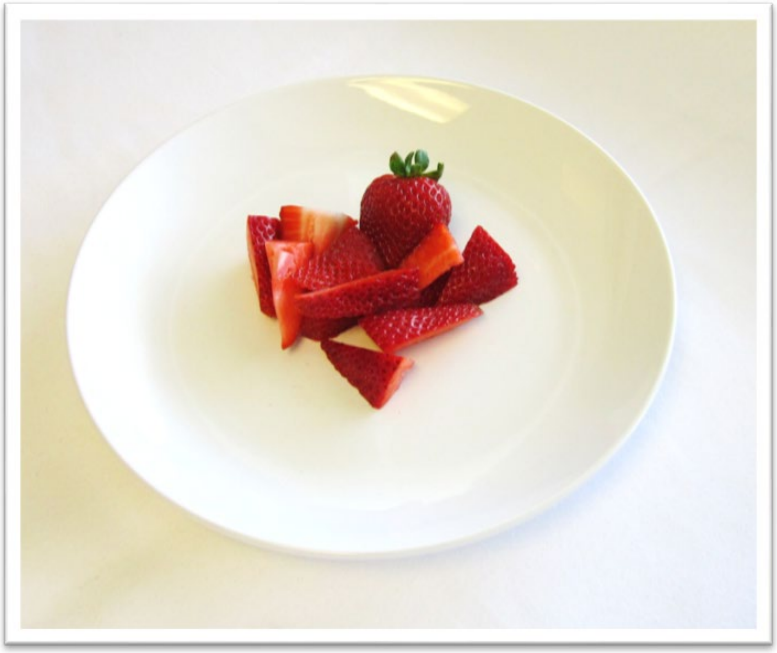
APPENDIX 5C: Food Photos

Raisins

½ cup

Fruit

½ cup of dried fruit counts as 1 cup of fruit



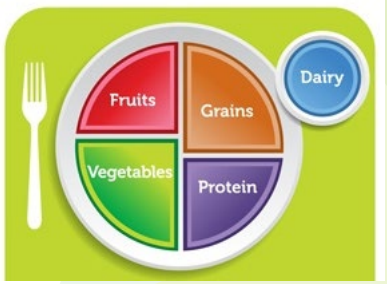
Strawberries

1 cup

Fruit

1 cup of fresh fruit counts as 1 cup of fruit

APPENDIX 5D: MyPlate Recommendations



***Levels of Physical Activity**
Moderate physical activity: walking briskly, hiking, gardening/yard work, and dancing.
Vigorous physical activity: running/jogging, swimming laps, and aerobics.

Less than 30 minutes of moderate physical activity* per day**:**

Gender and age groups	Fruits	Vegetables	Grains	Protein	Dairy
Children: 2–3 years	1 cup	1 cup	3 ounce equivalent	2 ounce equivalent	2 cups
4–8 years	1–1 ½ cups	1½ cups	5 ounce equivalent	4 ounce equivalent	2½ cups
Girls: 9–13 years	1½ cups	2 cups	5 ounce equivalent	5 ounce equivalent	3 cups
14–18 years	1½ cups	2½ cups	6 ounce equivalent	5 ounce equivalent	3 cups
Boys: 9–13 years	1½ cups	2½ cups	6 ounce equivalent	5 ounce equivalent	3 cups
14–18 years	2 cups	3 cups	8 ounce equivalent	6½ ounce equivalent	3 cups
Women: 19–30 years	2 cups	2½ cups	6 ounce equivalent	5½ ounce equivalent	3 cups
31–50 years	1½ cups	2½ cups	6 ounce equivalent	5 ounce equivalent	3 cups
51+ years	1½ cups	2 cups	5 ounce equivalent	5 ounce equivalent	3 cups
Men: 19–30 years	2 cups	3 cups	8 ounce equivalent	6½ ounce equivalent	3 cups
31–50 years	2 cups	3 cups	7 ounce equivalent	6 ounce equivalent	3 cups
51+ years	2 cups	2½ cups	6 ounce equivalent	5½ ounce equivalent	3 cups

APPENDIX 5D: MyPlate Recommendations

30 to 60 minutes of moderate or vigorous physical activity* per day

Age and gender group	Fruits	Vegetables	Grains	Protein	Dairy
Children: 2–3 years	1 cup	1 cup	3 ounce equivalent	2 ounce equivalent	2 cups
4–8 years	1½ cups	2 cups	5 ounce equivalent	5 ounce equivalent	3 cups
Girls: 9–13 years	1½ cups	2½ cups	6 ounce equivalent	5 ounce equivalent	3 cups
14–18 years	2 cups	2½ cups	6 ounce equivalent	5½ ounce equivalent	3 cups
Boys: 9–13 years	2 cups	2½ cups	6 ounce equivalent	5½ ounce equivalent	3 cups
14–18 years	2½ cups	3½ cups	10 ounce equivalent	7 ounce equivalent	3 cups
Women: 19–30 years	2 cups	3 cups	7 ounce equivalent	6 ounce equivalent	3 cups
31–50 years	2 cups	2½ cups	6 ounce equivalent	5½ ounce equivalent	3 cups
51+ years	1½ cups	2½ cups	6 ounce equivalent	5 ounce equivalent	3 cups
Men: 19–30 years	2½ cups	3½ cups	10 ounce equivalent	7 ounce equivalent	3 cups
31–50 years	2 cups	3½ cups	9 ounce equivalent	6½ ounce equivalent	3 cups
51+ years	2 cups	3 cups	7 ounce equivalent	6 ounce equivalent	3 cups

More than 60 minutes of moderate or vigorous physical activity* per day

Age and Gender Group	Fruits	Vegetables	Grains	Protein	Dairy
Children: 2–3 years	1 cup	1 cup	3 ounce equivalent	2 ounce equivalent	2 cups
4–8 years	1½ cups	2½ cups	6 ounce equivalent	5 ounce equivalent	3 cups
Girls: 9–13 years	2 cups	2½ cups	6 ounce equivalent	5½ ounce equivalent	3 cups
14–18 years	2 cups	3 cups	8 ounce equivalent	6½ ounce equivalent	3 cups
Boys: 9–13 years	2 cups	3 cups	7 ounce equivalent	6 ounce equivalent	3 cups
14–18 years	2½ cups	4 cups	10 ounce equivalent	7 ounce equivalent	3 cups
Women: 19–30 years	2 cups	3 cups	8 ounce equivalent	6½ ounce equivalent	3 cups
31–50 years	2 cups	3 cups	7 ounce equivalent	6 ounce equivalent	3 cups
51+ years	2 cups	2½ cups	6 ounce equivalent	5½ ounce equivalent	3 cups
Men: 19–30 years	2½ cups	4 cups	10 ounce equivalent	7 ounce equivalent	3 cups
31–50 years	2½ cups	3½ cups	10 ounce equivalent	7 ounce equivalent	3 cups
51+ years	2 cups	3½ cups	9 ounce equivalent	6½ ounce equivalent	3 cups

APPENDIX 5E: MyPlate for a Day

Who is this profile for? _____

How many servings of each of the food groups does MyPlate recommend for this person for the whole day? _____**Fruits**, _____**Vegetables**, _____**Grains**, _____**Protein**, _____**Dairy**

	Breakfast	Lunch	Dinner	Snack	Daily total
FRUITS					
VEGETABLES					
GRAINS					
PROTEIN					
DAIRY					

APPENDIX 5F: MyPlate Vegetables Comparison

Instructions: Answer the following questions for all the different vegetables during both the observation and tasting parts of the activity.

Sensory questions	Dark green vegetables	Beans and peas	Starchy vegetables	Red and orange vegetables	Other vegetables
What does it look like?					
How does it feel?					
What does it smell like?					
What kinds of sounds does it make when you shake it?					
Describe how it tastes.					

APPENDIX 5G: Recommended Vegetables

Example Vegetables

Dark green vegetables	Beans and Peas	Starchy vegetables	Red and orange vegetables	Other vegetables
bok choy	black beans	cassava	acorn squash	artichokes
broccoli	black-eyed peas (mature, dry)	corn	butternut squash	asparagus
collard greens	garbanzo beans (chickpeas)	fresh cowpeas, field peas, black-eyed peas (not dry)	carrots	avocado
dark green lettuce	kidney beans	green bananas	hubbard squash	bean sprouts
kale	lentils	green peas	pumpkin	beets
mesclun	navy beans	green lima beans	red peppers	brussels sprouts
mustard greens	pinto beans	plantains	sweet potatoes	cabbage
romaine lettuce	soy beans	potatoes	tomatoes	cauliflower
spinach	split peas	taro	tomato juice	celery
Swiss chard	white beans	water chestnuts		cucumbers
turnip greens				eggplant
watercress				green beans
				green peppers
				iceberg (head) lettuce
				mushrooms
				okra
				onions
				turnips
				wax beans
				zucchini

5H

APPENDIX 5H: Goal Setting

MyPlate Goal Setting

How many servings of vegetables are recommended for you to eat every day?

How many servings of vegetables are recommended for your family members to eat every day?

What are some things you can do to meet your vegetable recommendation?

What can your family members do to meet their vegetable recommendation?

5I

APPENDIX 5I: Growing a Garden for MyPlate

Growing a Garden for MyPlate

Plant a home garden with vegetables from different MyPlate subcategories:

1. Dark green vegetables (examples: spinach, kale, Swiss chard)
2. Starchy vegetables (examples: potatoes, corn)
3. Red/orange vegetables (examples: carrots, tomatoes)
4. Beans and peas (examples: black beans, kidney beans)
5. Other vegetables (examples: beets, cauliflower, bok choy)

A home garden can be planted in the ground, raised beds, or containers. If you have limited space, start with just one vegetable in a small container. Most vegetables require full sun, with at least 6–8 hours of sunlight.

These are some vegetables that are recommended for planting in cool weather seasons :

- **Spinach**
  Sow seeds ½ inch to 1 inch deep, covering lightly with soil. Sow about 12 seeds per foot of row or container.
- **Snow peas**
  Plant 1 inch deep (or deeper if soil is dry) and 2 inches apart.
- **Potatoes**
  Potatoes can be started by seed or by planting a small whole potato or small pieces of a whole potato, with at least two eyes per piece. If you are cutting a potato into pieces for planting, do so a 1–2 days before you plant them. This will give them the chance to form a protective layer for moisture retention and resistance to rot. Plant potatoes 1 foot apart, 4 inches deep, with the eye of the potato facing up. Make sure potatoes are planted in well-drained, loose soil.
- **Carrots**
  Plant seeds 3–4 inches apart in rows. Rows should be at least a foot apart.
- **Beets**
  Plant seeds ½ inch deep and 1–2 inches apart.

More Resources for Building a Home Garden

- University of California Agriculture and Natural Resources Garden website, http://ucanr.org/sites/gardenweb/.
- California Master Gardeners website, http://camastergardeners.ucdavis.edu/.
- Sacramento Master Gardeners – How to Grow Vegetables website, http://ucanr.org/sites/sacmg/Growing_Vegetables/.

Photo, Graphic, and Illustration Credits

Cover

- Plant—https://www.flickr.com/photos/aresauburnphotos/2508019220

Module 5: MyPlate

- MyPlate Icon—http://choosemyplate.gov/print-materials-ordering/graphic-resources.html
- Character profile illustrations—Lynn Chang
- Food Photos—Jessica (Dusti) Linnell

References

Module 5: MyPlate

USDA Center for Nutrition Policy and Promotion. 2011. MyPlate. USDA Choosemyplate.gov website, https://www.choosemyplate.gov.