

# Facilitator Guide



# Focus on Food

Nutrition and Health for  
School Nutrition Programs

Produced 2016 by Cal-Pro-NET Center, University of California, Davis  
In association with the California Department of Education, Nutrition Services Division

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# Table of Contents

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|  |            |
|--|------------|
| <b>Acknowledgements .....</b>                                    | <b>5</b>   |
| <b>Introduction .....</b>  | <b>7</b>   |
| Facilitator Tips: How to Get the Most from This Curriculum ..... | 9          |
| Appendix IA – Sample Open-Ended Questions for Facilitators ..... | 17         |
| <b>Lesson 1: Nutrients in Action .....</b>                       | <b>19</b>  |
| Background Information .....                                     | 21         |
| Concepts and Vocabulary .....                                    | 23         |
| 1.1: Learning Activity .....                                     | 25         |
| 1.2: Expanding Knowledge .....                                   | 31         |
| 1.3: Goal Setting Activity .....                                 | 42         |
| Appendix 1A – Nutrients in Action .....                          | 44         |
| Appendix 1B – Student Lunch Choices .....                        | 47         |
| Appendix 1C – Las Llamas Middle School Lunch Menu .....          | 62         |
| Appendix 1D – Nutrient Labels .....                              | 63         |
| Appendix 1E – Student Lunch Choices KEY .....                    | 74         |
| Appendix 1F – Suggested Flip Chart Layout .....                  | 77         |
| Appendix 1G – Goal Setting .....                                 | 78         |
| Appendix 1H – Focus on Food Lesson 1 Newsletter .....            | 79         |
| <b>Lesson 2: How Does Your Food Measure Up? .....</b>            | <b>87</b>  |
| Background information .....                                     | 89         |
| Concepts and Vocabulary .....                                    | 90         |
| 2.1: Learning Activity .....                                     | 91         |
| 2.2: Expanding Knowledge .....                                   | 96         |
| 2.3: Goal Setting Activity .....                                 | 100        |
| Appendix 2A – How Does Your Food Measure Up? Worksheet .....     | 102        |
| Appendix 2B – Nutrition Facts Labels .....                       | 103        |
| Appendix 2C – Goal Setting .....                                 | 105        |
| Appendix 2D – Focus on Food Lesson 2 Newsletter .....            | 106        |
| <b>Lesson 3: Get Your Move On .....</b>                          | <b>113</b> |
| Background Information .....                                     | 115        |
| Concepts and Vocabulary .....                                    | 115        |
| 3.1: Learning Activity .....                                     | 116        |
| 3.2: Expanding Knowledge .....                                   | 122        |
| 3.3: Goal Setting Activity .....                                 | 128        |
| Appendix 3A – Physical Activity Cards .....                      | 130        |
| Appendix 3B – Physical Activity Intensities .....                | 132        |
| Appendix 3C – Activity Chart .....                               | 133        |
| Appendix 3D – Goal Setting .....                                 | 134        |
| Appendix 3E – Focus on Food Lesson 3 Newsletter .....            | 135        |
| <b>Lesson 4: MyPlate – Foods for Life .....</b>                  | <b>143</b> |
| Background information .....                                     | 145        |
| Concepts and Vocabulary .....                                    | 147        |
| 4.1: Learning Activity .....                                     | 148        |
| 4.2: Expanding Knowledge .....                                   | 153        |
| 4.3: Goal Setting Activity .....                                 | 159        |
| Appendix 4A – MyPlate .....                                      | 161        |
| Appendix 4B – Character Descriptions .....                       | 162        |
| Appendix 4C – MyPlate Recommendations .....                      | 163        |

|  |            |
|--|------------|
| Appendix 4D – Food Cards .....                                   | 166        |
| Appendix 4E – Eating from MyPlate.....                           | 171        |
| Appendix 4F – MyPlate Equivalents.....                           | 172        |
| Appendix 4G – Character Lunch Choices .....                      | 173        |
| Appendix 4H – Goal Setting.....                                  | 174        |
| Appendix 4I – Focus on Food Lesson 4 Newsletter .....            | 175        |
| <b>Lesson 5: Nutrients of Concern .....</b>                      | <b>183</b> |
| Background Information .....                                     | 185        |
| Concepts and Vocabulary.....                                     | 185        |
| 5.1: Learning Activity.....                                      | 187        |
| 5.2: Expanding Knowledge .....                                   | 193        |
| 5.3: Goal Setting Activity.....                                  | 197        |
| Appendix 5A – Nutrient Mystery.....                              | 199        |
| Appendix 5B – Nutrient Recommendations .....                     | 204        |
| Appendix 5C – One Day of Food Choices .....                      | 205        |
| Appendix 5D – Food Choices Worksheet.....                        | 210        |
| Appendix 5E – Food Sources Cards .....                           | 211        |
| Appendix 5F – Goal Setting .....                                 | 222        |
| Appendix 5G – Focus on Food Lesson 5 Newsletter .....            | 223        |
| <b>Lesson 6: Understanding Influences on Food Choices.....</b>   | <b>231</b> |
| Background Information .....                                     | 233        |
| Concepts and Vocabulary.....                                     | 233        |
| 6.1: Learning Activity.....                                      | 234        |
| 6.2: Expanding Knowledge .....                                   | 238        |
| 6.3: Goal Setting Activity.....                                  | 243        |
| Appendix 6A – Food Choice Scenarios .....                        | 245        |
| Appendix 6B – Goal Setting.....                                  | 251        |
| Appendix 6C – Focus on Food Lesson 6 Newsletter .....            | 252        |
| <b>Lesson 7: How Smart is Your Lunchroom? .....</b>              | <b>259</b> |
| Background Information .....                                     | 261        |
| Concepts and Vocabulary.....                                     | 262        |
| 7.1: Learning Activity .....                                     | 263        |
| 7.2: Expanding Knowledge .....                                   | 267        |
| 7.3: Goal Setting Activity.....                                  | 272        |
| Appendix 7A – Smarter Lunchrooms Movement.....                   | 274        |
| Appendix 7B – Food of the Day Cards.....                         | 276        |
| Appendix 7C – Goal Setting.....                                  | 277        |
| Appendix 7D – Smarter Lunchrooms Self-Assessment Scorecard ..... | 278        |
| Appendix 7E – Focus on Food Lesson 7 Newsletter.....             | 280        |
| <b>Lesson 8: Working Toward Wellness .....</b>                   | <b>287</b> |
| Background Information .....                                     | 289        |
| Concepts and Vocabulary.....                                     | 289        |
| 8.1: Learning Activity.....                                      | 290        |
| 8.2: Expanding Knowledge .....                                   | 295        |
| 8.3: Goal Setting Activity.....                                  | 301        |
| Appendix 8A – District Wellness Policy Requirements .....        | 303        |
| Appendix 8B – Goal Setting.....                                  | 304        |
| Appendix 8C – Focus on Food Lesson 8 Newsletter .....            | 305        |
| <b>Photo, Graphic, and Illustration Credits .....</b>            | <b>313</b> |

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## Development Team

**Center for Nutrition in Schools  
Department of Nutrition, University of California, Davis**

Jacqueline J. Bergman, PhD  
Marilyn Briggs, PhD, RD, SNS  
Anna M. Jones, PhD  
Jessica D. Linnell, PhD  
Krista Neary, BA  
Lyndsey D. Ruiz, BS, DTR  
Rachel E. Scherr, PhD  
Ashley A. Thiede

**University of California Cooperative Extension, Placer County**

Kelley Brian, MPH

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Julie BoarerPitchford  
Nutrition Education Consultant  
Nutrition Services Division  
California Department of  
Education

Emily Cena  
Nutrition Specialist  
Poway Unified School District

Debbie Fetter  
Graduate Group in Nutritional  
Biology  
University of California, Davis

Kim Frinzell  
Nutrition Education Administrator  
Nutrition Services Division  
California Department of  
Education

Melanie Gerdes  
Program Representative  
Department of Nutrition  
University of California, Davis

David Ginsburg  
Director  
UC CalFresh Nutrition Education  
Program  
University of California, Davis

Sandip Kaur  
Director  
Nutrition Services Division  
California Department of  
Education

Tammy McMurdo  
Program Representative III  
UC CalFresh Nutrition Education  
Program  
University of California, Davis

Brenda Padilla  
Nutrition Services Director  
Sacramento City Unified School  
District

Heather Reed  
Nutrition Education Consultant  
Nutrition Services Division  
California Department of  
Education

Monique Stovall  
Director, Food Services  
San Juan Unified School District

Shannan Young  
Senior Project Manager  
Dairy Council of California

Sheri Zidenberg-Cherr  
Cooperative Extension Specialist  
Co-Director, Center for Nutrition  
in Schools  
Department of Nutrition  
University of California, Davis



# Introduction





# Welcome to *Focus on Food*

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*Focus on Food* is a nutrition curriculum intended for school nutrition program personnel, such as nutrition assistants, servers, and cooks. The lessons are designed to assist learners in gaining an awareness of general nutrition recommendations, while allowing them to discover connections between these recommendations and the importance of school nutrition program requirements. A key component of each lesson is applying the knowledge gained to the daily lives of the learner, whether at the workplace or at home.

The curriculum contains eight lessons covering topics such as: nutrients and their functions in the human body; benefits of physical activity; food recommendations based on gender, age, and level of activity; portions, serving sizes, and the Nutrition Facts Label; factors that influence a student's eating behavior, and local school wellness policies. The activities in each lesson were designed using experiential learning and inquiry.

## Facilitator Tips: How to Get the Most from This Curriculum

### Teaching and Learning Strategies

All activities in the *Focus on Food* curriculum were designed using learner-centered methods, including experiential and inquiry-based learning. 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 that engages learners in activities requiring 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. In addition, inquiry starts with a question; 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 *Focus on Food* 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 participants to proceed through each step in order for learning to be maximized.

## Organization of the Learning Environment

The activities in the *Focus on Food* curriculum are 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 to develop an understanding of concepts being emphasized in specific curriculum activities. If the participants are from different sites or shifts, consider providing nametags to help you and the participants learn each other's names. It may also be helpful to perform an icebreaker activity at the beginning of class. Examples of icebreakers can be found at:

1. Institute for Child Nutrition  
(<http://www.nfsmi.org/documentlibraryfiles/PDF/20110314102309.pdf>)
2. Or you can use the one below:

Ask participants to introduce themselves to the group by sharing the following information:

Name, job title, and school or site

Finish this sentence: I would like to know more about \_\_\_\_\_.

(The sentence should describe some topic or area related to nutrition or encouraging healthy choices.)

## Organization of the Curriculum

The lessons are sequenced so that foundational concepts are discovered first, and then built upon with more advanced concepts as they continue through each lesson.

Each lesson consists of one hands-on activity, a brief lecture, and one goal setting activity. The goal setting activities provide the participants with the opportunity to take what they have learned and apply it to independent, real-world situations in the workplace or at home. This application of knowledge is a critical step of the learning process.

## Curriculum Layout

### **Lesson Title**

The activity title introduces facilitators 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:** Facilitators should not share the background information with the participants prior to the activity. Rather, it is intended to support facilitators by providing factual information that may help ground and inform group discussions.

## Concepts and Vocabulary

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

## Learning Activity

Each lesson consists of a learner-centered activity in which the majority of learning takes place. The curriculum contains the following for each activity:

### Getting Ready

#### **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 the level of learner interest, size of the group, and the setting in which the activities take place.



#### **Materials Needed**

A list of the materials needed to complete the activities is provided for facilitators. The list describes the materials to be used. Most materials are provided as an appendix within the curriculum (these are marked with an \*); however, other materials (such as pens and markers) will need to be obtained prior to activity implementation.



#### **Preparation**

This list describes what needs to be done by facilitators 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. Suggestions are provided for the group size designed for each activity. The suggested groupings are meant to help facilitate quality learning among the participants.



**Facilitator Tip:** When forming groups, it may be helpful not to include supervisors, managers, directors, etc. in groups with those they supervise or manage. This tip has been suggested by instructors as past experience with the lessons has shown that this can disrupt the discovery and learning process if participants defer too much to their supervisors and managers.

### Opening Questions/Prompts

Questions or prompts presented at the beginning of each activity are meant to draw the participants into the topic being addressed in the activity. Responses to the questions will provide facilitators with an understanding of what the participants already know about the topic. Recording the question/prompt on a white board or flipchart paper at the front of the room allows participants to have something to refer to. After each opening question/prompt, provide a few minutes for participants to discuss within their groups. Facilitators should encourage the participants to record their answers to these introductory questions on the provided flip chart paper, as this is an important part of the learning process.



Once participants have had a chance to respond to all the opening questions/prompts, discuss each one as a class. There may be a few seconds of uncomfortable silence, but allow time for participants to speak up by their own volition. This is a chance to engage and build rapport with participants. Some statements and questions to help engage participants at this phase are: “Tell me more about that”; “What do you mean by...”; “How is that motivating you?”; “Did anyone else write this?”; “That’s a very popular opinion.” At this stage, don’t correct misconceptions. Make note of them, and if they aren’t corrected organically through the lesson, address them briefly at the end of the lesson.

**Facilitator Tip:** This is the point when the activity begins with the participants. Open-ended questioning is a key element of inquiry-based learning. For sample open-ended questions, you may refer to Appendix IA at the end of this introduction.

### Procedure (Experiencing)

This is the part of the curriculum when the participants experience and complete the activity itself. It is highly recommended that facilitators read the procedure in its entirety before implementing with the participants so that the activity flows smoothly. It is important for participants 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.



Optional PowerPoint slides have been prepared for major steps in each activity. These slides are intended to be used for participant reference while completing the activity, and do not include full descriptions of each step of an activity. Facilitators should use the full descriptions included with each step in this Facilitator Guide.

### Activity Wrap-Up (Sharing, Processing, and Generalizing)

Following the procedure, there is a period of reflection, during which time the participants come back together as one group and share their observations with each other. This phase provides participants 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 participants have learned throughout the course of the activity. This phase also contains prompts that allow the participants 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 participants. 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 participants.



**Facilitator Tip:** Ensure that all terms/concepts have been discovered or introduced to the participants. Additionally, make certain that any misconceptions have been addressed.

# Expanding Knowledge

Through the activity, participants will discover or be introduced to most of the concepts of the lesson. The Expanding Knowledge section of each lesson consists of 5 to 15 minutes of lecture using PowerPoint slides to reinforce the concepts that have been learned, and to expand on these concepts with more detail and information.



## Getting Ready

### **Time Required**

This segment includes an estimate of the time needed to complete the presentation. The actual time required will vary based on the level of participant interest.



### **Materials Needed**

This list describes the materials needed to present the Expanding Knowledge PowerPoint slides. In order to do so, a computer and projector are needed, as well as the corresponding lesson PowerPoint.



### **Preparation**

This list describes what needs to be done by facilitators to prepare, includes the slide number on which the Expanding Knowledge segment begins.



## Procedure

The procedure for the Expanding Knowledge segment includes a suggested script for facilitators to use. The script, which is also included with the PowerPoint files, includes opportunities for participant engagement. Questions to ask the class are included to encourage interaction.



# Goal Setting

Following Expanding Knowledge, each lesson has a short Goal Setting activity. This is a key part of the learning cycle, as it allows participants to reflect on what they learned, and how it can be applied in their own lives.



## Getting Ready

### **Time Required**

This segment includes an estimate of the time needed to complete the Goal Setting activity. The actual time required will vary based on the level of participant interest.



### **Materials Needed**

This list describes the materials needed for this activity. Most goal setting activities require only the goal setting handout provided in each lesson appendix, however some make use of materials from the Learning Activity.



### **Preparation**

This list describes what needs to be done by facilitators to prepare.



## Procedure

The procedure for the Goal Setting activity is structured in order to provide participants time to quietly reflect on how they can use what they learned in the lesson, before asking for volunteers to share their goals with the class. There is an optional step that instructs the facilitator to distribute an accompanying newsletter that can be found as the final appendix in each lesson.



These newsletters provide an opportunity for reinforcement of the material in an engaging, user-friendly format.

**Facilitator Tip:** If offering this course in a single workshop, you may wish to distribute the lesson newsletters weekly in order to help refresh participants' memory and solidify the concepts.



## Focus on Food Professional Standards Suggested Crediting

| Lesson                                      | Time*                 | Key Area                     | Key Topic                                 | Objective  |
|---|-----------------------|------------------------------|---|--|
| 1: Nutrients in Action                      | 1 hour and 15 minutes | Nutrition                    | General Nutrition – 1300                  | 1320 – Understand general nutrition concepts that relate to school meals, such as whole grains, sodium, etc.                                       |
| 2: How Does Your Food Measure Up?           | 1 hour                | Operations                   | Serving Food – 2200                       | 2210 – Identify/serve portions of food items according to USDA school meal pattern requirements and diet restrictions.                             |
| 3: Get Your Move On                         | 45 minutes            | Administration               | Human Resources and Staff Training – 3400 | 3450 – Foster employee health, safety, and wellness.   |
| 4: My Plate – Foods for Life                | 1 hour                | Nutrition                    | General Nutrition – 1300                  | 1310 – Relate Dietary Guidelines and USDA food guidance (such as MyPlate) concepts to the goals of the school nutrition programs.                  |
| 5: Nutrients of Concern                     | 1 hour                | Nutrition                    | General Nutrition – 1300                  | 1320 – Understand general nutrition concepts that relate to school meals, such as whole grains, sodium, etc.                                       |
| 6: Understanding Influences on Food Choices | 1 hour                | Nutrition                    | Nutrition Education – 1200                | 1220 – Integrate nutrition education curriculum with school nutrition program, utilizing the cafeteria as a learning environment.                  |
| 7: How Smart is Your Lunchroom?             | 1 hour                | Communications and Marketing | Communications and Marketing – 4100       | 4160 – Create an environment that engages students to select and consume healthy foods with minimum waste, including Smarter Lunchroom techniques. |
| 8: Working Toward Wellness                  | 1 hour                | Communications and Marketing | Communications and Marketing – 4100       | 4110 – Develop strategic plans and marketing plans that reflect program goals and enhance interaction with stakeholders.                           |

\*Time includes total time needed to complete all three sections of each lesson.

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# Appendix IA – Sample Open-Ended Questions for Facilitators



## Observing

- Describe what you know about...
- Explain what you observed when...
- Tell me what happened when...
- What did you notice about...
- Tell me more about that...
- What do you mean by...

## Making Sense of what happened

- Based on what you observed, what do you think about...
- How did you decide to go about...
- Using what you know, explain...
- Explain your thoughts about...
- What do you mean by...
- Would you tell me more about
- What do you already know about...

## Reasoning

- Imagine...
- Suppose...
- Predict...
- If..., then...
- How might...
- Can you create...
- What are some of the possible consequences...
- What if...
- What do you think would happen if...
- Is there another way to...
- How might you do that differently?

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## Open-Ended Questions



## Observing

- Describe what you know about...
- Explain what you observed when...
- Tell me what happened when...
- What did you notice about...
- Tell me more about that...
- What do you mean by...

## Making Sense of what happened

- Based on what you observed, what do you think about...
- How did you decide to go about...
- Using what you know, explain...
- Explain your thoughts about...
- What do you mean by...
- Would you tell me more about
- What do you already know about...

## Reasoning

- Imagine...
- Suppose...
- Predict...
- If..., then...
- How might...
- Can you create...
- What are some of the possible consequences...
- What if...
- What do you think would happen if...
- Is there another way to...
- How might you do that differently?



# Lesson 1: Nutrients in Action





# Lesson 1: Nutrients in Action

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## Background Information

**Nutrients** are substances that provide energy and structure to the body along with supporting regulatory systems. There are six classes of nutrients: protein, carbohydrates, fat, vitamins, minerals, and water.

**Essential nutrients** are nutrients that the body needs, but cannot make or cannot make enough of, therefore they have to be consumed through food. They provide the building blocks for all the things our bodies do on a daily basis. Without these, functions necessary for life and health start to break down.



**Macronutrients** are nutrients we eat in large amounts. These include **protein**, **carbohydrates**, and **fat**. These macronutrients also provide **calories**, which are a unit of heat energy.



**Protein** is broken down to amino acids, which are then used for a variety of functions in the body. Protein's primary role in the body is to provide structure in the form of muscles, tendons, and collagen. However, protein also serves many regulatory roles in the body such as aiding in the transport of nutrients in our blood, supporting DNA and immune function, and providing the building blocks for many enzymes and hormones. Protein also provides energy for our bodies (4 calories per gram). Excess protein is converted to fat to be stored and used for energy later.

**Carbohydrates** primarily serve as a source of energy for our bodies. In fact, carbohydrates are the main fuel for our brains. There are two general classes of carbohydrates, including simple sugars and complex carbohydrates. Some examples of simple sugars include fructose found in fruit, lactose found in milk products, and sucrose found in table sugar. Some examples of complex carbohydrates include starches found in potatoes and grains and fiber found in most plant-based foods. Simple sugars and starches provide 4 calories per gram, however simple sugars are absorbed more quickly than starches in the body. Excess carbohydrates are converted to fat to be stored and used for energy later. **Fiber** is a type of carbohydrate that our bodies cannot digest, but is important for digestive health.



**Fat** is a versatile macronutrient that provides energy and structure to the body in addition to supporting many regulatory functions. **Fatty acids** are a component of fat. With regards to energy, fat serves as the primary fuel used by the body, providing 9 calories per gram. Fat is also an integral part of the structure of every cell in the human body. Additionally, fat plays a crucial role in hormonal and immune system regulation. There are two main types of fats: **solid fats**, which are

solid at room temperature, and **oils**, which are liquid at room temperature. These have different effects on our health. Solid fats, which include *trans* fat and saturated fat, are generally considered unhealthy, because they have been linked to a higher risk for heart disease. Foods with solid fats generally come from animal sources such as dairy or meat. Oils generally contain mostly polyunsaturated fats. Most foods with oils are plant-based such as nuts, seeds, olives and avocados. Our bodies need certain types of polyunsaturated fatty acids, called **essential fatty acids**, because we are not able to make them on our own. These include what are called omega-6 fatty acids, and omega-3 fatty acids. Examples of foods containing essential fatty acids include fish, flax seeds, and walnuts (omega-3s) or soy beans and corn oil (omega-6s). It is also important to note that body fat is the main way our bodies store energy for later use.

In addition to macronutrients, our bodies also need a variety of **micronutrients**. They are called micronutrients because our bodies only need very small amounts of them. These include vitamins and minerals.

**Vitamins** are nutrients that exclusively serve regulatory roles in the body. There are two major types: fat-soluble and water-soluble.

**Vitamins A, D, E, and K** are classified as fat-soluble vitamins. **B vitamins**, and **vitamin C** are classified as water-soluble vitamins. Different vitamins serve different purposes in the body. Fat-soluble vitamins serve more general regulatory roles in the body. For example, vitamin K is needed for blood clotting, while vitamin D is needed for bone health and immune function. Water-soluble vitamins mainly serve as co-factors or “helpers” in many metabolic functions. For example, B vitamins assist in supporting proper metabolism (See Appendix 1A for more detail on individual vitamins.)



**Minerals** are inorganic elements that come from water and soil and are absorbed by plants or eaten by animals. Our bodies need quite a few different minerals, some of which are **iron, calcium, magnesium, and zinc**. Like vitamins, different minerals serve different purposes. For example, iron is important in our red blood cells for moving oxygen around our bodies, while zinc is important for wound healing and immune function. (See Appendix 1A for more detail on individual minerals.)

For most essential nutrients, our bodies are able to save an extra supply to get us through times when we aren't consuming enough. These stores differ by nutrient; some stores can last a very long time, but some cannot. If we aren't consuming enough nutrients, our bodies are not able to build up this extra supply.

A balanced diet provides our bodies with all of the nutrients we need. The **United States**

**Department of Agriculture (USDA)** has produced **MyPlate** as a tool for consumers to help guide their food choices. MyPlate recommendations are based on the current **Dietary Guidelines for Americans** and **Dietary References Intakes**. The USDA also uses these guidelines to develop the **National School Lunch Program (NSLP)** and **School Breakfast Program (SBP)** required **meal patterns**. Schools participating in the NSLP and SBP are required to follow these meal patterns in order to be



reimbursed for the meals served to participating children.

# Concepts and Vocabulary

**2015-2020 Dietary Guidelines for Americans:** Diet recommendations for Americans produced jointly by the USDA and the US Department of Health and Human Services.

**Antioxidants:** Substances that help protect our cells and DNA from damage.

**B-vitamins:** Vitamins that are important for helping our bodies turn food into energy.

**Calcium:** A mineral important for bone health and muscle function.

**Carbohydrate:** A macronutrient that primarily provides our bodies with energy.

**Dietary fiber:** A type of carbohydrate that can't be digested, but is important for digestive health. It may help reduce blood cholesterol and lower risk of heart disease.

**Dietary Reference Intakes:** Recommended intakes for each nutrient.

**Essential nutrients:** Nutrients our bodies can only get from food.

**Essential fatty acids:** Fatty acids that our bodies cannot make. These include omega-6 and omega-3 fatty acids.

**Energy:** What our bodies use to power everything we do.

**Fat:** A macronutrient that provides energy, but also is important for cell structure and nerve function.

**Fatty acids:** A component of fat. These can be saturated or unsaturated.

**Folate (Folic acid):** A B-vitamin that helps the body form red blood cells and is needed for growth and repair. It is also important in pregnancy to help prevent birth defects.

**Iron:** A mineral that is important in red blood cells, and is used to move oxygen around in the blood.

**Macronutrients:** Nutrients we consume in large amounts, including carbohydrates, protein, and fat.

**Magnesium:** A mineral needed for bone health, and nerve and muscle function.

**Meal Pattern (NSLP and SBP):** The foods and amounts that are required to be served in meals that are part of the NSLP or SBP.

**Micronutrients:** Nutrients we consume in small amounts, including vitamins and minerals.

**Minerals:** Elements we get from foods, which are needed for functions in our bodies.

**MyPlate:** Governed by the United States Department of Agriculture, an illustration depicting the five food groups for a healthy diet, showing sections of a plate that should match how much of each food group goes on your plate.

**National School Lunch Program (NSLP):** A program administered by the USDA to provide reimbursement to schools for lunches served to children, provided they follow predetermined regulations and requirements.

**Nutrients:** are substances that provide energy and structure to the body along with supporting regulatory systems. There are six classes of nutrients including protein, carbohydrates, fat, vitamins, minerals, and water.

**Oils:** Fats that are liquid at room temperature, including mono- and poly-unsaturated fats.

**Protein:** A macronutrient that is needed for muscle growth and maintenance, but also several other important functions in the body. Protein can also be used for energy.

**School Breakfast Program:** A program administered by the USDA to provide reimbursement to schools for breakfasts served to children, provided they follow predetermined regulations and requirements.

**Solid fats:** Fats that are solid at room temperature, including saturated fats and *trans* fats.

**United States Department of Agriculture:** Government agency that develops and executes policy related to agriculture, farming, and food in the US.

**Vitamin A:** A vitamin that is needed for vision, wound healing, and growth.

**Vitamin B12:** A vitamin needed for forming red blood cells, and is important in helping our bodies turn food into energy. It is also needed for growth and repair.

**Vitamin C:** A vitamin needed for wound-healing, healthy gums, and also acts as an antioxidant.

**Vitamin D:** A vitamin that is needed for bone health and immune function. Sunlight helps us make this vitamin in our skin.

**Vitamin E:** A vitamin that is an important antioxidant and helps keep our cells healthy.

**Vitamins:** Substances we get from foods which are needed for functions in our bodies.

**Zinc:** A mineral that is important in immune function.



# 1.1: Learning Activity

## Getting Ready



### Time Required

55 minutes

Overall, this lesson requires approximately 90 minutes. It is necessary to provide a strong foundation for the subsequent lessons to build on.



### Materials Needed

(\*Materials provided in the curriculum)

- Flip chart paper
  - Markers, pens, or pencils
  - Sheets of adhesive mailing labels, 1" x 2 5/8", such as Avery 5160
  - \**Nutrients in Action* (Appendix 1A)
  - \**Student Lunch Choices* (Appendix 1B)
  - \**Las Llamas Middle School Lunch Menu* (Appendix 1C)
  - \**Nutrient Labels* (Appendix 1D)
- Optional:
- \**Student Lunch Choices KEY* (Appendix 1E)
  - \**Focus on Food Lesson 1* (PowerPoint)
  - Computer
  - PowerPoint Projector



### Preparation

1. Make copies of *Nutrients in Action* (Appendix 1A), one copy per participant.

**Facilitator Tip:** To encourage group work, it is recommended that you provide one copy per group. It may help to verbally explain that they will only get one copy per group and that taking turns reading aloud is recommended. At the end of the activity, distribute the *Nutrients in Action* Handout to each participant as a take-home resource.

2. Print one or more copies of *Student Lunch Choices* (Appendix 1B), so that each group has a set.
3. Make copies of *Las Llamas Middle School Lunch Menu* (Appendix 1C), one copy per group.
4. Print one or more copies of *Nutrient Labels* (Appendix 1D), enough that each group has a set. This should be printed either on adhesive mailing labels or on plain paper (please see Appendix 1B for additional instructions).

Appendix 1A – Nutrients in Action

|  |   |   |
|--|---|---|
| <p><b>Thiamin</b></p> <p>What does it do? Thiamin also called vitamin B1 is important in helping our bodies turn food into energy.</p> <p>Where can I find it? Whole grains and fortified grains. Beans and peas. Nuts and seeds. Pork.</p> <p>What does it do? Thiamin is important in helping our bodies turn food into energy.</p> <p>Where can I find it? Whole grains and fortified grains. Beans and peas. Nuts and seeds. Pork.</p>   | <p><b>Riboflavin</b></p> <p>What does it do? Riboflavin also called vitamin B2 is important in helping our bodies turn food into energy.</p> <p>Where can I find it? Dairy products, such as milk, yogurt, and cheese. Eggs. Fortified grains. Nuts and seeds.</p> <p>What does it do? Riboflavin is important in helping our bodies turn food into energy.</p> <p>Where can I find it? Dairy products, such as milk, yogurt, and cheese. Eggs. Fortified grains. Nuts and seeds.</p>                 | <p><b>Vitamin B6</b></p> <p>What does it do? Vitamin B6 helps control appetite, is important in helping our bodies turn food into energy.</p> <p>Where can I find it? Meat and poultry. Fish. Nuts and seeds.</p> <p>What does it do? Vitamin B6 helps control appetite, is important in helping our bodies turn food into energy.</p> <p>Where can I find it? Meat and poultry. Fish. Nuts and seeds.</p>  |
| <p><b>Folate</b></p> <p>What does it do? Folate also called vitamin B9 helps the body form red blood cells and is important for growth and repair. It is also important in helping our bodies turn food into energy.</p> <p>Where can I find it? Dark green leafy vegetables. Citrus fruits, such as oranges. Beans and peas.</p> <p>What does it do? Folate also called vitamin B9 helps the body form red blood cells and is important for growth and repair. It is also important in helping our bodies turn food into energy.</p> <p>Where can I find it? Dark green leafy vegetables. Citrus fruits, such as oranges. Beans and peas.</p> | <p><b>Vitamin B12</b></p> <p>What does it do? Vitamin B12 helps control appetite, is important in helping our bodies turn food into energy.</p> <p>Where can I find it? Meat, poultry, and seafood. Eggs. Dairy products. Fortified grains. Nuts and seeds.</p> <p>What does it do? Vitamin B12 helps control appetite, is important in helping our bodies turn food into energy.</p> <p>Where can I find it? Meat, poultry, and seafood. Eggs. Dairy products. Fortified grains. Nuts and seeds.</p> | <p><b>Vitamin C</b></p> <p>What does it do? Vitamin C is important in helping our bodies turn food into energy. It is also important in helping our bodies turn food into energy.</p> <p>Where can I find it? Citrus fruits. Strawberries. Kiwi. Pineapples. Tomatoes.</p> <p>What does it do? Vitamin C is important in helping our bodies turn food into energy. It is also important in helping our bodies turn food into energy.</p> <p>Where can I find it? Citrus fruits. Strawberries. Kiwi. Pineapples. Tomatoes.</p> |

Appendix 1B – Student Lunch Choices

Group 1  
Vitamin D  
Iron  
Protein

**Monday**  
Leticia chose the corn and cheese enchilada, with black beans, grapes, and chocolate milk.  
Did Leticia choose foods with your assigned nutrients on Monday? If yes, which nutrients?

**Tuesday**  
On Tuesday, Leticia selected the Chicken Veggie Wrap, baked sweet potato fries, orange slices, and chocolate milk.  
Did Leticia choose foods with your assigned nutrients on Tuesday? If yes, which nutrients?

**Wednesday**  
On Wednesday, Leticia selected the chicken teriyaki, a banana, and plain low-fat milk.  
Did Leticia choose foods with your assigned nutrients on Wednesday? If yes, which nutrients?

**Thursday**  
On Thursday, Leticia selected the southwest salad, strawberries, and chocolate milk.  
Did Leticia choose foods with your assigned nutrients on Thursday? If yes, which nutrients?

**Friday**  
On Friday, Leticia selected the strawberry smoothie, red hot pepper strips with hummus, a banana, and chocolate milk.  
Did Leticia choose foods with your assigned nutrients on Friday? If yes, which nutrients?

**Weekly**  
Over the entire week, did Leticia choose foods with your assigned nutrients at least once? If not, what nutrients was she missing?

Appendix 1C – Las Llamas Middle School Lunch Menu

| Choose Daily   | Monday   | Tuesday  |
|--|--|--|
| <p><b>Enchilada</b></p> <p>Enchilada with Chicken or Beef</p> <p><b>Salad</b></p> <p>Salad with Chicken or Beef</p> <p><b>Smoothie</b></p> <p>Smoothie with Fruit and Yogurt</p> | <p><b>Enchilada</b></p> <p>Enchilada with Chicken or Beef</p> <p><b>Salad</b></p> <p>Salad with Chicken or Beef</p> <p><b>Smoothie</b></p> <p>Smoothie with Fruit and Yogurt</p> | <p><b>Enchilada</b></p> <p>Enchilada with Chicken or Beef</p> <p><b>Salad</b></p> <p>Salad with Chicken or Beef</p> <p><b>Smoothie</b></p> <p>Smoothie with Fruit and Yogurt</p> |
| <p><b>Enchilada</b></p> <p>Enchilada with Chicken or Beef</p> <p><b>Salad</b></p> <p>Salad with Chicken or Beef</p> <p><b>Smoothie</b></p> <p>Smoothie with Fruit and Yogurt</p> | <p><b>Enchilada</b></p> <p>Enchilada with Chicken or Beef</p> <p><b>Salad</b></p> <p>Salad with Chicken or Beef</p> <p><b>Smoothie</b></p> <p>Smoothie with Fruit and Yogurt</p> | <p><b>Enchilada</b></p> <p>Enchilada with Chicken or Beef</p> <p><b>Salad</b></p> <p>Salad with Chicken or Beef</p> <p><b>Smoothie</b></p> <p>Smoothie with Fruit and Yogurt</p> |

Group 1  
(page 1 of 2)

|           |           |           |
|-----------|-----------|-----------|
| Vitamin D | Vitamin D | Vitamin D |
| Vitamin D | Vitamin D | Vitamin D |
| Vitamin D | Vitamin D | Vitamin D |
| Vitamin D | Vitamin D | Vitamin D |
| Vitamin D | Vitamin D | Vitamin D |
| Iron      | Iron      | Iron      |
| Iron      | Iron      | Iron      |
| Iron      | Iron      | Iron      |

5. Prepare one flip chart for each of the students in the *Student Lunch Choices Handout* (Appendix 1B). Each flip chart should have the following information:
  - Student name across the top;
  - Days of the week listed on the left-hand side; and
  - “At the end of the week, what nutrients are missing?” written near the bottom.
  - Refer to *Suggested Flip Chart Layout* (Appendix 1F)
6. Organize the class into small groups of 2 to 4 participants.

**Facilitator Tip:** These groups can also be used in future lessons.

7. Provide each group with a sheet of flip chart paper and markers, pens, or pencils to answer opening questions/prompts.

Optional:

8. Make copies of *Student Lunch Choices KEY* (Appendix 1E), one copy per participant.
9. Before participants arrive, connect laptop to projector. Load *Focus on Food Lesson 1* (PowerPoint).



## Opening Questions/Prompts

1. **Say:** Let's get started with Lesson 1 – Nutrients in Action! To begin, I'd like everyone to discuss some opening questions within your group. Once you've discussed the prompts within your groups, we will come back together as a class and discuss your thoughts and responses as a whole. **(Slide 2)**



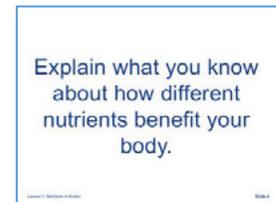
The first prompt I'd like you to discuss within your groups is:

- Explain what you know about nutrients. **(Slide 3)**

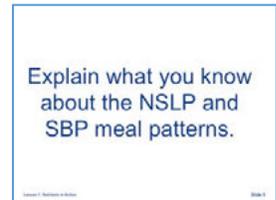
**Facilitator Tip:** Explain to students that they may write their answers independently or assign one person in their group to write down everyone's thoughts. It may be helpful to explain to the class that they will not be graded at this stage, and that they will learn more about these topics throughout the lesson.



2. **Do:** Allow 2 to 3 minutes for groups to discuss the prompts.
3. **Say:** Now I'd like you to discuss within your groups the next prompt:
  - Explain what you know about how different nutrients benefit your body. **(Slide 4)**



4. **Do:** Allow 2 to 3 minutes for groups to discuss the prompts.
5. **Say:** Now I'd like you to discuss within your groups the last prompt:
  - Explain what you know about the NSLP and SBP meal patterns. **(Slide 5)**



6. **Do:** Allow 2 to 3 minutes for groups to discuss the prompts.
7. **Say:** As a class, let's discuss what you talked about in your groups. What were some of your thoughts on the first prompt, "Explain what you know about nutrients"?
8. **Do:** Allow about a minute for participants to share their thoughts on this topic with the class.

**Facilitator Tip:** This sharing phase is a great opportunity to begin to build rapport with participants. Some statements and questions to help engage participants at this phase are: "Tell me more about that"; "What do you mean by..."; "How is that motivating you?"; "Did anyone else write this?"; "That's a very popular opinion." At this stage, it is important that you do not correct misconceptions. Instead, make note of them, and if they are not corrected organically through the lesson, address them briefly at the end of the lesson.

9. **Say:** What were some of your thoughts on the second prompt, "Explain what you know about how different nutrients benefit your body"?
10. **Do:** Allow about a minute for participants to share their thoughts on this topic with the class.

**Facilitator Tip:** Continue to make note of misconceptions as they arise. Assure participants that there will be more time to discuss these topics at the end of the lesson.

11. **Say:** What were some of your thoughts on the last prompt, "Explain what you know about the NSLP and SBP meal patterns"?

12. **Do:** Allow about a minute for participants to share their thoughts on this topic with the class.

**Facilitator Tip:** Continue to make note of misconceptions as they arise. Assure participants that there will be more time to discuss these topics at the end of the lesson.

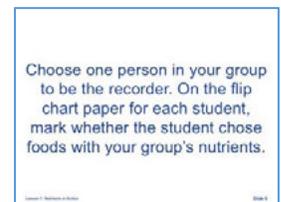
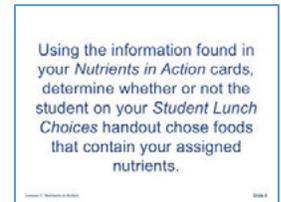
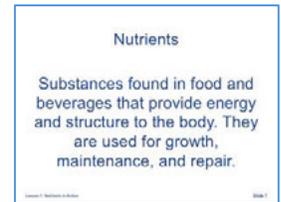


## Procedure (Experiencing)

- Say:** Before we get started with the activity, let's make sure we're all on the same page about the definition of a nutrient. Nutrients are substances found in food and beverages that provide energy and structure to the body. They are used for growth, maintenance, regulation, and repair. **(Slide 7)**
- Say:** Now let's move into this lesson's activity. Each group will be provided with a few different handouts to use in the first part of this activity:
  - Each group will be assigned three different nutrients, which you will see on your handout.
  - Within your groups, you will use the information found in the *Nutrients in Action* and *Las Llamas Middle School Lunch Menu* Handouts to determine whether or not the students on the *Student Lunch Choices* Handout chose foods that contain your three assigned nutrients. **(Slide 8)**
- Do:** Provide each group with:
  - One copy of the *Nutrients in Action* Handout (Appendix 1A).
  - One set of the *Student Lunch Choices* Handouts (Appendix 1B).
  - One copy of *Las Llamas Middle School Lunch Menu* (Appendix 1C)
- Do:** Allow several minutes for participants to complete the handout. While participants do so, hang the prepared flip chart papers on the walls around the room.

**Facilitator Tip:** If some groups finish earlier than others, ask them to take a look at some of the other nutrients on the *Nutrients in Action* Handout, and identify if the students chose foods with those as well.

**Facilitator Tip:** To reduce congestion during the next step spread the flip charts far apart.
- Say:** For the next part of this activity, there is a different flip chart paper for each student around the room.
  - Your next task will use the *Nutrient Labels* that will be handed out.
  - If the student consumed one of your assigned nutrients, put a label for that nutrient next to the day of the week the student consumed it. **(Slide 9)**



- For example, if a student consumed magnesium on Monday, you would put a label for magnesium in the space next to Monday for that student.
- If, by the end of the week, they didn't consume one of your nutrients at all, put a label for that nutrient at the bottom of the flip chart, where it says, "At the end of the week, what nutrients are missing?"
- Do this for all three of your group's nutrients.

**Facilitator Tip:** Refer to Appendix 1F for a reference photo of a completed flip chart.

**Facilitator Tip:** To reduce congestion, have two to three groups at a time complete this step.

6. **Do:** Provide a set of *Nutrient Labels* (Appendix 1D) to each group, matched to the *Student Lunch Choices* they received earlier. Allow a few minutes for groups to complete the flip charts.

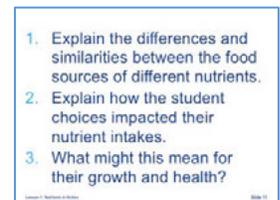


7. **Say:** As a class, let's review the nutrients that the students consumed and did not consume. Who would like to volunteer to describe the nutrients found in the first student's choices, and what nutrients they didn't get over the course of the week?

8. **Do:** Allow a minute or two for the volunteer(s) to review the nutrients consumed and not consumed for each student. **(Slide 10)**

9. **Say:** Now that we have an idea of the nutrients consumed and not consumed by the students, there are few discussion topics to talk over in your groups. Feel free to jot down ideas on your flip chart paper, or on the back of a handout. **(Slide 11)**

- Explain the differences and similarities between the food sources of different nutrients.
- Explain how the student choices impacted their nutrient intake.
- What might this mean for their growth and health?



10. **Do:** While participants are discussing within their groups, visit each group to help guide discussion if needed.

**Facilitator Tip:** If needed, use prompts to help guide the discussion. Some examples are:

- What are some patterns you notice in the food sources of nutrients?
- Describe the kinds of foods students chose that helped them get a lot of nutrients.
- Describe what the impacts might be if students chose the same foods every single day.
- If they do this a lot, describe what you think will happen in the long term.



## Activity Wrap-Up (Sharing, Processing, and Generalizing)

1. **Say:** As a class, let's discuss your observations about the students and their choices. **(Slide 12)**

2. **Do:** Follow the group's line of thinking, and if necessary, ask more targeted questions.

- What did you notice about the foods the students chose?
- Describe how the students' choices impacted the nutrients they are getting or missing.
- Describe what it might mean if they are missing a nutrient.
- What if the student doesn't get all their needed nutrients in one meal?
- Describe any connections you might see between the different components in the meal patterns and different nutrients.



**Facilitator Tip:** If there are any misconceptions remaining in this phase of the lesson, you should address these now.

3. **Say:** Before we move on to the next part of the activity, I have copies of the *Nutrients in Action* Handout for everyone to keep.

**Facilitator Tip:** You may also wish to provide the *Student Lunch Choices KEY* (Appendix 1E) to each participant at this stage as well.

4. **Do:** Distribute copies of the *Nutrients in Action* Handout to each participant.

**Facilitator Tip:** You can also ask for a volunteer to help distribute the handout.



## Concept and Term Discovery/Introduction

Over the course of the activity, participants should be able to identify the following concepts:

- Different foods provide different nutrients, the importance of variety in diet, and that eating a variety of foods helps prevent nutrient deficiencies.
- It is important that participants understand that different nutrients perform different functions in our bodies.
- Participants should also understand that the purpose of including the different components in the National School Lunch Program and School Breakfast Program meal patterns is to provide students with a variety of nutrients.

The following key vocabulary terms should be discovered by participants or introduced to them: nutrients, essential nutrients, energy, carbohydrates, fiber, protein, fat, oils, solid fats, minerals, calcium, iron, vitamins, B-vitamins, vitamin A, vitamin C, and vitamin D.



## 1.2: Expanding Knowledge

### Getting Ready



#### Time Required

15 minutes



#### Materials Needed

(\*Materials provided in the curriculum)

- \**Focus on Food Lesson 1* (PowerPoint)
- PowerPoint Projector
- Computer



#### Preparation

1. Connect laptop to projector. Load *Focus on Food Lesson 1* (PowerPoint).
2. Queue the PowerPoint presentation to Slide 12.



### Procedure (Experiencing)

1. **Do:** Go through the Expanding Knowledge presentation slide by slide. The following script is available for use if you so choose.



Slide 13

Now let's review some of the concepts we learned during Lesson 1, Nutrients in Action.

## What are nutrients?

- Nutrients are substances that provide energy and structure to the body along with supporting regulatory systems.
- Food contains nutrients.
- Essential nutrients are nutrients that the body needs, but cannot make or cannot make enough of.

Lesson 1: Nutrients in Action

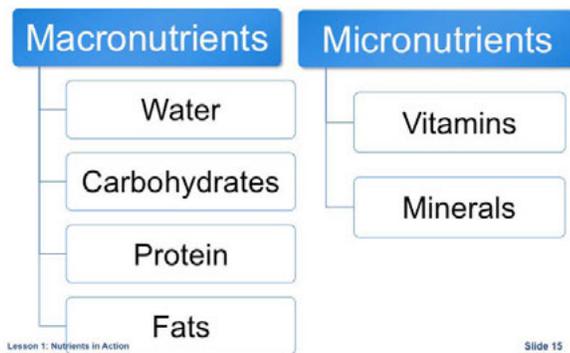
Slide 14

What do we mean when we say nutrients? These are substances in food or beverages that support our body processes, by providing energy, structure, or supporting regulatory systems.

Some nutrients are essential, which means our bodies are not able to make them, or our bodies can make a little but not enough to meet our needs.

Slide 14

## Six Types of Nutrients



Lesson 1: Nutrients in Action

Slide 15

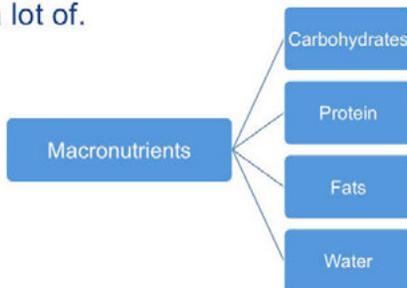
We classify nutrients as either macronutrients, which are ones we need a lot of, or micronutrients, which are ones we only need in small amounts.

Water, carbohydrates, protein, and fats are all macronutrients, while vitamins and minerals are micronutrients.

Slide 15

## Macronutrients

- Macronutrients are nutrients we need a lot of.



Lesson 1: Nutrients in Action

Slide 16

Fun fact – Macro comes from the Greek word for “large”. Of the macronutrients, three provide us with calories.

Would anyone like to share which ones these are?

[Pause to allow responses from the class.]

Carbohydrates, protein, and fats all have calories, while water does not.

Slide 16

## Calories

- What do you think about when you hear the word calories?

Lesson 1: Nutrients in Action

Slide 17

Slide 17

What do you think about when you hear the word “calories”?

[Pause to allow responses from the class.]

## Calories

- Calorie is the measure of how much **energy** a food has.
- The body uses calories to do physical work and maintain internal health.

Lesson 1: Nutrients in Action

Slide 18

Slide 18

Calories are the way we talk about how much energy a food has. This energy is used by all our cells and organs in the body to move, to support health, to maintain life. They're like gasoline to a car; with out energy we can't run.

## Water

- Helps move things around in the body
- Keeps things lubricated
- Regulates body temperature
- Water does not provide calories

Lesson 1: Nutrients in Action

Slide 19

Slide 19

Water on the other hand, has no calories, but it serves very important purposes.

Does anyone want to guess what percentage of our bodies are water?

[Pause to allow responses from the class.]

Our bodies are made up of 60% water. Water helps us move things around in our bodies, such as blood, or lymph, it keeps things lubricated.

It also regulates our body temperature through sweating. We sweat, and when sweat evaporates, it helps cool the body.

## Carbohydrates

### Simple Sugars

- Provides quick energy.
- Food Sources: Fruit, milk, candy, table sugar

### Complex Carbohydrates

**Starch**

- Food Sources: Grains, pasta, potatoes, rice

**Fiber**

- Supports digestive health, but doesn't provide calories.
- Food Sources: Fruits, vegetables, whole grains, beans, peas

Lesson 1: Nutrients in Action Slide 20

Slide 20

Moving on to carbohydrates, we classify those in two ways.

Simple sugars are sugars like glucose, sucrose, which is table sugar, fructose, lactose, which is found in milk, among others. These provide quick energy.

Complex carbohydrates are long chains of sugars all connected to make up starch, which we can digest, or fiber, which we can't. We can get complex carbohydrates from grain products, fruits, vegetables, beans and peas, etc.

## Carbohydrates

- What do carbohydrates do for us?

Lesson 1: Nutrients in Action Slide 21

Slide 21

What do carbohydrates do for us?

[Pause to allow responses from the class.]

## Carbohydrates



1. Fiber



2. Energy



3. Brain Fuel

Lesson 1: Nutrients in Action Slide 22

Slide 22

First, As mentioned earlier, fiber is a carbohydrate we can't digest.

- It is important for digestive health.
- A high fiber diet may lower risk for heart disease and diabetes.
- 

Second, Carbohydrates provide us with energy and have 4 calories per gram.

Third, In fact, our brains use mostly carbohydrates for energy.

### Protein

| Animal Sources | Plant Sources |
|----------------|---------------|
| Meat           | Beans         |
| Poultry        | Peas          |
| Fish           | Lentils       |
| Eggs           | Nuts          |
| Dairy          | Seeds         |

Lesson 1: Nutrients in Action Slide 23

Protein comes from both animal and plant sources. Animal sources include meat, poultry, fish, eggs, and dairy.

Plant sources include beans, dried peas, lentils, nuts, and seeds.

While they are not listed on this slide, other vegetables also have small amounts of protein.

Slide 23

### Protein

- What does protein do for us?

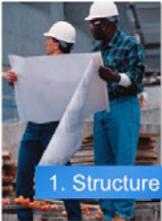
Lesson 1: Nutrients in Action Slide 24

What does protein do for us?

[Pause to allow responses from the class.]

Slide 24

### Protein



1. Structure



2. Regulation



3. Energy

Lesson 1: Nutrients in Action Slide 25

First, protein provides structure in the body, by making up our

- Muscles
- Tendons
- And connective tissues, like collagen

Second, It helps regulate processes. Some of the ways it does this are by:

- Aiding in the transport on nutrients in our blood
- Supporting DNA and immune function
- Providing the building blocks for many enzymes and hormones

And third, it also serves as a source of energy

- Like carbohydrates, it has 4 calories per gram

Slide 25

# Fats

## Solid

- Saturated Fat & Trans Fat
- Food Sources: Butter, lard, shortening, coconut oil

## Liquid

- Monounsaturated Fat & Polyunsaturated Fat
- Food Sources: Nuts, seeds, olives, avocado

Lesson 1: Nutrients in Action

Slide 26

Slide 26

We can break down fats as either solid or liquid.

Solid fats are solid at room temperature, and include saturated fat and trans fat. Some examples are butter, lard, shortening, and coconut oil.

Consuming a lot of saturated fat and trans fat may raise risk for heart disease.

Liquid fats are unsaturated fats.

There are two kind: monounsaturated and polyunsaturated. Sources of liquid fats include oils, nuts, seeds, olives, and avocado.

# Fats

- What do fats do for us?

Lesson 1: Nutrients in Action

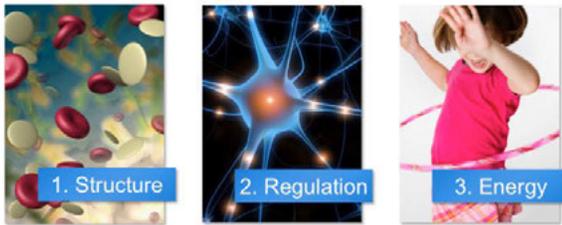
Slide 27

Slide 27

What do fats do for us?

[Pause to allow responses from the class.]

## Fats



Lesson 1: Nutrients in Action

Slide 28

Slide 28

What do fats do for us?

First, They provide structure and are an integral part of the structure of every cell in the human body; they make up the cell membrane, the outer barrier of the cell.

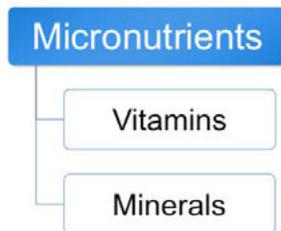
Second, They're involved in regulation. They are needed for

- Hormonal and immune system regulation
- And for nerve function
- They also provide essential fatty acids, which are omega-3 and omega-6 fatty acids. These also play an important role in regulation.

Third, they provide energy and are the main way our bodies store energy to use later They have more than twice as many calories per gram as carbohydrates and protein, with 9 calories per gram

## Micronutrients

- Micronutrients are nutrients we need in small amounts.

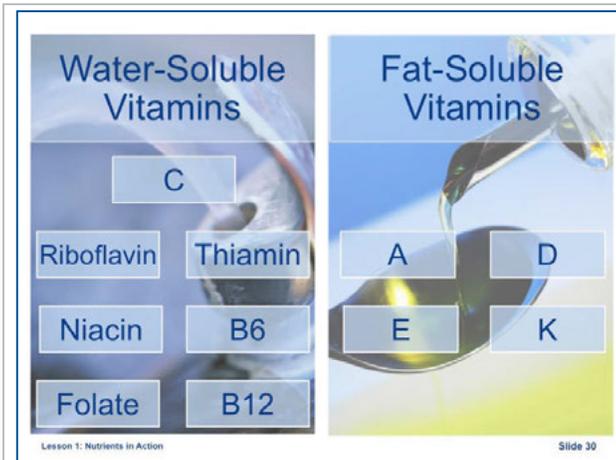


Lesson 1: Nutrients in Action

Slide 29

Slide 29

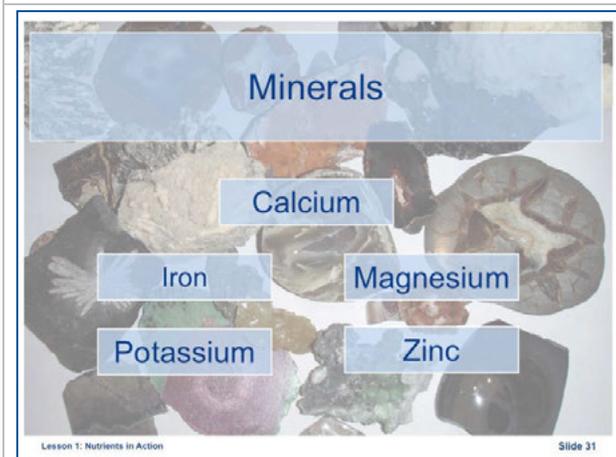
Now that we've gone over the macronutrients, lets think small with micronutrients: Vitamins and Minerals. We only need these in small amounts.



Slide 30

Water soluble vitamins can be carried by water, and serve as cofactors or “helpers” of metabolic processes in the body

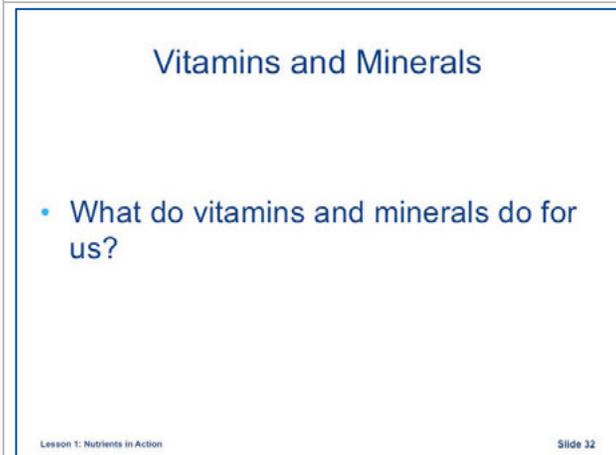
Fat soluble vitamins can be carried by fat or oil, and serve general regulatory roles in the body like blood clotting, such as Vitamin K



Slide 31

The minerals we investigated in the activity earlier were calcium, iron, magnesium, potassium, and zinc.

These are a few of the minerals that our bodies need, we actually require several more that we aren’t going to talk about today, like selenium, manganese, copper, and even more.



Slide 32

What do vitamins and minerals do for us?

[Pause to allow responses from the class.]

**Strong bones:** Vitamins D and K, Calcium, Magnesium, and Zinc

**Healthy cells:** Vitamins C and E

**Healthy vision:** Vitamin A

**Healthy muscles:** Calcium, Magnesium, and Potassium

**Healthy immune system:** Vitamins C and D, Zinc

Lesson 1: Nutrients in Action Slide 33

Slide 33

Vitamins and minerals work to support many body functions.

Along with calcium and vitamin D, strong bones need vitamin K, magnesium, and zinc.

Vitamins C and E help keep our cells healthy by acting as antioxidants. This means they help protect our cells from oxidative damage.

Vitamin A is needed for healthy vision. Calcium, magnesium, and potassium are all needed for our muscles to function.

Vitamins C and D, and Zinc help support a healthy immune system.

**Help turn food into energy:** B Vitamins

**Help absorb other nutrients:** Vitamins C (helps absorb Iron) and Vitamin D (helps absorb Calcium)

**Healthy red blood cells:** Vitamin B12, Folate, Iron

**Healthy blood clotting:** Vitamin K

**Healthy blood pressure:** Potassium

Lesson 1: Nutrients in Action Slide 34

Slide 34

B vitamins are also important in converting the food we eat into energy our cells are able to use.

Something important to keep in mind is that B vitamins don't give us energy. If you are not deficient in B vitamins, consuming a B vitamin supplement isn't going to help give you energy.

Some nutrients help us absorb other nutrients. Vitamin C helps absorb iron, while vitamin D helps absorb calcium.

Iron is commonly associated with healthy red blood cells and preventing anemia, but did you know that your red blood cells also need other nutrients, like vitamin B12 and folate?

You also need vitamin K for healthy blood clotting.

### Different micronutrients are found in different foods

|  |   |
|--|---|
|  Grains: B vitamins (except B12), Iron, Zinc, Magnesium         |  Dairy: A, Riboflavin, B12, D, Niacin, Calcium |
|  Meat, poultry, pork: A, B vitamins (except Folate), Iron, Zinc |  Certain fish: D, Calcium                      |
|  Nuts and seeds: Thiamin, B6, E, Magnesium, Zinc                |  Oils: E                                       |

Lesson 1: Nutrients in Action Slide 35

Slide 35

We can find all these micronutrients in different foods. Rather than read all these from the slide, I'd like to ask you: what are some examples of meals that would help you get most of all of these nutrients?

[Pause to allow responses from the class.]

### Different micronutrients are found in different foods

|   |  |
|---|--|
|  Orange vegetables and fruit: A, Potassium   |  Peppers, tomatoes, potatoes: C, Potassium              |
|  Berries, citrus fruits: C   |  Beans and peas: Thiamin, Folate, Iron, Magnesium, Zinc |
|  Green leafy vegetables: A, Riboflavin, C, K, Folate, Calcium, Iron, Magnesium, Potassium |  |

Lesson 1: Nutrients in Action Slide 36

Slide 36

Fruits and vegetables are a source of a lot of different nutrients. For example, if you eat a romaine salad with some tomatoes, roasted sweet potatoes, and some kidney beans, you'll consume all the nutrients on the screen, from Vitamin A to Zinc. Does anyone else want to give some examples of meals that are high in the nutrients?

[Pause to allow responses from the class.]

### Importance of Variety

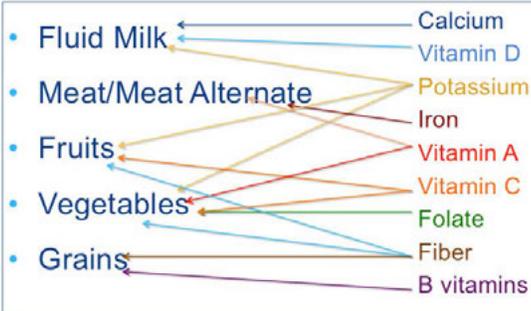
- Because different foods provide different nutrients, eating a variety of different foods helps ensure you meet your nutrient needs

Lesson 1: Nutrients in Action Slide 37

Slide 37

We observed in the activity that the child who ate the most variety was doing a pretty good job at consuming a variety of nutrients as well. Because different foods provide different nutrients, eating a variety of different foods helps ensure you meet your nutrient needs

## NSLP Meal Pattern



Lesson 1: Nutrients in Action

38

Slide 38

The NSLP meal pattern has five components, and you can see all the variety in nutrients provided to students in our schools every single day. School meals are doing their part in helping kids grow up healthy.

These aren't even all the nutrients found in the components.



# 1.3: Goal Setting Activity

## Getting Ready



### Time Required

5 minutes



### Materials Needed

(\*Materials provided in the curriculum)

\*Goal Setting: Nutrients in Action (Appendix 1G)

Optional:

\*Focus on Food Lesson 1 Newsletter (Appendix 1H)

\*Focus on Food Lesson 1 (PowerPoint)

Computer

PowerPoint Projector



### Preparation

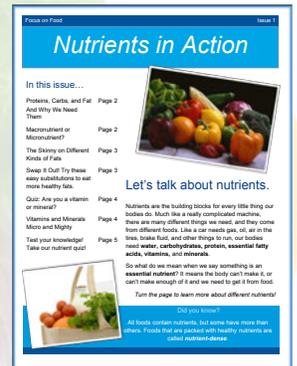
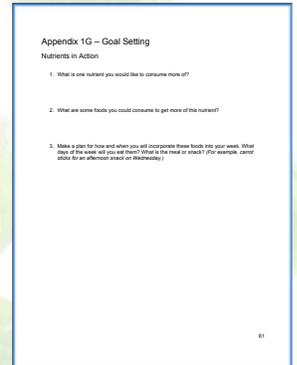
1. Make copies of the *Goal Setting: Nutrients in Action* Handout (Appendix 1G), one for each participant.

Optional:

2. Make copies of the *Focus on Food Lesson 1 Newsletter* (Appendix 1H), one for each participant.

3. Connect laptop to projector. Load *Focus on Food Lesson 1* (PowerPoint).

4. Queue the PowerPoint Presentation to Slide 39.



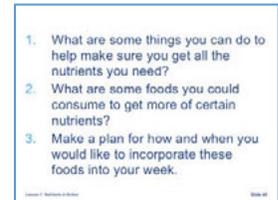


## Procedure (Experiencing)

1. **Say:** Now let's move on to Goal Setting! **(Slide 39)** We've talked about how important consuming a variety of foods is to our health. The next step is to set some goals and make a plan. I am going to distribute a Goal Setting Handout that has the following questions: **(Slide 40)**



- 1) What is one nutrient you would like to consume more of?
- 2) What are some foods you could consume to get more of this nutrient?
- 3) Make a plan for how and when you will incorporate these foods into your week. What days of the week will you eat them? What is the meal or snack? (For example, carrot sticks for an afternoon snack on Wednesday.)



2. **Do:** Provide a copy of the *Goal Setting: Nutrients in Action* Handout (Appendix 1G) to each participant. Allow participants a few minutes to complete the handout.
3. **Say:** Would anyone like to share the goals they set for themselves?

Optional:

4. **Say:** I'm going to distribute one last handout, which is a newsletter with some extra information you might be interested in. Thank you all for participating in Lesson 1! **(Slide 41)**
5. **Do:** Provide a copy of the *Focus on Food Lesson 1 Newsletter* (Appendix 1H) to each participant.



# Appendix 1A – Nutrients in Action

|   |   |  |
|---|---|--|
| <p style="text-align: center;"><b>Thiamin</b></p> <p style="text-align: center;"><i>What does it do?</i></p> <p>Thiamin (also called vitamin B1) is important in helping our bodies <b>turn food into energy</b>.</p> <p style="text-align: center;"><i>Where can I find it?</i></p> <p>Whole grains and fortified grains<br/>Beans and Peas<br/>Nuts and seeds<br/>Pork</p>  | <p style="text-align: center;"><b>Riboflavin</b></p> <p style="text-align: center;"><i>What does it do?</i></p> <p>Riboflavin (also called vitamin B2) is important in helping our bodies turn food into energy.</p> <p style="text-align: center;"><i>Where can I find it?</i></p> <p>Green leafy vegetables (Romaine lettuce, spinach, broccoli, kale, etc.)<br/>Fortified grains,<br/>Dairy<br/>Meat and poultry</p>   | <p style="text-align: center;"><b>Vitamin B6</b></p> <p style="text-align: center;"><i>What does it do?</i></p> <p>Vitamin B6 (also called pyridoxine) is important in helping our bodies turn food into energy.</p> <p style="text-align: center;"><i>Where can I find it?</i></p> <p>Meat and poultry<br/>Whole grains<br/>Vegetables<br/>Nuts and seeds</p>   |
| <p style="text-align: center;"><b>Folate</b></p> <p style="text-align: center;"><i>What does it do?</i></p> <p>Folate (also called vitamin B9) helps the body form <b>red blood cells</b> and is needed for <b>growth and repair</b>. It is also important in pregnancy to help <b>prevent birth defects</b>.</p> <p style="text-align: center;"><i>Where can I find it?</i></p> <p>Dark green leafy vegetables (Romaine lettuce, spinach, broccoli, kale, etc.)<br/>Fortified and enriched grains<br/>Beans and Peas</p> | <p style="text-align: center;"><b>Vitamin B12</b></p> <p style="text-align: center;"><i>What does it do?</i></p> <p>Vitamin B12 (also called cobalamine) helps the body form <b>red blood cells</b> and is important in helping our bodies <b>turn food into energy</b>. It is also needed for <b>growth and repair</b>.</p> <p style="text-align: center;"><i>Where can I find it?</i></p> <p>Meat, poultry, and seafood, eggs<br/>Dairy<br/>Fermented foods like Kimchi</p> | <p style="text-align: center;"><b>Vitamin C</b></p> <p style="text-align: center;"><i>What does it do?</i></p> <p>Vitamin C is needed for <b>growth and repair</b> and a <b>healthy immune system</b>. It's also important because it helps our bodies <b>absorb iron</b>.</p> <p style="text-align: center;"><i>Where can I find it?</i></p> <p>Citrus fruits<br/>Peppers<br/>Berries<br/>Green leafy vegetables (Romaine lettuce, spinach, broccoli, kale, etc.)<br/>Potatoes<br/>Tomatoes</p> |

## Vitamin A

### *What does it do?*

Vitamin A is needed for **vision, wound healing**, and **growth and repair**.

### *Where can I find it?*

Dark green leafy vegetables (Romaine lettuce, spinach, broccoli, kale, etc.)

Orange vegetables and fruit (sweet potatoes, butternut squash, carrots, pumpkin, cantaloupe)

Fortified milk and dairy products

Liver, Fish, Eggs

Fortified cereals

## Vitamin D

### *What does it do?*

Vitamin D helps our bodies **absorb and use calcium**. It is needed for **strong bones** and a **healthy immune system**.

### *Where can I find it?*

Fortified dairy products

Some kinds of fatty fish (Canned pink salmon, mackerel, and sardines)

Mushrooms exposed to UV light

Other fortified foods, such as fortified cereals.

Sunlight helps our bodies make vitamin D.

## Vitamin E

### *What does it do?*

Vitamin E is an important **antioxidant** and helps **keep our cells healthy**.

### *Where can I find it?*

Oils

Nuts and seeds

Avocados

Asparagus

Margarine

## Vitamin K

### *What does it do?*

Vitamin K is needed for **strong bones and blood clotting**.

### *Where can I find it?*

Green leafy vegetables (Romaine lettuce, spinach, broccoli, kale, etc.)

## Carbohydrates

### *What do they do?*

Carbohydrates are a macronutrient that primarily provides our bodies with **energy**.

Some carbohydrates are also a good source of **fiber**. Fiber is a type of carbohydrate that can't be digested, but is important for **digestive health**.

### *Where can I find them?*

Grains, fruits, vegetables, legumes, milk

**Fiber** is found in whole grains, fruits, vegetables, legumes, nuts and seeds.

## Fats and Oils

### *What do they do?*

Fats and oils are macronutrients that provide **energy**, and are important for **cell structure and nerve function**.

Some oils provide **vitamin E** and essential fatty acids needed for immune function.

### *Where can I find them?*

Fat can be found in meat, eggs, dairy, fish, nuts, seeds, etc.

Oils can be found in vegetable oils, nuts and seeds, avocados, olives, fatty fish.

## Protein

### *What does it do?*

Protein is a macronutrient that is needed for **growth and maintenance**, and several other important functions in the body. Can also be used for **energy**.

### *Where can I find it?*

Meat, eggs, dairy, beans, legumes, grains, small amounts in vegetables

## Calcium

### *What does it do?*

Calcium is important for **bone health** and **muscle function**.

### *Where can I find it?*

Dairy

Dark green leafy vegetables  
(Romaine lettuce, spinach,  
broccoli, kale, etc.)

Foods fortified with calcium  
(tofu and fortified orange juice,  
etc.)

Fish with bones (Sardines,  
canned salmon)

## Iron

### *What does it do?*

Iron is a mineral that is important in **red blood cells**, and is used to **move oxygen around in the blood**.

### *Where can I find it?*

Meat, poultry, and seafood

Beans and peas (*except green peas*)

Spinach and broccoli

Baked potato with skin

Whole grains, fortified grain products

## Magnesium

### *What does it do?*

Magnesium is important for **bone health** and **muscle function**.

### *Where can I find it?*

Dark green leafy vegetables  
(Romaine lettuce, spinach,  
broccoli, kale, etc.)

Nuts and seeds

Beans and Peas

Whole grains

Chocolate

## Potassium

### *What does it do?*

Potassium is important for **muscle** and **nerve function**.

Eating a diet rich and potassium may help **prevent high blood pressure**.

### *Where can I find it?*

Fruits and vegetables  
(especially bananas, oranges,  
avocados, potatoes, melons,  
spinach, sweet potato,  
tomatoes, winter squash,  
dried fruit)



## Zinc

### *What does it do?*

Zinc is important in **immune function**, **cell division**, and for **strong bones**.

### *Where can I find it?*

Meat, poultry, and seafood

Beans and peas (*except green peas*)

Nuts

Whole grains and fortified

# Appendix 1B – Student Lunch Choices

Group 1:  
Vitamin D  
Iron  
Protein

## Leticia

### **Monday**

Leticia chose the *corn and cheese enchilada*, with *black beans*, *grapes*, and *chocolate milk*.

Did Leticia choose foods with your assigned nutrients on Monday? If yes, which nutrients?

### **Tuesday**

On Tuesday, Leticia selected the *Caesar veggie wrap*, *baked sweet potato fries*, *orange slices*, and *chocolate milk*.

Did Leticia choose foods with your assigned nutrients on Tuesday? If yes, which nutrients?

### **Wednesday**

On Wednesday, Leticia selected the *chicken teriyaki stir fry*, *a banana*, and *plain low-fat milk*.

Did Leticia choose foods with your assigned nutrients on Wednesday? If yes, which nutrients?

### **Thursday**

On Thursday, Leticia selected the *southwest salad*, *strawberries*, and *chocolate milk*.

Did Leticia choose foods with your assigned nutrients on Thursday? If yes, which nutrients?

### **Friday**

On Friday, Leticia selected the *strawberry spinach salad*, *red bell pepper strips with hummus*, *a banana*, and *chocolate milk*.

Did Leticia choose foods with your assigned nutrients on Friday? If yes, which nutrients?

### **Weekly**

Over the entire week, did Leticia choose foods with your assigned nutrients at least once? If not, what nutrients was she missing?

Group 1:  
Vitamin D  
Iron  
Protein

## Deon

### **Monday**

On Monday, Deon chose *pepperoni pizza, a banana, and fat-free chocolate milk.*

Did Deon choose foods with your assigned nutrients on Monday? If yes, which nutrients?

### **Tuesday**

On Tuesday, Deon selected *pepperoni pizza, a banana, and fat-free chocolate milk.*

Did Deon choose foods with your assigned nutrients on Tuesday? If yes, which nutrients?

### **Wednesday**

On Wednesday, Deon selected *pepperoni pizza, a banana, and fat-free chocolate milk.*

Did Deon choose foods with your assigned nutrients on Wednesday? If yes, which nutrients?

### **Thursday**

On Thursday, Deon selected *pepperoni pizza, a banana, and fat-free chocolate milk.*

Did Deon choose foods with your assigned nutrients on Thursday? If yes, which nutrients?

### **Friday**

On Friday, Deon selected *pepperoni pizza, a banana, and fat-free chocolate milk.*

Did Deon choose foods with your assigned nutrients on Friday? If yes, which nutrients?

### **Weekly**

Over the entire week, did Deon choose foods with your assigned nutrients at least once? If not, what nutrients was he missing? If yes, which nutrients?

Group 1:  
Vitamin D  
Iron  
Protein

## Nikeah

### **Monday**

On Monday, Nikeah chose the *Thai noodle salad, baby carrots, and a banana.*

Did Nikeah choose foods with your assigned nutrients on Monday? If yes, which nutrients?

### **Tuesday**

On Tuesday, Nikeah selected the *chicken sandwich, corn niblets, and orange slices.*

Did Nikeah choose foods with your assigned nutrients on Tuesday? If yes, which nutrients?

### **Wednesday**

On Wednesday, Nikeah selected the *chicken teriyaki stir fry, baby carrots, and a banana.*

Did Nikeah choose foods with your assigned nutrients on Wednesday? If yes, which nutrients?

### **Thursday**

On Thursday, Nikeah selected the *spaghetti with meat sauce, mashed potatoes, and orange slices.*

Did Nikeah choose foods with your assigned nutrients on Thursday? If yes, which nutrients?

### **Friday**

On Friday, Nikeah selected the *peanut butter and jelly sandwich, baby carrots, and a banana.*

Did Nikeah choose foods with your assigned nutrients on Friday? If yes, which nutrients?

### **Weekly**

Over the entire week, did Nikeah choose foods with your assigned nutrients at least once? If not, what nutrients was she missing?

Group 2:  
Vitamin K  
Magnesium  
Fats and Oils

Leticia

**Monday**

Leticia chose the *corn and cheese enchilada*, with *black beans*, *grapes*, and *chocolate milk*.

Did Leticia choose foods with your assigned nutrients on Monday? If yes, which nutrients?

**Tuesday**

On Tuesday, Leticia selected the *Caesar veggie wrap*, *baked sweet potato fries*, *orange slices*, and *chocolate milk*.

Did Leticia choose foods with your assigned nutrients on Tuesday? If yes, which nutrients?

**Wednesday**

On Wednesday, Leticia selected the *chicken teriyaki stir fry*, *a banana*, and *plain low-fat milk*.

Did Leticia choose foods with your assigned nutrients on Wednesday? If yes, which nutrients?

**Thursday**

On Thursday, Leticia selected the *southwest salad*, *strawberries*, and *chocolate milk*.

Did Leticia choose foods with your assigned nutrients on Thursday? If yes, which nutrients?

**Friday**

On Friday, Leticia selected the *strawberry spinach salad*, *red bell pepper strips with hummus*, *a banana*, and *chocolate milk*.

Did Leticia choose foods with your assigned nutrients on Friday? If yes, which nutrients?

**Weekly**

Over the entire week, did Leticia choose foods with your assigned nutrients at least once? If not, what nutrients was she missing?

Group 2:  
Vitamin K  
Magnesium  
Fats and Oils

Deon

**Monday**

On Monday, Deon chose *pepperoni pizza, a banana, and fat-free chocolate milk.*

Did Deon choose foods with your assigned nutrients on Monday? If yes, which nutrients?

**Tuesday**

On Tuesday, Deon selected *pepperoni pizza, a banana, and fat-free chocolate milk.*

Did Deon choose foods with your assigned nutrients on Tuesday? If yes, which nutrients?

**Wednesday**

On Wednesday, Deon selected *pepperoni pizza, a banana, and fat-free chocolate milk.*

Did Deon choose foods with your assigned nutrients on Wednesday? If yes, which nutrients?

**Thursday**

On Thursday, Deon selected *pepperoni pizza, a banana, and fat-free chocolate milk.*

Did Deon choose foods with your assigned nutrients on Thursday? If yes, which nutrients?

**Friday**

On Friday, Deon selected *pepperoni pizza, a banana, and fat-free chocolate milk.*

Did Deon choose foods with your assigned nutrients on Friday? If yes, which nutrients?

**Weekly**

Over the entire week, did Deon choose foods with your assigned nutrients at least once? If not, what nutrients was he missing? If yes, which nutrients?

## Nikeah

### **Monday**

On Monday, Nikeah chose the *Thai noodle salad, baby carrots, and a banana.*

Did Nikeah choose foods with your assigned nutrients on Monday? If yes, which nutrients?

### **Tuesday**

On Tuesday, Nikeah selected the *chicken sandwich, corn niblets, and orange slices.*

Did Nikeah choose foods with your assigned nutrients on Tuesday? If yes, which nutrients?

### **Wednesday**

On Wednesday, Nikeah selected the *chicken teriyaki stir fry, baby carrots, and a banana.*

Did Nikeah choose foods with your assigned nutrients on Wednesday? If yes, which nutrients?

### **Thursday**

On Thursday, Nikeah selected the *spaghetti with meat sauce, mashed potatoes, and orange slices.*

Did Nikeah choose foods with your assigned nutrients on Thursday? If yes, which nutrients?

### **Friday**

On Friday, Nikeah selected the *peanut butter and jelly sandwich, baby carrots, and a banana.*

Did Nikeah choose foods with your assigned nutrients on Friday? If yes, which nutrients?

### **Weekly**

Over the entire week, did Nikeah choose foods with your assigned nutrients at least once? If not, what nutrients was she missing?

## Leticia

### **Monday**

Leticia chose the *corn and cheese enchilada*, with *black beans*, *grapes*, and *chocolate milk*.

Did Leticia choose foods with your assigned nutrients on Monday? If yes, which nutrients?

### **Tuesday**

On Tuesday, Leticia selected the *Caesar veggie wrap*, *baked sweet potato fries*, *orange slices*, and *chocolate milk*.

Did Leticia choose foods with your assigned nutrients on Tuesday? If yes, which nutrients?

### **Wednesday**

On Wednesday, Leticia selected the *chicken teriyaki stir fry*, *a banana*, and *plain low-fat milk*.

Did Leticia choose foods with your assigned nutrients on Wednesday? If yes, which nutrients?

### **Thursday**

On Thursday, Leticia selected the *southwest salad*, *strawberries*, and *chocolate milk*.

Did Leticia choose foods with your assigned nutrients on Thursday? If yes, which nutrients?

### **Friday**

On Friday, Leticia selected the *strawberry spinach salad*, *red bell pepper strips with hummus*, *a banana*, and *chocolate milk*.

Did Leticia choose foods with your assigned nutrients on Friday? If yes, which nutrients?

### **Weekly**

Over the entire week, did Leticia choose foods with your assigned nutrients at least once? If not, what nutrients was she missing?

Group 3:  
Vitamin E  
Potassium  
Carbohydrates

## Deon

### **Monday**

On Monday, Deon chose *pepperoni pizza, a banana, and fat-free chocolate milk.*

Did Deon choose foods with your assigned nutrients on Monday? If yes, which nutrients?

### **Tuesday**

On Tuesday, Deon selected *pepperoni pizza, a banana, and fat-free chocolate milk.*

Did Deon choose foods with your assigned nutrients on Tuesday? If yes, which nutrients?

### **Wednesday**

On Wednesday, Deon selected *pepperoni pizza, a banana, and fat-free chocolate milk.*

Did Deon choose foods with your assigned nutrients on Wednesday? If yes, which nutrients?

### **Thursday**

On Thursday, Deon selected *pepperoni pizza, a banana, and fat-free chocolate milk.*

Did Deon choose foods with your assigned nutrients on Thursday? If yes, which nutrients?

### **Friday**

On Friday, Deon selected *pepperoni pizza, a banana, and fat-free chocolate milk.*

Did Deon choose foods with your assigned nutrients on Friday? If yes, which nutrients?

### **Weekly**

Over the entire week, did Deon choose foods with your assigned nutrients at least once? If not, what nutrients was he missing? If yes, which nutrients?

Group 3:  
Vitamin E  
Potassium  
Carbohydrates

## Nikeah

### **Monday**

On Monday, Nikeah chose the *Thai noodle salad, baby carrots, and a banana.*

Did Nikeah choose foods with your assigned nutrients on Monday? If yes, which nutrients?

### **Tuesday**

On Tuesday, Nikeah selected the *chicken sandwich, corn niblets, and orange slices.*

Did Nikeah choose foods with your assigned nutrients on Tuesday? If yes, which nutrients?

### **Wednesday**

On Wednesday, Nikeah selected the *chicken teriyaki stir fry, baby carrots, and a banana.*

Did Nikeah choose foods with your assigned nutrients on Wednesday? If yes, which nutrients?

### **Thursday**

On Thursday, Nikeah selected the *spaghetti with meat sauce, mashed potatoes, and orange slices.*

Did Nikeah choose foods with your assigned nutrients on Thursday? If yes, which nutrients?

### **Friday**

On Friday, Nikeah selected the *peanut butter and jelly sandwich, baby carrots, and a banana.*

Did Nikeah choose foods with your assigned nutrients on Friday? If yes, which nutrients?

### **Weekly**

Over the entire week, did Nikeah choose foods with your assigned nutrients at least once? If not, what nutrients was she missing?

Group 4:  
Calcium  
Vitamin A  
Vitamin B12

## Leticia

### **Monday**

Leticia chose the *corn and cheese enchilada*, with *black beans*, *grapes*, and *chocolate milk*.

Did Leticia choose foods with your assigned nutrients on Monday? If yes, which nutrients?

### **Tuesday**

On Tuesday, Leticia selected the *Caesar veggie wrap*, *baked sweet potato fries*, *orange slices*, and *chocolate milk*.

Did Leticia choose foods with your assigned nutrients on Tuesday? If yes, which nutrients?

### **Wednesday**

On Wednesday, Leticia selected the *chicken teriyaki stir fry*, *a banana*, and *plain low-fat milk*.

Did Leticia choose foods with your assigned nutrients on Wednesday? If yes, which nutrients?

### **Thursday**

On Thursday, Leticia selected the *southwest salad*, *strawberries*, and *chocolate milk*.

Did Leticia choose foods with your assigned nutrients on Thursday? If yes, which nutrients?

### **Friday**

On Friday, Leticia selected the *strawberry spinach salad*, *red bell pepper strips with hummus*, *a banana*, and *chocolate milk*.

Did Leticia choose foods with your assigned nutrients on Friday? If yes, which nutrients?

### **Weekly**

Over the entire week, did Leticia choose foods with your assigned nutrients at least once? If not, what nutrients was she missing?

Group 4:  
Calcium  
Vitamin A  
Vitamin B12

## Deon

### **Monday**

On Monday, Deon chose *pepperoni pizza, a banana, and fat-free chocolate milk.*

Did Deon choose foods with your assigned nutrients on Monday? If yes, which nutrients?

### **Tuesday**

On Tuesday, Deon selected *pepperoni pizza, a banana, and fat-free chocolate milk.*

Did Deon choose foods with your assigned nutrients on Tuesday? If yes, which nutrients?

### **Wednesday**

On Wednesday, Deon selected *pepperoni pizza, a banana, and fat-free chocolate milk.*

Did Deon choose foods with your assigned nutrients on Wednesday? If yes, which nutrients?

### **Thursday**

On Thursday, Deon selected *pepperoni pizza, a banana, and fat-free chocolate milk.*

Did Deon choose foods with your assigned nutrients on Thursday? If yes, which nutrients?

### **Friday**

On Friday, Deon selected *pepperoni pizza, a banana, and fat-free chocolate milk.*

Did Deon choose foods with your assigned nutrients on Friday? If yes, which nutrients?

### **Weekly**

Over the entire week, did Deon choose foods with your assigned nutrients at least once? If not, what nutrients was he missing? If yes, which nutrients?

Group 4:  
Calcium  
Vitamin A  
Vitamin B12

## Nikeah

### **Monday**

On Monday, Nikeah chose the *Thai noodle salad, baby carrots, and a banana.*

Did Nikeah choose foods with your assigned nutrients on Monday? If yes, which nutrients?

### **Tuesday**

On Tuesday, Nikeah selected the *chicken sandwich, corn niblets, and orange slices.*

Did Nikeah choose foods with your assigned nutrients on Tuesday? If yes, which nutrients?

### **Wednesday**

On Wednesday, Nikeah selected the *chicken teriyaki stir fry, baby carrots, and a banana.*

Did Nikeah choose foods with your assigned nutrients on Wednesday? If yes, which nutrients?

### **Thursday**

On Thursday, Nikeah selected the *spaghetti with meat sauce, mashed potatoes, and orange slices.*

Did Nikeah choose foods with your assigned nutrients on Thursday? If yes, which nutrients?

### **Friday**

On Friday, Nikeah selected the *peanut butter and jelly sandwich, baby carrots, and a banana.*

Did Nikeah choose foods with your assigned nutrients on Friday? If yes, which nutrients?

### **Weekly**

Over the entire week, did Nikeah choose foods with your assigned nutrients at least once? If not, what nutrients was she missing?

Group 5:  
Vitamin B6  
Vitamin C  
Zinc

## Leticia

### **Monday**

Leticia chose the *corn and cheese enchilada*, with *black beans*, *grapes*, and *chocolate milk*.

Did Leticia choose foods with your assigned nutrients on Monday? If yes, which nutrients?

### **Tuesday**

On Tuesday, Leticia selected the *Caesar veggie wrap*, *baked sweet potato fries*, *orange slices*, and *chocolate milk*.

Did Leticia choose foods with your assigned nutrients on Tuesday? If yes, which nutrients?

### **Wednesday**

On Wednesday, Leticia selected the *chicken teriyaki stir fry*, *a banana*, and *plain low-fat milk*.

Did Leticia choose foods with your assigned nutrients on Wednesday? If yes, which nutrients?

### **Thursday**

On Thursday, Leticia selected the *southwest salad*, *strawberries*, and *chocolate milk*.

Did Leticia choose foods with your assigned nutrients on Thursday? If yes, which nutrients?

### **Friday**

On Friday, Leticia selected the *strawberry spinach salad*, *red bell pepper strips with hummus*, *a banana*, and *chocolate milk*.

Did Leticia choose foods with your assigned nutrients on Friday? If yes, which nutrients?

### **Weekly**

Over the entire week, did Leticia choose foods with your assigned nutrients at least once? If not, what nutrients was she missing?

Group 5:  
Vitamin B6  
Vitamin C  
Zinc

## Deon

### **Monday**

On Monday, Deon chose *pepperoni pizza, a banana, and fat-free chocolate milk.*

Did Deon choose foods with your assigned nutrients on Monday? If yes, which nutrients?

### **Tuesday**

On Tuesday, Deon selected *pepperoni pizza, a banana, and fat-free chocolate milk.*

Did Deon choose foods with your assigned nutrients on Tuesday? If yes, which nutrients?

### **Wednesday**

On Wednesday, Deon selected *pepperoni pizza, a banana, and fat-free chocolate milk.*

Did Deon choose foods with your assigned nutrients on Wednesday? If yes, which nutrients?

### **Thursday**

On Thursday, Deon selected *pepperoni pizza, a banana, and fat-free chocolate milk.*

Did Deon choose foods with your assigned nutrients on Thursday? If yes, which nutrients?

### **Friday**

On Friday, Deon selected *pepperoni pizza, a banana, and fat-free chocolate milk.*

Did Deon choose foods with your assigned nutrients on Friday? If yes, which nutrients?

### **Weekly**

Over the entire week, did Deon choose foods with your assigned nutrients at least once? If not, what nutrients was he missing? If yes, which nutrients?

Group 5:  
Vitamin B6  
Vitamin C  
Zinc

## Nikeah

### **Monday**

On Monday, Nikeah chose the *Thai noodle salad, baby carrots, and a banana.*

Did Nikeah choose foods with your assigned nutrients on Monday? If yes, which nutrients?

### **Tuesday**

On Tuesday, Nikeah selected the *chicken sandwich, corn niblets, and orange slices.*

Did Nikeah choose foods with your assigned nutrients on Tuesday? If yes, which nutrients?

### **Wednesday**

On Wednesday, Nikeah selected the *chicken teriyaki stir fry, baby carrots, and a banana.*

Did Nikeah choose foods with your assigned nutrients on Wednesday? If yes, which nutrients?

### **Thursday**

On Thursday, Nikeah selected the *spaghetti with meat sauce, mashed potatoes, and orange slices.*

Did Nikeah choose foods with your assigned nutrients on Thursday? If yes, which nutrients?

### **Friday**

On Friday, Nikeah selected the *peanut butter and jelly sandwich, baby carrots, and a banana.*

Did Nikeah choose foods with your assigned nutrients on Friday? If yes, which nutrients?

### **Weekly**

Over the entire week, did Nikeah choose foods with your assigned nutrients at least once? If not, what nutrients was she missing?

# Appendix 1C – Las Llamas Middle School Lunch Menu

| <b><i>Offered Daily</i></b>  | <b><i>Monday</i></b>  | <b><i>Tuesday</i></b>   |
|--|---|---|
| <p><i>Entrée</i><br/> <b>Pepperoni Pizza</b><br/>                     Pepperoni, low-fat cheese, tomato sauce, whole wheat crust</p> <p><i>Milk Choices</i><br/>                     Low-Fat Milk<br/>                     Fat-Free Chocolate Milk</p> <p><i>Vegetable Choice</i><br/>                     Baby Carrots</p> <p><i>Fruit Choice</i><br/>                     Banana</p>   | <p><i>Entrée Choices</i><br/> <b>Corn and Cheese Enchilada</b><br/>                     Whole grain flour tortillas, low-fat cheese<br/>                     Side of Spanish rice<br/>                     Brown rice, canned tomatoes</p> <p><b>Thai Noodle Salad</b><br/>                     Chicken, whole wheat noodles, sesame dressing, chopped red bell pepper, shredded cabbage, carrots</p> <p><i>Vegetable Choices</i><br/>                     Broccoli<br/>                     Black Beans</p> <p><i>Fruit Choice</i><br/>                     Red Grapes</p> | <p><i>Entrée Choices</i><br/> <b>Chicken Sandwich</b><br/>                     Chicken patty, whole grain sliced bread</p> <p><b>Caesar Veggie Wrap</b><br/>                     Whole grain tortilla, Romaine lettuce, shredded carrots, low-fat cheese, low-fat Caesar dressing</p> <p><i>Vegetable Choices</i><br/>                     Baked Sweet Potato Fries<br/>                     Corn Niblets</p> <p><i>Fruit Choice</i><br/>                     Orange Slices</p>   |
| <b><i>Wednesday</i></b>  | <b><i>Thursday</i></b>  | <b><i>Friday</i></b>  |
| <p><i>Entrée Choices</i><br/> <b>Chicken Teriyaki Stir Fry with Brown Rice</b><br/>                     Chicken, carrots, zucchini, red bell pepper, teriyaki sauce, over brown rice</p> <p><b>Strawberry Yogurt Parfait</b><br/>                     Vanilla yogurt, low-fat granola, sliced strawberries</p> <p><i>Vegetable Choices</i><br/>                     Romaine Salad<br/>                     Celery Sticks</p> <p><i>Fruit Choice</i><br/>                     Apple</p> | <p><i>Entrée Choices</i><br/> <b>Spaghetti with Meat Sauce</b><br/>                     Whole grain-rich spaghetti, tomato and ground beef sauce</p> <p><b>Southwest Salad with a Whole Grain Roll</b><br/>                     Spinach, black beans, corn, diced tomato, green bell pepper, low-fat dressing</p> <p><i>Vegetable Choices</i><br/>                     Mashed Potatoes<br/>                     Spinach Salad</p> <p><i>Fruit Choice</i><br/>                     Strawberries</p>  | <p><i>Entrée Choices</i><br/> <b>Peanut Butter and Jelly Sandwich</b><br/>                     Whole grain sliced bread, peanut butter, grape jelly</p> <p><b>Strawberry Spinach Salad with a Whole Grain Roll</b><br/>                     Spinach, sliced strawberries, shredded cheese, sliced almonds, low-fat dressing,</p> <p><i>Vegetable Choices</i><br/>                     Hummus and Red Bell Pepper Strips<br/>                     Peas</p> <p><i>Fruit Choice</i><br/>                     Orange Slices</p> |

## Appendix 1D – Nutrient Labels

### Instructions:

The following are designed to be printed on standard mailing labels (1" x 2 5/8"), such as Avery 5160.

The nutrient labels can also be printed on plain paper. If this is the case, cut out the individual labels and place each nutrient into a separate, labeled envelope to simplify distribution to groups. Provide each group with a roll of tape.

**Group 1**

(page 1 of 2)

Vitamin D

Iron

Iron

Iron

Iron

Iron

Iron

Iron

Iron

Iron

**Group 1**

(page 2 of 2)

Iron

Iron

Iron

Iron

Iron

Iron

Protein

**Group 2**

(page 1 of 2)

Vitamin K

Magnesium

Magnesium

Magnesium

Magnesium

Magnesium

Magnesium

Magnesium

Magnesium

Magnesium

**Group 2**

(page 2 of 2)

Magnesium

Magnesium

Magnesium

Magnesium

Magnesium

Magnesium

Fats and Oils

**Group 3**

(page 1 of 2)

Vitamin E

Potassium

Potassium

Potassium

Potassium

Potassium

Potassium

Potassium

Potassium

Potassium

**Group 3**

(page 2 of 2)

Potassium

Potassium

Potassium

Potassium

Potassium

Potassium

Carbohydrates

**Group 4**

(page 1 of 2)

Calcium

Vitamin A

**Group 4**

(page 2 of 2)

Vitamin A

Vitamin A

Vitamin A

Vitamin A

Vitamin A

Vitamin A

Vitamin B12

**Group 5**

(page 1 of 2)

Vitamin B6

Vitamin C

**Group 5**

(page 2 of 2)

Vitamin C

Vitamin C

Vitamin C

Vitamin C

Vitamin C

Vitamin C

Zinc

# Appendix 1E – Student Lunch Choices KEY

## Leticia

### **Monday**

Leticia chose the *corn and cheese enchilada, with black beans, grapes, and chocolate milk.*

Did Leticia choose foods with your assigned nutrients on Monday? If yes, which nutrients?

Thiamin, Riboflavin, Vitamin B6, Folate, Vitamin B12, Vitamin C, Vitamin A, Vitamin D, Carbohydrates, Fats and Oils, Protein, Calcium, Iron, Magnesium, Potassium, and Zinc

### **Tuesday**

On Tuesday, Leticia selected the *Caesar veggie wrap, baked sweet potato fries, orange slices, and chocolate milk.*

Did Leticia choose foods with your assigned nutrients on Tuesday? If yes, which nutrients?

Thiamin, Riboflavin, Vitamin B6, Folate, Vitamin B12, Vitamin C, Vitamin A, Vitamin D, Vitamin K, Carbohydrates, Fats and Oils, Protein, Calcium, Iron, Magnesium, Potassium, and Zinc

### **Wednesday**

On Wednesday, Leticia selected the *chicken teriyaki stir fry, a banana, and plain low-fat milk.*

Did Leticia choose foods with your assigned nutrients on Wednesday? If yes, which nutrients?

Thiamin, Riboflavin, Vitamin B6, Folate, Vitamin B12, Vitamin C, Vitamin A, Vitamin D, Carbohydrates, Fats and Oils, Protein, Calcium, Iron, Magnesium, Potassium, and Zinc

### **Thursday**

On Thursday, Leticia selected the *southwest salad, strawberries, and chocolate milk.*

Did Leticia choose foods with your assigned nutrients on Thursday? If yes, which nutrients?

Thiamin, Riboflavin, Vitamin B6, Folate, Vitamin B12, Vitamin C, Vitamin A, Vitamin D, Vitamin K, Carbohydrates, Fats and Oils, Protein, Calcium, Iron, Magnesium, Potassium, and Zinc

### **Friday**

On Friday, Leticia selected the *strawberry spinach salad, red bell pepper strips with hummus, a banana, and chocolate milk.*

Did Leticia choose foods with your assigned nutrients on Friday? If yes, which nutrients?

Thiamin, Riboflavin, Vitamin B6, Folate, Vitamin B12, Vitamin C, Vitamin A, Vitamin D, Vitamin E, Vitamin K, Carbohydrates, Fats and Oils, Protein, Calcium, Iron, Magnesium, Potassium, and Zinc

### **Weekly**

Over the entire week, did Leticia choose foods with your assigned nutrients at least once? If not, what nutrients was she missing? Leticia chose foods with all assigned nutrients at least once. She is not missing any nutrients.

## Deon

### **Monday**

On Monday, Deon chose *pepperoni pizza, a banana, and fat-free chocolate milk.*

Did Deon choose foods with your assigned nutrients on Monday? If yes, which nutrients?

Thiamin, Riboflavin, Vitamin B6, Folate, Vitamin B12, Vitamin C, Vitamin A, Vitamin D, Carbohydrates, Fats and Oils, Protein, Calcium, Iron, Magnesium, Potassium, Zinc

### **Tuesday**

On Tuesday, Deon selected *pepperoni pizza, a banana, and fat-free chocolate milk.*

Did Deon choose foods with your assigned nutrients on Tuesday? If yes, which nutrients?

Thiamin, Riboflavin, Vitamin B6, Folate, Vitamin B12, Vitamin C, Vitamin A, Vitamin D, Carbohydrates, Fats and Oils, Protein, Calcium, Iron, Magnesium, Potassium, Zinc

### **Wednesday**

On Wednesday, Deon selected *pepperoni pizza, a banana, and fat-free chocolate milk.*

Did Deon choose foods with your assigned nutrients on Wednesday? If yes, which nutrients?

Thiamin, Riboflavin, Vitamin B6, Folate, Vitamin B12, Vitamin C, Vitamin A, Vitamin D, Carbohydrates, Fats and Oils, Protein, Calcium, Iron, Magnesium, Potassium, Zinc

### **Thursday**

On Thursday, Deon selected *pepperoni pizza, a banana, and fat-free chocolate milk.*

Did Deon choose foods with your assigned nutrients on Thursday? If yes, which nutrients?

Thiamin, Riboflavin, Vitamin B6, Folate, Vitamin B12, Vitamin C, Vitamin A, Vitamin D, Carbohydrates, Fats and Oils, Protein, Calcium, Iron, Magnesium, Potassium, Zinc

### **Friday**

On Friday, Deon selected *pepperoni pizza, a banana, and fat-free chocolate milk.*

Did Deon choose foods with your assigned nutrients on Friday? If yes, which nutrients?

Thiamin, Riboflavin, Vitamin B6, Folate, Vitamin B12, Vitamin C, Vitamin A, Vitamin D, Carbohydrates, Fats and Oils, Protein, Calcium, Iron, Magnesium, Potassium, Zinc

### **Weekly**

Over the entire week, did Deon choose foods with your assigned nutrients at least once? If not, what nutrients was he missing? If yes, which nutrients? No, Deon is missing Vitamin E and Vitamin K.

# Nikeah

## **Monday**

On Monday, Nikeah chose the *Thai noodle salad, baby carrots, and a banana.*

Did Nikeah choose foods with your assigned nutrients on Monday? If yes, which nutrients?

Thiamin, Riboflavin, Vitamin B6, Folate, Vitamin B12, Vitamin C, Vitamin A, Vitamin E, Carbohydrates, Fats and Oils, Protein, Iron, Magnesium, Potassium, and Zinc

## **Tuesday**

On Tuesday, Nikeah selected the *chicken sandwich, corn niblets, and orange slices.*

Did Nikeah choose foods with your assigned nutrients on Tuesday? If yes, which nutrients?

Thiamin, Riboflavin, Vitamin B6, Folate, Vitamin B12, Vitamin C, Vitamin A, Carbohydrates, Fats and Oils, Protein, Iron, Magnesium, Potassium, and Zinc

## **Wednesday**

On Wednesday, Nikeah selected the *chicken teriyaki stir fry, baby carrots, and a banana.*

Did Nikeah choose foods with your assigned nutrients on Wednesday? If yes, which nutrients?

Thiamin, Riboflavin, Vitamin B6, Folate, Vitamin B12, Vitamin C, Vitamin A, Carbohydrates, Fats and Oils, Protein, Iron, Magnesium, Potassium, and Zinc

## **Thursday**

On Thursday, Nikeah selected the *spaghetti with meat sauce, mashed potatoes, and orange slices.*

Did Nikeah choose foods with your assigned nutrients on Thursday? If yes, which nutrients?

Thiamin, Riboflavin, Vitamin B6, Folate, Vitamin B12, Vitamin C, Vitamin A, Carbohydrates, Fats and Oils, Protein, Iron, Magnesium, Potassium, and Zinc

## **Friday**

On Friday, Nikeah selected the *peanut butter and jelly sandwich, baby carrots, and a banana.*

Did Nikeah choose foods with your assigned nutrients on Friday? If yes, which nutrients?

Thiamin, Riboflavin, Vitamin B6, Folate, Vitamin A, Vitamin E, Carbohydrates, Fats and Oils, Protein, Iron, Magnesium, Potassium, and Zinc

## **Weekly**

Over the entire week, did Nikeah choose foods with your assigned nutrients at least once? If not, what nutrients was she missing? No, Nikeah is missing Vitamin D, Vitamin K, and Calcium.

# Appendix 1F – Suggested Flip Chart Layout

Student Name (e.g. Deon)

Monday

Tuesday

Wednesday

Thursday

Friday

At the end of the week,  
what nutrients are missing?



This image is an example of the flip chart layout.



This image is an example of the flip chart after the activity has been completed by participants.



## Appendix 1H – Focus on Food Lesson 1 Newsletter

The optional newsletter on the following pages is designed to help reinforce the concepts learned. If offering this course in a single workshop, you may wish to distribute the lesson newsletters weekly in order to help refresh participants' memory and solidify the concepts.



# Nutrients in Action

## In this issue...

- Proteins, Carbs, and Fat And Why We Need Them Page 2
- Macronutrient or Micronutrient? Page 2
- The Skinny on Different Kinds of Fats Page 3
- Swap It Out! Try these easy substitutions to eat more healthy fats. Page 3
- Quiz: Are you a vitamin or mineral? Page 4
- Vitamins and Minerals Micro and Mighty Page 4
- Test your knowledge! Take our nutrient quiz! Page 5



## Let's talk about nutrients.

Nutrients are the building blocks for every little thing our bodies do. Much like a really complicated machine, there are many different things we need, and they come from different foods. Like a car needs gas, oil, air in the tires, brake fluid, and other things to run, our bodies need **water, carbohydrates, protein, essential fatty acids, vitamins, and minerals.**

So what do we mean when we say something is an **essential nutrient**? It means the body can't make it, or can't make enough of it and we need to get it from food.

*Turn the page to learn more about different nutrients!*

### Did you know?

All foods contain nutrients, but some have more than others. Foods that are packed with healthy nutrients are called **nutrient-dense.**





## Macronutrient or a Micronutrient?

One of the ways we talk about nutrients is **macronutrients** and **micronutrients**.

A macronutrient is one that we need to eat a lot of. These include **protein**, **carbohydrates**, and **fat**.

Micronutrients are nutrients that we only need in small amounts. These include **vitamins** and **minerals**.



# Protein, Carbs, and Fat

## And why we need them

Protein, carbohydrates, and fats are the three nutrients that our bodies can use for energy. Let's dive into what else these do for us.

**Protein** is made up of **amino acids**, which are then used for a variety of functions in the body. Generally, when people think of protein, they think of building and maintaining muscle, but proteins in our bodies perform a wide variety of tasks. Proteins transport nutrients in our blood, support DNA and immune function, and are the building blocks for enzymes and hormones. When we have more protein than we need, it gets burned for energy or converted to fat to be stored and used for energy later.

**Carbohydrates** primarily serve as a source of energy for our bodies. In fact, carbohydrates are the main fuel for our brains. When we eat too much, carbs are converted to fat to be stored and used for energy later. **Fiber** is a type of carbohydrate that our bodies can't digest, but is important for digestive health. It keeps us regular, and might help prevent diseases like diverticulitis and colon cancer.

**Fat** not only serves as a primary fuel used by the body for energy, but also contributes several important functions. Fats are made up of fatty acids, which are used for a variety of functions in the body. The outside barriers of our cells, the cell membrane, are made up of a substance called phospholipid, which contains fatty acids. Fat is also needed for nerve and immune function and is the main way our bodies store energy to use later.

# The Skinny on Different Kinds of Fats



There are two main types: **solid fats**, which are solid at room temperature, and **oils**, which are liquid at room temperature. These have different effects on our health.

## Solid Fats

Solid fats, which include *trans* fat and saturated fat, are generally considered unhealthy, because they have been linked to a higher risk for heart disease.

What kinds of foods have solid fats? Some of the main ones can be easy to recognize: butter, shortening,

lard. But Americans actually get a lot of their solid fats from foods like cheese, pizza, and desserts. Eating these foods less often and eating smaller portions are two ways a lot of people can eat less solid fat.

## Oils

Oils generally contain mostly unsaturated fats. Unsaturated fats come in two types:

**monounsaturated** and **polyunsaturated**. These are often called healthy fats, because they might help reduce risk of heart disease. Our bodies need certain types of

polyunsaturated fatty acids, called **essential fatty acids**, because we are not able to make them on our own. These include **omega-6 fatty acids**, and **omega-3 fatty acids**.

You can find omega-6 fatty acids in corn oil, soybean oil, and nuts and seeds.

Omega-3 fatty acids can be found in fatty fish (salmon, mackerel, and tuna) and also in walnuts and flaxseed.

## Swap it out!

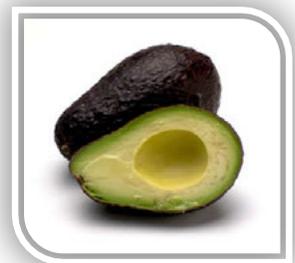
Try these easy substitutions to eat more healthy fats.



Sautee veggies in olive or canola oil instead of butter.



Have a small handful of nuts instead of chips for a snack.



Use a little bit of avocado on your sandwich instead of cheese.



## Quiz: Are you a vitamin or mineral?

1. Which would you rather have as your computer desktop background?
  - a. Photo of adorable cows munching on grass
  - b. Photo of the Grand Canyon
2. Which of these would you rather have in your kitchen?
  - a. A really nice bottle of olive oil
  - b. A cast iron skillet
3. How do you feel on a really hot day?
  - a. Some heat is okay. Too much heat – no thanks!
  - b. Handle it just fine. Heat doesn't bother you.

*If you chose mostly A's:*

You're a vitamin! Vitamins are made by plants and animals, some are found in oil, and some vitamins can be destroyed by too much heat.

*If you chose mostly B's:*

You're a mineral! Minerals originally come from the soil, cooking in a cast iron skillet can add a little bit of iron (a mineral) to your food, and minerals aren't affected by heat.

# Vitamins and Minerals

## Micro and Mighty

Vitamins and minerals are micronutrients that are used to help our bodies carry out all the processes we need for life. Unlike macronutrients, they can't be burned for energy.

### Vitamins

Vitamins are substances made by plants and animals that our own bodies are generally not able to make, and we need to get through food. There are two major types: fat-soluble and water-soluble.

#### Fat-Soluble Vitamins

**Vitamins A, D, E, and K** are the fat-soluble vitamins. This means that they dissolve in fat, but not water (generally). These vitamins serve different purposes in the body. For example, vitamin K is needed for blood clotting, while vitamin D is needed for bone health and immune function.

#### Water-Soluble Vitamins

Water-soluble vitamins include the **B vitamins** and **vitamin C**. These dissolved in water and are important in helping our bodies turn food into energy. Vitamin C also acts as an antioxidant. It helps protect our cells from damage.

### Minerals

Minerals are essential micronutrients that originally come from the soil. Our bodies need quite a few different minerals, some of which are **iron, calcium, magnesium, and zinc**. Like vitamins, different minerals serve different purposes. For example, iron is important in our red blood cells for moving oxygen around our bodies, while zinc is important for wound healing and immune function.

### Too much of a good thing?

If some is good, more is better, right? Not always. When it comes to some essential nutrients, there can be some serious health risks from excessive intake. While it can be easy to take too many vitamin and mineral pills to the point where you've eaten an unsafe amount of certain nutrients, a healthy balanced diet has everything you need, without the risk of going over! Eat all the fruits and veggies you want – just go easy on the supplements.

## Test your knowledge! Take our nutrient quiz!



### The Results are In!

*If you got all five right:*

You are a nutrient rock star! You know what nutrients do and where to find them. Keep getting out there and learning more!

*If you got three or four right:*

You're on the right track! Try finding the information you missed in other pages of this newsletter to become a nutrient master!

*If you got one or two right:*

It just means you have more opportunities to learn. Read through the newsletter again, or try contacting your local Cooperative Extension office to get reliable nutrition information. Find your Cooperative Extension office at [http://ucanr.edu/County\\_Offices/](http://ucanr.edu/County_Offices/)

1. Which of these nutrients is needed for blood clotting?
  - a. Vitamin K
  - b. Vitamin E
  - c. Vitamin A
  - d. Vitamin C
2. If you eat more protein than your body needs, what happens to the extra?
  - a. You build more muscle with it.
  - b. It gets used for energy or stored as fat.
  - c. It gets turned into vitamin E.
  - d. Nothing. It's impossible to eat more protein than you need.
3. Iron is what kind of nutrient?
  - a. Fat-soluble vitamin
  - b. Water-soluble vitamin
  - c. Carbohydrate
  - d. Mineral
4. Which of these nutrients helps protect our cells from damage by acting as an antioxidant?
  - a. Vitamin B12
  - b. Potassium
  - c. Vitamin C
  - d. Protein
5. True or false – Taking a lot of vitamin and mineral supplements is never a problem.

True – It's perfectly safe

False – Taking too many can have health risks.

*Check your answers at the bottom of the page!*

1. a; 2. b; 3. d; 4. c; 5. False



## Lesson 2: How Does Your Food Measure Up?





# Lesson 2: How Does Your Food Measure Up?

## Background information

The difference between a portion and a serving size can be confusing. A person selects a **subjective** amount of food to eat to determine their **portion**. The **serving size** of a food is located on the **Nutrition Facts Label** found on the packaging of the food. This serving size is a reference amount of food determined and regulated by the Food and Drug Administration (FDA). Knowing the serving size of a food allows for calculation of the total amount of calories and nutrients. By comparing the Nutrition Facts Labels of different foods, a person can determine which may be the healthier option. Serving size is listed on the Nutrition Facts Label as a **measurement** of food, often in cups, tablespoons, teaspoons, or ounces.



Portion size is a term frequently used in food service, indicating a planned amount of food to be offered/served for a menu choice, using volume or weight measurements. “Portion control” is a key factor for inventory and cost control.

This lesson does not directly address USDA meal pattern serving size terminology, but since this is the terminology participants are familiar with, similarities and differences with Nutrition Facts Label serving sizes are relevant.

In the National School Lunch and Breakfast Programs, the meal patterns indicate amounts of food to serve for each of the vegetable subgroups, fruits, grains, meat/meat alternates, and fluid milk components. Amounts of fruits and vegetables are measured by volume, such as  $\frac{1}{2}$  cup. Amounts of grains and meats/meat alternates are measured by weight, in ounce equivalents. Fluid milk is measured in cups. The USDA determines the requirements for the amount of each component offered per day and week to qualify as a reimbursable meal. The amount of food that is considered a serving may depend on the **density** of a food (if the equivalent is measured using volume). For example, 2 cups of leafy greens, such as raw spinach, is considered the equivalent of 1 cup of vegetables, whereas 1 cup of cooked spinach is considered 1 cup of vegetables. Cooked spinach is denser than raw spinach, due to the loss of water during the cooking process.



Often, school nutrition employees are called on to estimate the amount of the food on a student’s tray, and whether it qualifies as a reimbursable meal. This is particularly true with regard to estimating fruits and vegetables to determine if the required  $\frac{1}{2}$  cup is selected as part of Offer versus Serve. Using everyday objects as a comparison is one way to estimate. For example,  $\frac{1}{2}$  cup of oatmeal is comparable in size to a tennis ball. One ounce of cheese is equivalent in size to 4 dice. There are many everyday objects that can be used in this way.

# Concepts and Vocabulary

**Density (of food):** The compactness and amount of space a food takes up.

**Measurements (of food):** A determination of an amount of something using numbers; for food, often using cups, tablespoons, teaspoons, and ounces, among others.

**Nutrition Facts Label:** A label regulated by the Food and Drug Administration that is found on food packaging that describes the serving size, number of servings in the package, and amount of calories and nutrients contained in one serving.

**Portion:** The amount of food selected by one individual for their own consumption, or selected by the menu planner for foods on a menu.

**Serving size:** A reference amount listed on the Nutrition Facts Label that allows for determining the number of calories and nutrients consumed in an amount of food.

**Subjective:** Based on someone's personal opinion.





## Preparation

1. Prepare copies of *How Does Your Food Measure Up? Worksheet* (Appendix 2A), one copy for each group.
2. Prepare copies of *Nutrition Facts Labels* (Appendix 2B), one set for each group.
3. Prepare foods in containers or bowls with appropriate serving utensils in three stations in different areas of the room. Each station will have two foods.
  - Station 1: Raw Spinach and Cooked Spinach
  - Station 2: Grapes and Raisins
  - Station 3: Milk and Cheese
4. Organize the class into small groups of 2 to 4 participants.

**Facilitator Tip:** These can be the same groups that were formed in earlier lessons.

5. Provide each group with a sheet of flip chart paper and markers, pens, or pencils to answer opening questions/prompts.

Optional:

6. Before participants arrive, connect laptop to projector. Load *Focus on Food Lesson 2* (PowerPoint).





## Opening Questions/Prompts

1. **Say:** Let's get started with Lesson 2 – How Does Your Food Measure Up! To begin, I'd like everyone to discuss some opening questions within your group. Once you've discussed the prompts within your groups, we will come back together as a class and discuss your thoughts and responses as a whole. **(Slide 2)**  
The first prompt I'd like you to discuss within your groups is:
  - Explain what you know about serving sizes. **(Slide 3)**
2. **Do:** Allow 2 to 3 minutes for groups to discuss the prompts.
3. **Say:** Now I'd like you to discuss within your groups the next prompt:
  - Explain what you know about Nutrition Facts Labels. **(Slide 4)**
4. **Do:** Allow 2 to 3 minutes for groups to discuss the prompts.
5. **Say:** As a class, let's discuss what you talked about in your groups. What were some of your thoughts on the first prompt, "Explain what you know about serving sizes"?
6. **Do:** Allow about a minute for participants to share their thoughts on this topic with the class.

**Facilitator Tip:** This sharing phase is a great opportunity to begin to build rapport with participants. Some statements and questions to help engage participants at this phase are: "Tell me more about that"; "What do you mean by..."; "How is that motivating you?"; "Did anyone else write this?"; "That's a very popular opinion." At this stage, it is important that you do not correct misconceptions. Instead, make note of them, and if they are not corrected organically through the lesson, address them briefly at the end of the lesson.

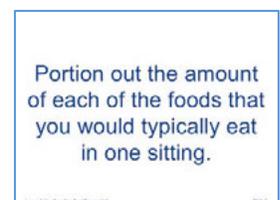
7. **Say:** What were some of your thoughts on the second prompt, "Explain what you know about Nutrition Facts Labels"?
8. **Do:** Allow about a minute for participants to share their thoughts on this topic with the class.

**Facilitator Tip:** Continue to make note of misconceptions as they arise. Assure participants that there will be more time to discuss these topics at the end of the lesson.



## Procedure (Experiencing)

1. **Say:** Now that we've completed our opening discussion, we'll start on the activity for this lesson. This activity involves portion sizes.
  - You will receive a worksheet to fill out with your group as part of this lesson.
  - Each group will walk around the room to each food station. Choose one member of your group to portion out the amount of each food that you would typically eat in one sitting. **(Slide 6)**



2. **Do:** Distribute copies of the *How Does Your Food Measure Up? Worksheet* (Appendix 2A), paper plates, paper bowls, and paper cups.

**Facilitator Tips:** If it is a large class, consider asking for volunteers to help distribute the worksheet and paper plates, bowls, and cups.

If any of the foods are not safe for consumption (e.g. unwashed grapes), inform participants of this.

3. **Say:** Now that you have your materials, you can begin! You can start at any station, just please make sure that there is no more than two groups per station at any given time.
4. **Do:** Allow a few minutes for all groups to portion out their foods. While they are doing this, distribute sets of measuring cups, measuring spoons, and the *Nutrition Facts Labels* (Appendix 2B) one set of each per group.
5. **Say:** For the next step in this activity, you will use the measuring cups and spoons, and the *Nutrition Facts Labels* to answer questions on the worksheet. **(Slide 7)**
6. **Do:** Allow several minutes for participants to complete this step.

Use the measuring cups and spoons and Nutrition Facts Labels to complete the worksheet.



## Activity Wrap-Up (Sharing, Processing, and Generalizing)

1. **Say:** As a class, let's discuss your observations. **(Slide 8)**
2. **Do:** Follow the group's line of thinking, and if necessary, ask more targeted questions.
  - Explain what you observed when comparing the Nutrition Facts Label serving size versus the portion size your group measured.
  - Explain what you observed about the amount of food your group portioned and how the portion size affected the calories and nutrients.
  - Explain why knowing the Nutrition Facts Label serving size might be useful.
  - Explain what you know about the serving size listed on the Nutrition Facts Label.

Activity Wrap-Up

**Facilitator Tip:** If there are any misconceptions remaining in this phase of the lesson, you should address these now.



## Concept and Term Discovery/Introduction

Over the course of the lesson, participants should be able to identify the following concepts:

- A portion is a subjective amount of food that someone chooses, while a serving size is a standardized amount of food listed on the Nutrition Facts Label to use as a reference when determining the amount of calories and nutrients consumed, or to compare and contrast similar food products when making purchasing decisions.
- The serving size listed on the Nutrition Facts Label is not the recommended amount to eat.

The following key vocabulary terms should be discovered by participants or introduced to them: density (of food), measurement (of food), Nutrition Facts Label, portion, serving size, and subjective.



## 2.2: Expanding Knowledge

### Getting Ready



#### Time Required

10 minutes



#### Materials Needed

(\*Materials provided in the curriculum)

- \**Focus on Food Lesson 2 Expanding Knowledge* (PowerPoint)
- PowerPoint Projector
- Computer



#### Preparation

1. Connect laptop to projector. Load *Focus on Food Lesson 2 Expanding Knowledge* PowerPoint.
2. Queue the PowerPoint Presentation to Slide 9.



### Procedure (Experiencing)

1. **Do:** Go through the Expanding Knowledge presentation slide by slide. The following script is available for use if you so choose.



## Expanding Knowledge

Lesson 2: How Does Your Food Measure Up?

Slide 9

Slide 9

Now let's review some of the concepts we learned during Lesson 2, How Does Your Food Measure Up?

## Serving or Portion?

- Serving is a reference amount of food.
- Portion is the subjective amount of food a person selects to eat.
- Example: Jan dishes up  $\frac{1}{2}$  cup of carrots to eat.
  - One serving is 1 cup of carrots
  - Jan's portion is equal to  $\frac{1}{2}$  serving

Lesson 2: How Does Your Food Measure Up?

Slide 10

Serving and portion sounds very similar, but in nutrition we use them to mean two different things. A serving is a reference amount of food. We use it as a basis for comparison, and I'll talk in just a minute what that means. A portion is a subjective amount of food. It's what you choose to eat. It can be more than a serving or less than a serving. For example, Jan eats a half-cup of carrots. One serving is 1 cup, so Jan's portion is equal to  $\frac{1}{2}$  serving.

Slide 10

## Nutrition Facts Label Servings

- Reference amount of food
- Regulated by the FDA
- Use it to calculate the amount of nutrients or calories in a portion
- Doesn't mean this is the amount you must eat
  - Can eat less, can eat more

| Baby Carrots           |                     |
|------------------------|---------------------|
| Nutrition Facts        |                     |
| Serving Size 1 cup     |                     |
| Amount Per Serving     |                     |
| Calories 53            | Calories from Fat 0 |
| % Daily Value*         |                     |
| Total Fat 0g           | 0%                  |
| Saturated Fat 0g       | 0%                  |
| Trans Fat 0g           |                     |
| Cholesterol 0mg        | 0%                  |
| Sodium 88mg            | 3%                  |
| Total Carbohydrate 12g | 4%                  |
| Dietary Fiber 4g       | 14%                 |
| Sugars 6g              |                     |
| Protein 1g             | 2%                  |
| Vitamin A 427%         | Vitamin C 12%       |
| Calcium 4%             | Iron 2%             |

\*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

Lesson 2: How Does Your Food Measure Up?

Slide 11

Servings are listed on the Nutrition Facts Label and are regulated by the FDA. We can use this to figure out nutrient intake.

In the previous example, a serving of carrots is one cup. All of the numbers on the Nutrition Facts Label are calculated based on that 1 cup serving.

Slide 11

## Using Nutrition Facts Labels

- Compare portion to serving size to figure out nutrient intake.
- Jan consumed  $\frac{1}{2}$  cup of carrots.
- How much fiber and vitamin A did she consume?

| Baby Carrots           |                     |
|------------------------|---------------------|
| Nutrition Facts        |                     |
| Serving Size 1 cup     |                     |
| Amount Per Serving     |                     |
| Calories 53            | Calories from Fat 0 |
| % Daily Value*         |                     |
| Total Fat 0g           | 0%                  |
| Saturated Fat 0g       | 0%                  |
| Trans Fat 0g           |                     |
| Cholesterol 0mg        | 0%                  |
| Sodium 88mg            | 3%                  |
| Total Carbohydrate 12g | 4%                  |
| Dietary Fiber 4g       | 14%                 |
| Sugars 6g              |                     |
| Protein 1g             | 2%                  |
| Vitamin A 427%         | Vitamin C 12%       |
| Calcium 4%             | Iron 2%             |

\*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

Lesson 2: How Does Your Food Measure Up?

Slide 12

If we want to figure out the nutrients in a portion, we compare the portion size to the serving size.

Let's go back to Jan and her half-cup of carrots. Since we know that 1 cup is the serving size, and Jan's portion was half of that, how do we figure out her nutrient intake?

[Pause to allow responses from the class.]

Slide 12

## Using Nutrition Facts Labels

- Jan consumed  $\frac{1}{2}$  cup of carrots, which is  $\frac{1}{2}$  serving:
- Her portion has:
  - Dietary fiber = 2 g
  - Vitamin A = 213%

| Baby Carrots           |                     |
|------------------------|---------------------|
| Nutrition Facts        |                     |
| Serving Size 1 cup     |                     |
| Amount Per Serving     |                     |
| Calories 53            | Calories from Fat 0 |
| % Daily Value*         |                     |
| Total Fat 0g           | 0%                  |
| Saturated Fat 0g       | 0%                  |
| Trans Fat 0g           |                     |
| Cholesterol 0mg        | 0%                  |
| Sodium 88mg            | 3%                  |
| Total Carbohydrate 12g | 4%                  |
| Dietary Fiber 4g       | 14%                 |
| Sugars 6g              |                     |
| Protein 1g             | 2%                  |
| Vitamin A 427%         | Vitamin C 12%       |
| Calcium 4%             | Iron 2%             |

\*Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

Lesson 2: How Does Your Food Measure Up?

Slide 13

The label states carrots have four grams of dietary fiber and 427% of the daily value of Vitamin A. This means Jan consumed 2 grams of fiber, and 213% percent of her daily need for Vitamin A.

Slide 13

| Food A                 |                     |
|------------------------|---------------------|
| Nutrition Facts        |                     |
| Serving Size 1 cup     |                     |
| Amount Per Serving     |                     |
| Calories 179           | Calories from Fat 9 |
| % Daily Value*         |                     |
| Total Fat 1g           | 0%                  |
| Saturated Fat 0g       | 0%                  |
| Trans Fat 0g           |                     |
| Cholesterol 0mg        | 0%                  |
| Sodium 0mg             | 0%                  |
| Total Carbohydrate 43g | 12%                 |
| Dietary Fiber 6g       | 23%                 |
| Sugars 11g             |                     |
| Protein 3g             | 10%                 |
| Vitamin A 0%           | Vitamin C 0%        |
| Calcium 0%             | Iron 85%            |

| Food B                 |                     |
|------------------------|---------------------|
| Nutrition Facts        |                     |
| Serving Size 1 cup     |                     |
| Amount Per Serving     |                     |
| Calories 110           | Calories from Fat 9 |
| % Daily Value*         |                     |
| Total Fat 1g           | 0%                  |
| Saturated Fat 0g       | 0%                  |
| Trans Fat 0g           |                     |
| Cholesterol 0mg        | 0%                  |
| Sodium 180mg           | 8%                  |
| Total Carbohydrate 25g | 8%                  |
| Dietary Fiber 3g       | 11%                 |
| Sugars 3g              |                     |
| Protein 2g             | 4%                  |
| Vitamin A 10%          | Vitamin C 0%        |
| Calcium 15%            | Iron 45%            |

Check to make sure the serving sizes are similar.

Food A has more calories.

Food A has more fiber and iron, but also more sugar.

Food B has less fiber and iron, but has calcium and vitamin A.

Lesson 2: How Does Your Food Measure Up?

Slide 14

You can also use Nutrition Facts Labels to compare foods. Let's say you you'd like to purchase a snack and are trying to eat more fiber. Which of these foods would you choose?

[Pause to allow responses from the class.]  
Then Food A might be for you.

What if you are more interested in fewer calories, but more calcium?

[Pause to allow responses from the class.]

Then Food B might be the one you would choose.

Slide 14

## Nutrition Facts Serving Sizes

- Vary from food to food
- Can be listed in
  - Cups
  - Ounces
  - Fluid Ounces
  - Tablespoons
  - Teaspoons
  - Grams
  - And more!



Lesson 2: How Does Your Food Measure Up?

Slide 15

We used cups and tablespoons in the activity, but there are many other ways that serving sizes are listed. Some other examples are ounces, or fluid ounces, teaspoons, grams, and more. Can anyone explain the difference between an ounce and a fluid ounce?

[Pause to allow responses from the class.]

An ounce is a measure of weight. A fluid ounce is a measure of volume, or how much space something takes up. For example, 1 cup has 8 fluid ounces.

Slide 15

## Density of Food

- Density is how compact a food is.
- Another way to think about it is how much space it takes up for its weight.
- What are some examples of foods that are not dense?
- What are some examples of foods that are very dense?

Lesson 2: How Does Your Food Measure Up?

Slide 16

### Slide 16

Density of a food is how compact it is, or how much space it takes up for its weight. In the activity, we compared raisins and grapes. When we dehydrate grapes, we remove the water, and this makes raisins a lot denser than grapes.

What are some other examples of foods that are not dense? What are some other examples of foods that are very dense?

[Pause to allow responses from the class.]

## Density and School Meal Patterns

- Lunch and breakfast patterns take into account density of certain fruits and vegetables.
- Dried fruit:
  - ½ cup is equivalent to 1 cup of fruit
- Raw leafy greens
  - 2 cups is equivalent to 1 cup of vegetables

Lesson 2: How Does Your Food Measure Up?

Slide 17

### Slide 17

In the school meal patterns, density is something that is factored in with dried fruit, and raw leafy greens. When you compared raisins and grapes, and raw spinach to cooked spinach, how were the nutrients different?

[Pause to allow responses from the class.]

How do you think that relates to the different requirements for dried fruits and raw greens?

[Pause to allow responses from the class.]

## Meal Pattern Servings

- Fluid Milk – Cups
- Meat/Meat Alternate – Ounce Equivalents
- Fruits – Cups
- Vegetables – Cups
- Grains – Ounce Equivalents

Lesson 2: How Does Your Food Measure Up?

Slide 18

### Slide 18

In the meal patterns, this is how each of the components are measured, and this might vary from what is listed on a nutrition facts label for a food.



## 2.3: Goal Setting Activity

### Getting Ready



#### Time Required

5 minutes



#### Materials Needed

(\*Materials provided in the curriculum)

\**Goal Setting: How Does Your Food Measure Up?* (Appendix 2C)

Optional:

\**Focus on Food Lesson 2 Newsletter* (Appendix 1D)



#### Preparation

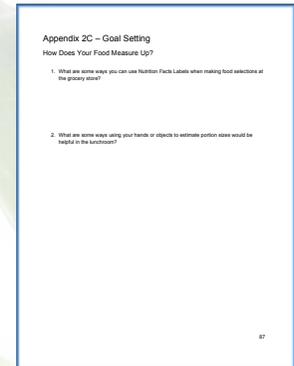
1. Make copies of the *Goal Setting: How Does Your Food Measure Up?* (Appendix 2C) Handout, one for each participant.

Optional:

2. Make copies of the *Focus on Food Lesson 2 Newsletter* (Appendix 1D), one for each participant.

3. Connect laptop to projector. Load *Focus on Food Lesson 2* (PowerPoint).

4. Queue the PowerPoint Presentation to Slide 19.



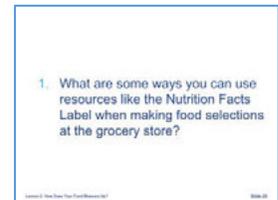
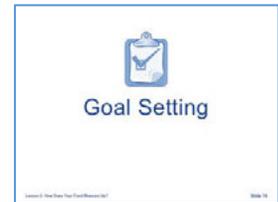


## Procedure (Experiencing)

1. **Say:** Now let's move on to Goal Setting! **(Slide 19)** We've talked about how portions of food depend on many things, including how hungry someone is, how active they are, their age, and their gender. The next step is to set some goals and make a plan. I am going to distribute a Goal Setting Handout that has the following questions: **(Slide 20)**
  - 1) What are some ways you can use resources like the Nutrition Facts Label when making food selections at the grocery store?
2. **Do:** Provide a copy of the *Goal Setting: How Does Your Food Measure Up?* Handout (Appendix 2C) to each participant. Allow participants a few minutes to complete the handout.
3. **Say:** Would anyone like to share the goals they set for themselves?

Optional:

4. **Say:** I'm going to distribute one last handout, which is a newsletter with some extra information you might be interested in. Thank you all for participating in Lesson 2! **(Slide 21)**
5. **Do:** Provide a copy of the *Focus on Food Lesson 2 Newsletter* (Appendix 2D) to each participant.



# Appendix 2A – How Does Your Food Measure Up? Worksheet

|   | Carrots<br>(Example)  | Raw<br>Spinach | Cooked<br>Spinach | Grapes | Raisins | Milk    | Cheese  |
|---|---|----------------|-------------------|--------|---------|---------|---------|
| What is amount of food, or <b>portion</b> , you served yourself? Hint: use cups or tablespoons.   | ½ cup   |                |                   |        |         |         |         |
| What is the <b>serving size</b> of each food according to the Nutrition Facts Label?              | 1 cup   |                |                   |        |         |         |         |
| What amount of this nutrient is in one <b>serving</b> ?   | Fiber:<br>4g  |                |                   |        |         |         |         |
| What amount of this nutrient is in the <b>portion</b> you served yourself?                        | Fiber:<br>4g/2 = 2g   | Iron:          | Iron:             | Sugar: | Sugar:  | Carbs*: | Carbs*: |
| What is the difference in this nutrient between your <b>portion</b> and the <b>serving size</b> ? | There is less fiber in my portion than in the serving size. |                |                   |        |         |         |         |
| How many calories are in one serving?   | 53 calories   |                |                   |        |         |         |         |
| Does your portion have more or less calories than one serving?                                    | Less calories   |                |                   |        |         |         |         |

## Appendix 2B – Nutrition Facts Labels

### Baby Carrots

| <b>Nutrition Facts</b>   |                     |                       |     |
|--|---------------------|-----------------------|-----|
| Serving Size 1 cup   |                     |                       |     |
| Amount Per Serving   |                     |                       |     |
| <b>Calories</b> 53   | Calories from Fat 0 |                       |     |
|  |                     | <b>% Daily Value*</b> |     |
| <b>Total Fat</b> 0g  |                     |                       | 0%  |
| Saturated Fat 0g   |                     |                       | 0%  |
| Trans Fat 0g   |                     |                       |     |
| <b>Cholesterol</b> 0mg   |                     |                       | 0%  |
| <b>Sodium</b> 88mg   |                     |                       | 3%  |
| <b>Total Carbohydrate</b> 12g  |                     |                       | 4%  |
| Dietary Fiber 4g   |                     |                       | 14% |
| Sugars 6g  |                     |                       |     |
| <b>Protein</b> 1g  |                     |                       | 2%  |
| Vitamin A  | 427%                | Vitamin C             | 12% |
| Calcium  | 4%                  | Iron                  | 2%  |
| *Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs. |                     |                       |     |

### Spinach (raw)

| <b>Nutrition Facts</b>   |                     |                       |     |
|--|---------------------|-----------------------|-----|
| Serving Size 1 cup   |                     |                       |     |
| Amount Per Serving   |                     |                       |     |
| <b>Calories</b> 7  | Calories from Fat 0 |                       |     |
|  |                     | <b>% Daily Value*</b> |     |
| <b>Total Fat</b> 0g  |                     |                       | 2%  |
| Saturated Fat 0g   |                     |                       | 0%  |
| Trans Fat 0g   |                     |                       |     |
| <b>Cholesterol</b> 0mg   |                     |                       | 0%  |
| <b>Sodium</b> 24mg   |                     |                       | 1%  |
| <b>Total Carbohydrate</b> 1g   |                     |                       | 0%  |
| Dietary Fiber 1g   |                     |                       | 3%  |
| Sugars 0g  |                     |                       |     |
| <b>Protein</b> 1g  |                     |                       | 2%  |
| Vitamin A  | 56%                 | Vitamin C             | 14% |
| Calcium  | 3%                  | Iron                  | 5%  |
| *Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs. |                     |                       |     |

### Spinach (cooked)

| <b>Nutrition Facts</b>   |                     |                       |     |
|--|---------------------|-----------------------|-----|
| Serving Size 1 cup   |                     |                       |     |
| Amount Per Serving   |                     |                       |     |
| <b>Calories</b> 41   | Calories from Fat 0 |                       |     |
|  |                     | <b>% Daily Value*</b> |     |
| <b>Total Fat</b> 0g  |                     |                       | 0%  |
| Saturated Fat 0g   |                     |                       | 0%  |
| Trans Fat 0g   |                     |                       |     |
| <b>Cholesterol</b> 0mg   |                     |                       | 0%  |
| <b>Sodium</b> 126mg  |                     |                       | 5%  |
| <b>Total Carbohydrate</b> 7g   |                     |                       | 2%  |
| Dietary Fiber 4g   |                     |                       | 14% |
| Sugars 1g  |                     |                       |     |
| <b>Protein</b> 5g  |                     |                       | 10% |
| Vitamin A  | 377%                | Vitamin C             | 29% |
| Calcium  | 20%                 | Iron                  | 16% |
| *Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs. |                     |                       |     |

### Raisins

| <b>Nutrition Facts</b>   |                       |           |    |
|--|-----------------------|-----------|----|
| Serving Size ¼ cup   |                       |           |    |
| Amount Per Serving   |                       |           |    |
| <b>Calories</b> 120  | Calories from Fat 0   |           |    |
|  | <b>% Daily Value*</b> |           |    |
| <b>Total Fat</b> 0g  | 0%                    |           |    |
| Saturated Fat 0g   | 0%                    |           |    |
| Trans Fat 0g   |                       |           |    |
| <b>Cholesterol</b> 0mg   | 0%                    |           |    |
| <b>Sodium</b> 10mg   | 0%                    |           |    |
| <b>Total Carbohydrate</b> 31g  | 10%                   |           |    |
| Dietary Fiber 2g   | 6%                    |           |    |
| Sugars 29g   |                       |           |    |
| <b>Protein</b> 1g  | 2%                    |           |    |
| Vitamin A  | 0%                    | Vitamin C | 0% |
| Calcium  | 2%                    | Iron      | 6% |
| *Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs. |                       |           |    |

### Grapes

| <b>Nutrition Facts</b>   |                       |           |    |
|--|-----------------------|-----------|----|
| Serving Size 1 cup   |                       |           |    |
| Amount Per Serving   |                       |           |    |
| <b>Calories</b> 62   | Calories from Fat 0   |           |    |
|  | <b>% Daily Value*</b> |           |    |
| <b>Total Fat</b> 0g  | 0%                    |           |    |
| Saturated Fat 0g   | 0%                    |           |    |
| Trans Fat 0g   |                       |           |    |
| <b>Cholesterol</b> 0mg   | 0%                    |           |    |
| <b>Sodium</b> 2mg  | 0%                    |           |    |
| <b>Total Carbohydrate</b> 16g  | 5%                    |           |    |
| Dietary Fiber 1g   | 3%                    |           |    |
| Sugars 15g   |                       |           |    |
| <b>Protein</b> 1g  | 2%                    |           |    |
| Vitamin A  | 1%                    | Vitamin C | 6% |
| Calcium  | 0%                    | Iron      | 0% |
| *Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs. |                       |           |    |

### Low-Fat Shredded Cheese

| <b>Nutrition Facts</b>   |                       |           |    |
|--|-----------------------|-----------|----|
| Serving Size ¼ cup   |                       |           |    |
| Amount Per Serving   |                       |           |    |
| <b>Calories</b> 80   | Calories from Fat 50  |           |    |
|  | <b>% Daily Value*</b> |           |    |
| <b>Total Fat</b> 6g  | 8%                    |           |    |
| Saturated Fat 3.5g   | 18%                   |           |    |
| Trans Fat 0g   |                       |           |    |
| <b>Cholesterol</b> 20mg  | 7%                    |           |    |
| <b>Sodium</b> 230mg  | 10%                   |           |    |
| <b>Total Carbohydrate</b> 1g   | 1%                    |           |    |
| Dietary Fiber 0g   | 0%                    |           |    |
| Sugars 0g  |                       |           |    |
| <b>Protein</b> 7g  |                       |           |    |
| Vitamin A  | 6%                    | Vitamin C | 0% |
| Calcium  | 40%                   | Iron      | 0% |
| *Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs. |                       |           |    |

### 2% Milk

| <b>Nutrition Facts</b>   |                       |           |    |
|--|-----------------------|-----------|----|
| Serving Size 1 cup (8 fl. oz)  |                       |           |    |
| Amount Per Serving   |                       |           |    |
| <b>Calories</b> 130  | Calories from Fat 45  |           |    |
|  | <b>% Daily Value*</b> |           |    |
| <b>Total Fat</b> 5g  | 8%                    |           |    |
| Saturated Fat 3g   | 15%                   |           |    |
| Trans Fat 0g   |                       |           |    |
| <b>Cholesterol</b> 15mg  | 4%                    |           |    |
| <b>Sodium</b> 130mg  | 5%                    |           |    |
| <b>Total Carbohydrate</b> 12g  | 4%                    |           |    |
| Dietary Fiber 0g   | 0%                    |           |    |
| Sugars 12g   |                       |           |    |
| <b>Protein</b> 9g  |                       |           |    |
| Vitamin A  | 6%                    | Vitamin C | 0% |
| Calcium  | 30%                   | Iron      | 0% |
| *Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs. |                       |           |    |

## Appendix 2C – Goal Setting

### How Does Your Food Measure Up?

1. What are some ways you can use Nutrition Facts Labels when making food selections at the grocery store?

## Appendix 2D – Focus on Food Lesson 2 Newsletter

The optional newsletter on the following pages is designed to help reinforce the concepts learned. If offering this course in a single workshop, you may wish to distribute the lesson newsletters weekly in order to help refresh participants' memory and solidify the concepts.

# How Does Your Food Measure Up?



## In this issue...

|   |        |
|---|--------|
| Now Serving... Nutrition Facts Label                      | Page 2 |
| What's up with those labels on the front of packages?     | Page 2 |
| Handy Portion Size Estimates                              | Page 3 |
| Spinach, You're So Dense                                  | Page 4 |
| Don't Be Confused: Density vs. Nutrient Density           | Page 4 |
| Test your knowledge! Take our Nutrition Facts Label quiz! | Page 5 |

## Are you eating a portion or a serving?

The difference between a portion and a serving size can be confusing. A person selects a **subjective amount** of food to eat to determine their **portion**. The **serving size** of a food is located on the **Nutrition Facts Label** found on the packaging of the food. This serving size is a reference amount of food determined and regulated by the Food and Drug Administration (FDA).

Serving size is listed on the Nutrition Facts Label as a measurement of food, often in **cups, tablespoons, teaspoons, or ounces**.

*Turn the page for more info on Nutrition Facts Labels!*

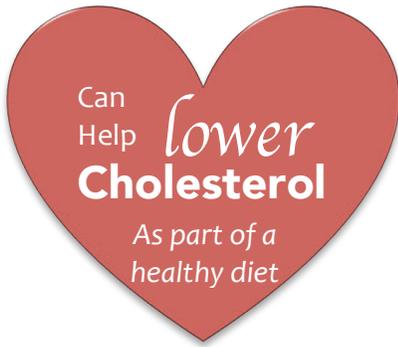
## No Scale? No Problem!

Ideally, everyone has a kitchen scale and several different sized measuring cups and spoons so that measuring out or scaling up a recipe is no problem. However, this is not always the case so having these common conversions handy can be helpful.

|  |  |  |
|--|--|--|
| 1 Gallon =<br>4 quarts<br>8 pints<br>16 cups<br>128 fluid ounces<br>3.8 liters | 1 Quart =<br>2 pints<br>4 cups<br>32 fluid ounces<br>.95 liters                | 1 Pint =<br>2 cups<br>16 fluid ounces<br>.48 liters                |
| 1 Cup =<br>8 fluid ounces<br>240 milliliters                                   | 1/4 Cup =<br>4 tablespoons<br>12 teaspoons<br>2 fluid ounces<br>60 milliliters | 1 Tablespoon =<br>3 teaspoons<br>1/2 fluid ounce<br>15 milliliters |

## Did you know?

The Nutrition Facts Label may be changing soon. One proposed change is update serving sizes to reflect how people actually eat and drink.



# Now Serving... Nutrition Facts Label

What's up with those labels on the front of packages?

The FDA is the government agency that rules on what companies are allowed to say on their packages. Certain kinds of labels are permitted as long as they aren't misleading.

**Health Claims** describe a relationship between a food item and reduced risk of disease. These claims must meet certain criteria and be authorized by the FDA.

Example health claim:  
"Healthful diets with adequate folate may reduce a woman's risk of having a child with a brain or spinal cord defect."

**Nutrient Content Claims** describe the level of a nutrient in the product. Terms used include *free*, *high*, and *low* when describing the level of a nutrient, and *more*, *reduced*, and *lite* when comparing to another food. Rules for using these terms on a product can be found on the FDA's website.

Example nutrient content claim:  
"Reduced Sodium"

**Structure/Function Claims** describe an intended effect of a nutrient or ingredient on a structure or function of the body. These claims can include benefits to or maintenance of a body structure or function.

Example structure/function claim:  
"Calcium Builds Strong Bones"

Knowing the serving size of a food allows for calculation of the total amount of calories and nutrients.

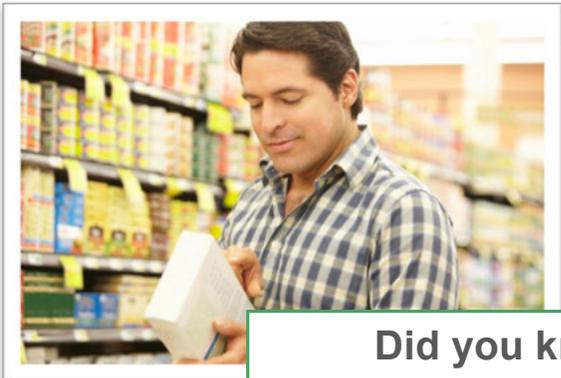
Here's an example of a Nutrition Facts Label...

Macaroni and Cheese (Sample Label)

| <b>Nutrition Facts</b>   |              |                       |     |
|--|--------------|-----------------------|-----|
| Serving Size 1 cup (228g)  |              |                       |     |
| Servings Per Container 2   |              |                       |     |
| <b>Amount Per Serving</b>  |              |                       |     |
| <b>Calories</b> 250  |              | Calories from Fat 110 |     |
| <b>% Daily Value*</b>  |              |                       |     |
| <b>Total Fat</b> 12g   |              |                       | 18% |
| Saturated Fat 3g   |              |                       | 15% |
| Trans Fat 3g   |              |                       |     |
| <b>Cholesterol</b> 30mg  |              |                       | 10% |
| <b>Sodium</b> 470mg  |              |                       | 20% |
| <b>Total Carbohydrate</b> 31g  |              |                       | 10% |
| Dietary Fiber 0g   |              |                       | 0%  |
| Sugars 5g  |              |                       |     |
| <b>Protein</b> 5g  |              |                       |     |
| Vitamin A 4%   | Vitamin C 2% |                       |     |
| Calcium 20%  | Iron 4%      |                       |     |
| *Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs. |              |                       |     |

One serving of this product is 1 cup of Macaroni & Cheese.

Since there are 2 servings per container, if you wanted to eat the **whole package**, you would need to **multiply** the other nutrition components by **2** to determine your total.



**Did you know?**  
Containers can be misleading. This can especially happen with beverages. Although it is common to drink an entire can or bottle, the serving size may actually only be for half the container. Be sure to read the Nutrition Facts Label carefully.

# Handy Portion Size Estimates

Knowing how much food we're eating can help us be aware of the calories and nutrients we're consuming. But what do we do when there are no scales or measuring cups handy? One way to estimate portion sizes is to use hands for comparison. Fists, palms, thumbs and everyday objects can give us an idea of how our portion compares to a standard serving size.



**One fist** is about the same volume as **1 cup**.

Food examples include dry cereal, fruit, and vegetables



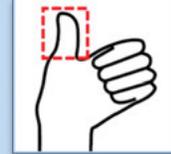
**Two fists** are about the same volume as **2 cups**.

Food examples include raw leafy greens, such as kale and spinach.



**One palm** is about the same size as **3 ounces of meat**.

Food examples include chicken, beef, fish, and pork.



**One thumb** is about the same size as **1 tablespoon**.

Food examples include ketchup and peanut butter.



**One thumb tip** is about the same size as **1 teaspoon**.

Food examples include jam, butter, and margarine.



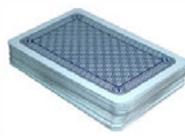
**One baseball** is about the same volume as **1 cup**.

Food examples include dry cereal, fruit, and vegetables



**One tennis ball** is about the same volume as **1/2 cup**.

Food examples include pasta and rice.



**One deck of cards** is about the same size as **3 ounces of meat**.

Food examples include chicken, beef, fish, and pork.



**One ping pong ball** is about the same size as **2 tablespoons**.

Food examples include salsa and hummus.



**One golf ball** is about the same size as **1/4 cup**.

Food examples include dried fruit and nuts.



## Spinach, You're So Dense

The amount of food considered a serving may depend upon the **density** of a food. The density of food is the compactness and amount of space a food takes up.



For example, 2 cups of raw spinach is considered 1 serving of vegetables, whereas 1 cup of cooked spinach is considered 1 serving of vegetables. (See Lesson 4 for more information about MyPlate)

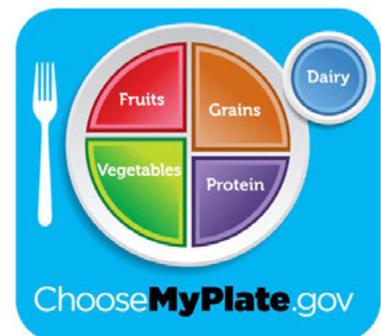
This dramatic change in size happens due to water being drawn out during the cooking process.

### Don't Be Confused: Density vs. Nutrient Density

You may have heard the term “nutrient-dense” when referring to a food item that is generally recognized as being a healthier option. The nutrient density of a food is the proportion of nutrients within that given food.

Foods that are considered nutrient-dense are in all five food groups and include:

- Brightly colored fruits and 100% fruit juice
- Vibrantly colored vegetables
- Whole grain, fortified, and fiber-rich grain foods
- Low-fat and fat-free milk, cheese, and yogurt
- Lean meats, poultry, fish, eggs, beans, and nuts



# Test your knowledge! Take our Nutrition Facts Label quiz!

Food A

| Nutrition Facts  |                         |
|--|-------------------------|
| Serving Size 1/2 cup (121g)<br>Servings Per Container 3.5  |                         |
| <b>Amount Per Serving</b>  |                         |
| <b>Calories 35</b>   |                         |
| % Daily Values*  |                         |
| <b>Total Fat</b> 0g  | <b>0%</b>               |
| Saturated Fat 0g   | <b>0%</b>               |
| Trans Fat 0g   |                         |
| <b>Cholesterol</b> 0mg   | <b>0%</b>               |
| <b>Sodium</b> 25mg   | <b>1%</b>               |
| <b>Potassium</b> 230mg   | <b>7%</b>               |
| <b>Total Carbohydrate</b> 7g   | <b>2%</b>               |
| Dietary Fiber 2g   | <b>8%</b>               |
| Sugars 3g  |                         |
| <b>Protein</b> 1g  | <b>2%</b>               |
| Vitamin A 8%   | Vitamin C 20%           |
| Calcium 4%   | Iron 4%                 |
| Vitamin E 6%   | Manganese 6%            |
| *Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs. |                         |
|  | Calories 2,000 2,500    |
| Total Fat  | Less than 65g 80g       |
| Sat Fat  | Less than 20g 25g       |
| Cholesterol  | Less than 300mg 300mg   |
| Sodium   | Less than 2400mg 2400mg |
| Total Carbohydrate   | 300g 375g               |
| Dietary Fiber  | 25g 30g                 |

Food B

| Nutrition Facts  |                         |
|--|-------------------------|
| Serving Size 1/2 cup (123g)<br>Servings Per Container 3.5  |                         |
| <b>Amount Per Serving</b>  |                         |
| <b>Calories 30</b>   |                         |
| % Daily Values*  |                         |
| <b>Total Fat</b> 0g  | <b>0%</b>               |
| Saturated Fat 0g   | <b>0%</b>               |
| Trans Fat 0g   |                         |
| <b>Cholesterol</b> 0mg   | <b>0%</b>               |
| <b>Sodium</b> 280mg  | <b>12%</b>              |
| <b>Potassium</b> 260mg   | <b>7%</b>               |
| <b>Total Carbohydrate</b> 6g   | <b>2%</b>               |
| Dietary Fiber 2g   | <b>8%</b>               |
| Sugars 3g  |                         |
| <b>Protein</b> 1g  | <b>2%</b>               |
| Vitamin A 2%   | Vitamin C 6%            |
| Calcium 2%   | Iron 4%                 |
| Vitamin E 4%   |                         |
| *Percent Daily Values are based on a 2,000 calorie diet. Your Daily Values may be higher or lower depending on your calorie needs. |                         |
|  | Calories 2,000 2,500    |
| Total Fat  | Less than 65g 80g       |
| Sat Fat  | Less than 20g 25g       |
| Cholesterol  | Less than 300mg 300mg   |
| Sodium   | Less than 2400mg 2400mg |
| Total Carbohydrate   | 300g 375g               |
| Dietary Fiber  | 25g 30g                 |

- Which food has more calories per serving?
  - Food A
  - Food B
  - They are the same
  - There is no way to tell
- If someone ate the entire package of Food B, they would be eating...
  - 30 calories
  - 35 calories
  - 60 calories
  - 105 calories
- Which food has more dietary fiber per serving?
  - Food A
  - Food B
  - They are the same
  - There is no way to tell
- Which food has a larger portion size?
  - Food A
  - Food B
  - They are the same
  - There is no way to tell

## The Results are In!

*If you got all four right:*

You are a Nutrition Facts Label reading pro! You know how to use serving sizes to make informed choices. Keep getting out there and learning more!

*If you got two or three right:*

You're on the right track! Try finding the information you missed in other pages of this newsletter to become a Nutrition Facts Label master!

*If you got one or less right:*

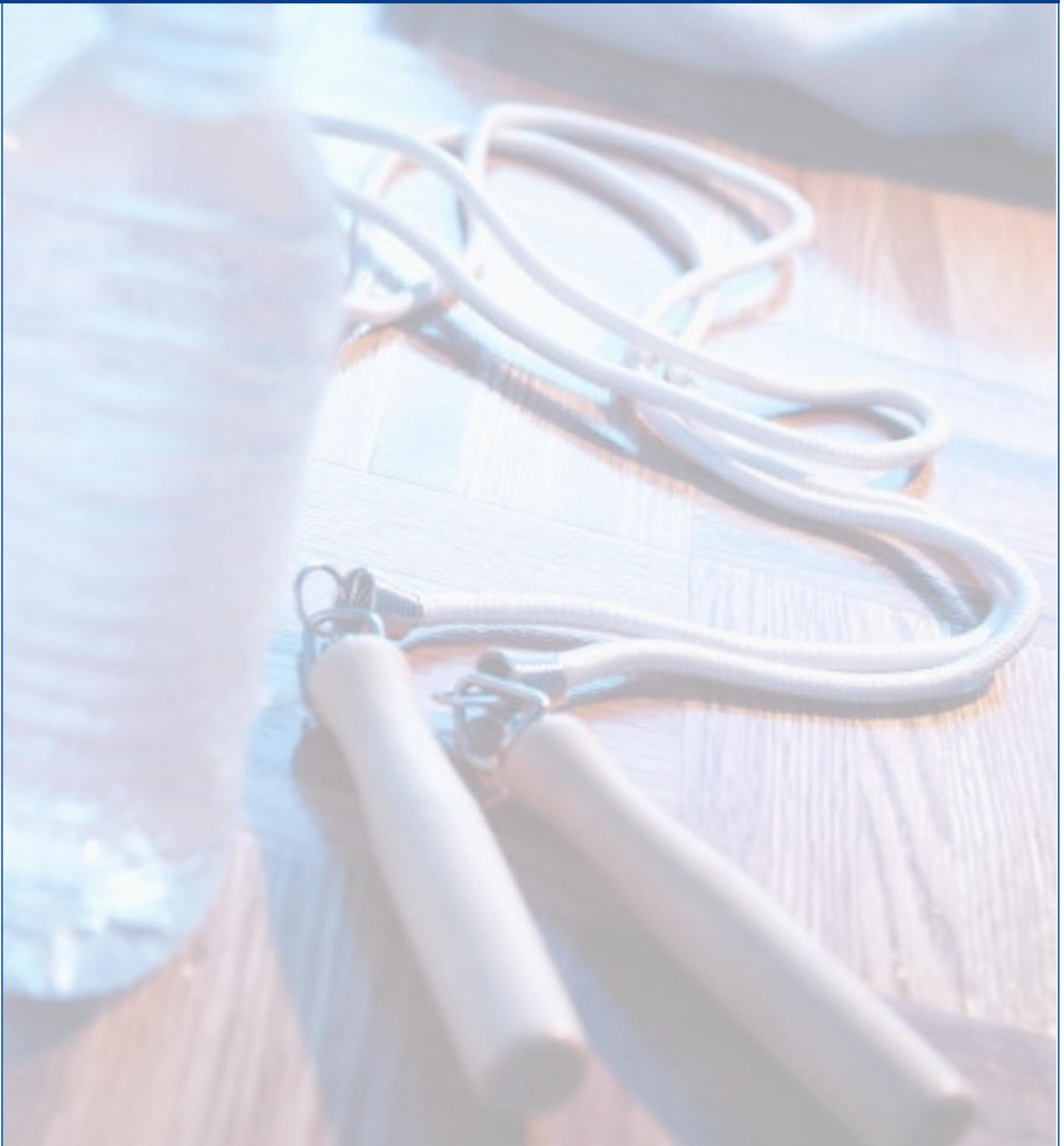
It just means you have more opportunities to learn. Read through the newsletter again.

*Check your answers at the bottom of the page!*





# Lesson 3: Get Your Move On





# Lesson 3: Get Your Move On

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## Background Information

Physical activity involves using energy to move the body. **Heart rate** and **breathing rate** change depending upon the degree of **intensity** of the activity. Heart rate may be measured by taking your **pulse** near your wrist or just under your jawline. Aerobic activities cause you to breathe harder and your heart to beat faster. Aerobic activities can be low, moderate, or vigorous in intensity. Moderate physical activities include walking, gardening, dancing, and golf, among other activities. Vigorous physical activities include running, swimming, and playing basketball, among other activities. Stretching activities are low intensity, and help prevent injuries and improve **flexibility**.

**Inhaling oxygen** into your **lungs** enables the **heart** to pump the oxygenated blood through **arteries** to the rest of the body. The body needs oxygen to function and be active. As the body uses energy and oxygen, **carbon dioxide** is produced and **exhaled** out of the body.



Many health benefits result from regular physical activity. Some benefits of being active may include increased muscle and bone strength, sleep improvement, weight maintenance, and reduced risk of **chronic diseases** such as heart disease and type 2 diabetes. It is recommended that adults participate in at least 2 hours and 30 minutes of moderate physical activity per week, or 1 hour and 15 minutes of vigorous physical activity per week.

## Concepts and Vocabulary

**Artery:** A vessel that carries blood from the heart to the rest of the body.

**Breathing rate:** The number of times an individual breathes in one minute.

**Carbon dioxide:** A gas produced by and exhaled from the body.

**Chronic disease:** A disease that lasts for a long period of time or persists in the body.

**Exhale:** To breathe air out of the lungs.

**Flexibility:** The ability to bend and move the body with ease.

**Heart:** The organ responsible for pumping blood through veins and arteries in the body.

**Heart rate:** The number of times an individual's heart beats in one minute.

**Inhale:** To draw air into the lungs.

**Intensity:** The level at which an activity is conducted, including mild, moderate, and vigorous intensities.

**Lungs:** The two organs responsible for breathing air.

**Oxygen:** A gas consumed by breathing that is necessary for life.

**Pulse:** The physical beat felt on the wrist or jawline as a result of an artery expanding due to blood movement.



# 3.1: Learning Activity

## Getting Ready



### Time Required

30 minutes



### Materials Needed

(\*Materials provided in the curriculum)

- Flip chart paper
- Markers, pens, or pencils
- Stopwatch or watch with a second hand
- \*Physical Activity Cards (Appendix 3A)
- \*Physical Activity Intensities (Appendix 3B)
- \*Activity Chart (Appendix 3C)

Optional:

- \*Focus on Food Lesson 1 (PowerPoint)
- Computer
- PowerPoint Projector



### Preparation

1. Make copies of *Physical Activity Cards* (Appendix 3A), one set per group.
2. Make copies of *Physical Activity Intensities* (Appendix 3B), one per group.
3. Make copies of *Activity Chart* (Appendix 3C), one per participant.
4. Organize the class into small groups of 2 to 4 participants.

**Facilitator Tip:** These can be the same groups that were formed in earlier lessons.

5. Provide each group with a sheet of flip chart paper and markers, pens, or pencils to answer opening questions/prompts.

Optional:

6. Before participants arrive, connect laptop to projector. Load *Focus on Food Lesson 3* (PowerPoint).



**Appendix 3B – Physical Activity Intensities**

**Low-level Physical Activity**  
Low activity is a slow, almost resting activity level in which the body uses minimal energy to work. The body might have a very small increase in amount of breathing and its pulse. However, normal breathing occurs and the body does not usually sweat too much. If at all, a person doing a low-level activity should be able to sing while doing the activity.

**Moderate-level Physical Activity**  
Moderate activity is a medium activity level in which the body is using energy to work. Sweating, increased breathing rate, and increased heart rate are clear in a level of moderate-level activity. Approximately 4-7 Calories are burned each minute while participating in moderate-level activity. A person participating in a moderate-level activity would be able to talk, but may not be able to sing.

**Vigorous-level Physical Activity**  
Vigorous activity is a high activity level in which the body is using a lot of energy to work hard. Normal breathing and normal heart rate are clear in a level of vigorous activity. The heart rate, and increase of oxygen level, are clear. More than 7 Calories are burned each minute while participating in vigorous-level activity. A person doing a vigorous-level activity would have difficulty talking.

102

**Appendix 3C – Activity Chart**

| Level of Intensity | Measurement |                |
|--------------------|-------------|----------------|
|                    | Heart Rate  | Breathing Rate |
| Resting            |             |                |
| Moderate           |             |                |
| Vigorous           |             |                |

Describe how you felt while resting:

Describe how you felt while doing moderate physical activity:

Describe how you felt while doing vigorous physical activity:

103



## Opening Questions/Prompts

1. **Say:** Let's get started with Lesson 3 – Get Your Move On! To begin, I'd like everyone to discuss some opening questions within your group. Once you've discussed the prompts within your groups, we will come back together as a class and discuss your thoughts and responses as a whole. **(Slide 2)**

The first prompt I'd like you to discuss within your groups is:

- Explain what you know about exercise. **(Slide 3)**
2. **Do:** Allow 2 to 3 minutes for groups to discuss the prompts.
  3. **Say:** Now I'd like you to discuss within your groups the next prompt:
    - Explain why you think exercise might be important. **(Slide 4)**
  4. **Do:** Allow 2 to 3 minutes for groups to discuss the prompts.
  5. **Say:** As a class, let's discuss what you talked about in your groups. What were some of your thoughts on the first prompt, "Explain what you know about exercise"?

**Facilitator Tip:** This sharing phase is a great opportunity to begin to build rapport with participants. Some statements and questions to help engage participants at this phase are: "Tell me more about that"; "What do you mean by..."; "How is that motivating you?"; "Did anyone else write this?"; "That's a very popular opinion." At this stage, it is important that you do not correct misconceptions. Instead, make note of them, and if they are not corrected organically through the lesson, address them briefly at the end of the lesson.

6. **Do:** Allow about a minute for participants to share their thoughts on this topic with the class.

**Facilitator Tip:** Continue to make note of misconceptions as they arise. Assure participants that there will be more time to discuss these topics at the end of the lesson.

7. **Say:** What were some of your thoughts on the second prompt, "Explain why you think exercise might be important."?

8. **Do:** Allow about a minute for participants to share their thoughts on this topic with the class.

**Facilitator Tip:** Continue to make note of misconceptions as they arise. Assure participants that there will be more time to discuss these topics at the end of the lesson.



## Procedure (Experiencing)

1. **Say:** Now that we've completed our opening discussion, we'll start on the activity for this lesson. This activity involves physical activity. I am going to hand out some cards with descriptions of different physical activities. I'd like you to

- Read the *Physical Activity Cards* (Appendix 3A)



- Organize the different activities based on similarities and differences between the activities. **(Slide 6)**
- Record how you organized your cards on the flip chart paper.

Organize your physical activity cards based on similarities and differences between the activities.

2. **Do:** Provide each group with a copy of the *Physical Activity Cards* (Appendix 3A).

**Facilitator Tip:** While participants are organizing the cards, visit with each group and ask them to describe how they are organizing them.

**Facilitator Tip:** If a group finishes organizing their *Physical Activity Cards* before the other groups have finished, encourage them to try other ways of organizing the cards.

3. **Say:** Next, I'm going to distribute a handout. I'd like you to:

- Read the *Physical Activity Intensities* Handout.
- Organize the different activities based on low, moderate, and vigorous levels of physical activity. **(Slide 7)**
- Record your organization on your flip chart paper.

Read the *Physical Activity Intensities* handout. Organize the different activities based on low, moderate, and vigorous levels of physical activity.

4. **Do:** Provide each group with a copy of the *Physical Activity Intensities* (Appendix 3B).

**Facilitator Tip:** While participants are organizing the cards, visit with each group and ask them to describe how they are deciding which activities are low, moderate, and vigorous.

5. **Say:** Now I'd like each group to share how they initially organized the different activities, and then how they categorized the various activities into low, moderate, or vigorous level. **(Slide 8)**

**Facilitator Tip:** If breathing rate or heart rate is mentioned during the discussion, place emphasis on these responses by asking participant to describe what they mean by these terms (or similar terms). Ask them to describe what they mean by the term or to elaborate on why they think that happens. For example, if a participant says "We decided that running was vigorous because you're breathing hard" follow up with "Why do you think you breathe harder when running compared to walking?" Through follow-up questions, try to guide participants to verbalize:

  
Class Discussion

- The lungs take in oxygen and expel carbon dioxide, and more vigorous activity means more carbon dioxide is produced, and more oxygen is needed.
- The heart pumps faster to move more oxygen-rich blood from the lungs to the muscles, and to move carbon dioxide from muscles to the lungs where it can be breathed out.

6. **Say:** Now we're going to engage in a little physical activity. Before we start, I'm going to distribute a handout. On this handout, record how you currently feel while resting, using descriptive words. **(Slide 9)**

Record on your handout how you currently feel while at rest.

7. **Do:** Provide each participant with a copy of the *Activity Chart* Handout (Appendix 3C). Allow one minute for participants to record how they currently feel.

## Resting

8. **Say:** Next, I need everyone to take his or her resting pulse on your wrist or jawline. I'll measure 6 seconds. Count the number of pulses in 6 seconds and multiply by 10 to find your resting heart rate in 1 minute. **(Slide 10)**
9. **Do:** Using a watch or stopwatch, time 6 seconds and announce when time is up.
10. **Say:** Now multiple the number of pulses by 10, and record this number on your handout under resting heart rate. Next, we'll measure our resting breathing rate. One breath equals one inhale and one exhale. Count the number of breaths you take in 6 seconds and multiply by 10 to find your resting breathing rate in 1 minute. **(Slide 11)**
11. **Do:** Using a watch or stopwatch, time 6 seconds and announce when time is up.
12. **Say:** Now multiple the number of breaths by 10, and record this number on your handout under resting breathing rate.

Take your pulse on your wrist or jawline.  
Count the number of pulses in 6 seconds.  
Multiply by 10 to find your heart rate.  
Record this on your handout.



Copyright © All Rights Reserved. Slide 10

Count the number of breaths (one inhale and one exhale equals one breath) in 6 seconds.  
Multiply by 10 to find your resting breathing rate.  
Record this on your handout.

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Walk in place for 30 seconds.

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## Moderate Exercise

13. **Say:** Now everyone who can comfortably do so should stand up and walk in place (or around the room if space allows) for 30 seconds. **(Slide 12)**

**Facilitator Tip:** Dim lights in the room to allow participants to feel more comfortable while walking in place.

**Facilitator Tip:** Join the participants in walking in place or around the room for 30 seconds.

Count the number of breaths (one inhale and one exhale equals one breath) in 6 seconds.  
Multiply by 10 to find your resting breathing rate.  
Record this on your handout.

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14. **Do:** Using a watch or stopwatch, time 30 seconds and announce when time is up.
15. **Say:** Everyone, please return to your tables. Now you'll take your pulse and breathing rate again and record these on your handout under moderate. **(Slides 13-14)**

Take your pulse on your wrist or jawline.  
Count the number of pulses in 6 seconds.  
Multiply by 10 to find your resting heart rate.

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16. **Do:** Repeat the steps for measuring pulse and breathing rate
17. **Say:** On this handout, record how you currently feel after moderate activity, using descriptive words. **(Slide 15)**

**Facilitator Tip:** If a participant is unable to do the activity, ask them to partner with a group member who performed the activity to share their responses regarding how they felt during the physical activity and their recorded moderate heart rate and breathing rate.

Record on your handout how you felt doing moderate exercise.

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## Vigorous Exercise

18. **Say:** Now everyone who can comfortably do so should stand up and do jumping jacks, "standing jacks", or "walking-in-place jacks" for 30 seconds. **(Slide 16)**

Do jumping jacks for 30 seconds.

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**Facilitator Tip:** Inform participants that modified jumping jacks (such as “standing jacks” or “walking-in-place jacks”) are an acceptable alternative if they feel more comfortable.

**Facilitator Tip:** Dim lights in the room to allow participants to feel more comfortable while doing jumping jacks.

**Facilitator Tip:** Join the participants in doing jumping jacks for 30 seconds.

19. **Do:** Using a watch or stopwatch, time 30 seconds and announce when time is up.
20. **Say:** Everyone, please return to your tables. Now you’ll take your pulse and breathing rate again and record these on your handout under vigorous. **(Slide 17-18)**
21. **Do:** Repeat the steps for measuring pulse and breathing rate.
22. **Say:** Now multiple the number of pulses by 10, and record this number on your handout under moderate heart rate. Next, we’ll measure our vigorous breathing rate. Count the number of breaths you take in 6 seconds. **(Slide 18)**
23. **Say:** On this handout, record how you currently feel after vigorous activity, using descriptive words. **(Slide 19)**

**Facilitator Tip:** If a participant is unable to do the activity, ask them to partner with a group member who performed the activity to share their responses regarding how they felt during the physical activity and their recorded vigorous heart rate and breathing rate.

24. **Say:** Within your small groups, compare how you felt while resting, walking in place, and doing jumping jacks. **(Slide 20)**

Take your pulse on your wrist or jawline.  
Count the number of pulses in 6 seconds.  
Multiply by 10 to find your heart rate.  
Record this on your handout.

Count the number of breaths (one inhale and one exhale equals one breath) in 6 seconds.  
Multiply by 10 to find your resting breathing rate.  
Record this on your handout.

Record on your handout how you felt doing vigorous exercise.

In your groups, compare how you felt when you were resting, walking in place, and doing jumping jacks.



## Sharing, Processing, and Generalizing

1. **Say:** As a class, let’s discuss your observations about resting, moderate, and vigorous levels of activity. **(Slide 21)**
2. **Do:** Follow the group’s line of thinking, and if necessary, ask more targeted questions.
  - Explain what the activities have in common. Explain how the activities are different.
  - Explain what you noticed about how your body responded to walking in place versus doing jumping jacks.
  - Explain what you noticed about your heart rate and breathing rate during the different activities.
  - If breathing rate or heart rate is mentioned during the discussion, place emphasis on these responses by asking participant to describe what they mean by these terms (or similar terms). Ask them to describe what they mean by the term or to elaborate on why they think that happens. Through follow-up questions, try to guide participants to verbalize:



- » The lungs inhale oxygen and exhale carbon dioxide. More vigorous activity increases the need for oxygen while muscles produce more carbon dioxide.
- » The heart pumps faster to move more oxygen-rich blood from the lungs to the muscles, and to move carbon dioxide from muscles to the lungs where it can be exhaled.

**Facilitator Tip:** If there are any misconceptions remaining in this phase of the lesson, you should address these now.



## Concept and Term Discovery/Introduction

Over the course of the lesson, participants should be able to identify the following concepts:

- Participants should understand the benefits of physical activity, including heart health, bone strength, sleep and mood improvement, reduced risk of chronic disease, muscle strength, and flexibility.
- Participants should recognize that any type and length of time being physically active is better than none, and they can exercise any time that works for them.
- Participants should also know that breathing rate and heart rate will differ depending upon the level of intensity of the activity they are doing.

The following key vocabulary terms should be discovered by participants or introduced to them: breathing rate, carbon dioxide, exhalation, heart rate, inhalation, intensity, oxygen, and pulse.



## 3.2: Expanding Knowledge

### Getting Ready



#### **Time Required**

10 minutes



#### **Materials Needed**

(\*Materials provided in the curriculum)

- \**Focus on Food Lesson 3* (PowerPoint)
- PowerPoint Projector
- Computer



#### **Preparation**

1. Connect laptop to projector. Load *Focus on Food Lesson 3* PowerPoint.
2. Queue the PowerPoint presentation to Slide 22.



### Procedure

1. Go through the Expanding Knowledge presentation slide by slide. The following script is available for use if you so choose.



## Expanding Knowledge

Lesson 3: Get Your Move On

Slide 22

Slide 22

Let's review some of the concepts we learned during Lesson 3, Get Your Move On.

## What is physical activity?

- Anything that involves using energy to move the body.
- Sometimes its called exercise, sometimes its called “working out.”
- It doesn’t matter what you call it, as long as you’re moving.

Lesson 3: Get Your Move On

Slide 23

### Slide 23

Physical activity is anything that involves using energy to move the body. Sometimes we call it exercise or “working out” but it doesn’t matter what you call it, as long as you’re moving.

## Heart Rate and Breathing Rate

- Heart rate and breathing rate increase when exercising.
- Muscles are working harder:
  - Need more oxygen.
  - Making more carbon dioxide.

Lesson 3: Get Your Move On

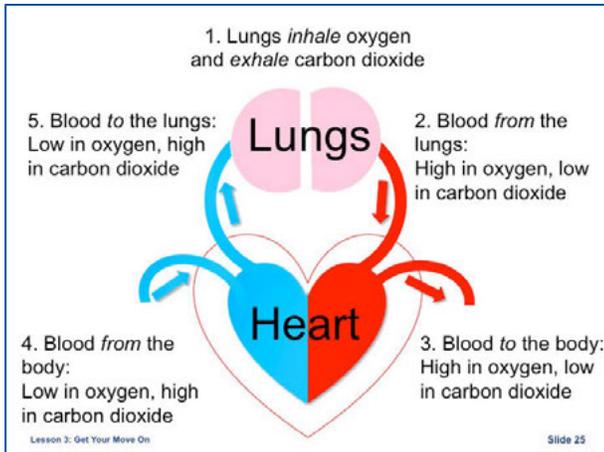
Slide 24

### Slide 24

Heart rate and breathing rate increase when exercising.

More vigorous activity increases the need for oxygen while muscles produce more carbon dioxide.

The lungs inhale oxygen and exhale carbon dioxide. The heart pumps faster to move more oxygen-rich blood from the lungs to the muscles, and to move carbon dioxide from muscles to the lungs where it can be exhaled.



Slide 25

This is the cycle of how our heart and lungs work together to make sure we have enough oxygen and that we are getting rid of carbon dioxide.

Let's start the cycle at the lungs. Step 1, we inhale oxygen into our lungs. This oxygen is picked up by red blood cells, oxygenating the blood.

Step 2. The oxygen-rich blood returns to the heart.

Step 3. The heart then pumps blood to the body that is high in oxygen, and low in carbon dioxide. As it is pumped through the body, the blood drops off oxygen and picks up carbon dioxide.

Step 4. The result is blood that is low in oxygen and high in carbon dioxide. The blood works its way back to the heart.

Step 5. The heart then pumps the deoxygenated blood to the lungs. The lungs exhale the carbon dioxide, and inhale oxygen, and the process starts over.

### Maximum Heart Rate

- Maximum heart rate:
  - Upper limit of what your heart can handle during physical activity.
- Easy way to calculate: subtract your age from 220.
- Example: a 50-year-old would have a maximum heart rate of 170 beats per minute.

Lesson 3: Get Your Move On

Slide 26

Slide 26

Hearts can only beat so fast, and the upper limit of what your heart can handle during physical activity is your maximum heart rate. There's a simple way to figure out what that would be.

Subtract your age from 220. For example, a 50-year-old would have a maximum heart rate of 220 minus 50, which works out to 170 beats per minute.

## Target Heart Rate

- Target heart rate: heart is working harder, but not too hard.
- Target is 50 to 70% of maximum.
- Example: a 50-year-old would have a target heart rate of 85 to 119 beats per minute.

Lesson 3: Get Your Move On

Slide 27

Slide 27

However, you don't want to aim for your maximum heart rate. You want to aim for your target heart rate, which is the sweet spot where your heart is working harder, but not too hard.

It's recommended to aim for a target heart rate of 50 to 70% of your maximum heart rate. Going back to our previous example, a 50-year-old's maximum heart rate is 170. 50 to 70% of 170 is 85 to 119 beats per minute.

If you're not fit or you're just beginning an exercise program, aim for the lower end of your target zone (50%). Then, gradually build up the intensity. If you're healthy and want a vigorous intensity, opt for the higher end of the zone.

### Light or Low

Slow, almost resting

- Small ↑ in breathing rate, heart rate.
- Not much sweat.
- Can talk and sing

### Moderate

Medium activity level, using more energy than light activity

- Greater ↑ in breathing rate, heart rate.
- Increase in sweating.
- Can talk, but not sing.

### Vigorous

High activity level, using a lot of energy

- Heavy breathing, fast heart rate.
- Increase in sweating.
- Difficulty talking.

Lesson 3: Get Your Move On

Slide 28

Slide 28

To recap some of what we investigated in the activity earlier, light or low activity results in a small increase and breathing and heart rate. One way to know is if you are able to sing during the activity. What are some examples you can think of?

[Pause to allow responses from class.]

In moderate activity, you can talk but not sing, and the increases in breathing rate and heart rate are greater. What are some examples of moderate activity?

[Pause to allow responses from class.]

Vigorous activity involves heavy breathing and a fast heart rate. It becomes more difficult to talk when doing the activity. What are some examples of vigorous activity?

### Types of Physical Activity

|   |   |
|---|---|
| <h4 style="text-align: center; background-color: #00a0e3; color: white; padding: 5px;">Weight-Bearing Physical Activity</h4> <ul style="list-style-type: none"> <li>Physical activity that involves working against gravity to move a weight</li> </ul> | <h4 style="text-align: center; background-color: #00a0e3; color: white; padding: 5px;">Non Weight-Bearing Physical Activity</h4> <ul style="list-style-type: none"> <li>Physical activity that does not involve working against gravity to move a weight</li> </ul> |
|---|---|

Lesson 3: Get Your Move On Slide 29

Slide 29

Who here has heard of weight-bearing physical activity before? Can anyone explain why it's important?

[Pause to allow responses from class.]

Weight-bearing exercise is important because it helps build and maintain strong bones. Weight-bearing physical activity is any activity that involves working against gravity to move a weight. It doesn't mean you need to lift heavy weights and barbells, it can be your own weight.

For example, walking, running, dancing, those are all weight-bearing because you are bearing your own weight and working against gravity.

Non weight-bearing means that your weight is being at least partially supported. In swimming, the water helps bear some of your weight, while in biking, the bike does.

### What does physical activity do for us?

- Increased muscle and bone strength
- Improved sleep
- Helps with weight maintenance
- Reduced risk of chronic diseases, such as heart disease or type 2 diabetes.

Lesson 3: Get Your Move On Slide 30

Slide 30

We've learned that weight-bearing physical activity helps build and maintain strong bones, but it also helps increase muscle strength. It can result in improved sleep.

While exercise alone without calorie reduction doesn't tend to result in weight loss, it can help with keeping your weight stable.

Physical activity also reduces risk of chronic diseases, such as heart disease or type 2 diabetes.

What are some other benefits of physical activity you can think of?

## Physical Activity Recommendations

### Adults

- 2 hours and 30 minutes of moderate physical activity  
or
- 1 hour and 15 minutes of vigorous activity each week.

Lesson 3: Get Your Move On

Slide 31

Slide 31

The Dietary Guidelines for American has the following recommendation for physical activity:

Adults should have at least 2 hours and 30 minutes of moderate physical activity, or 1 hour and 15 minutes of vigorous activity per week. Why do you think that you would need more moderate activity compared to vigorous?

[Pause to allow responses from class.]

Your body is working harder with vigorous activity, so you can get the same benefits in a shorter amount of time. This doesn't mean you have to do all of one or the other.

You can mix it up and do whatever proportion makes sense for you. 2 hours and 30 minutes of moderate activity works out to about 30 minutes, 5 days week. 1 hour and 15 minutes of vigorous could mean 15 minutes of vigorous activity 5 days a week.

Or you could do 30 minutes of moderate three days, and 15 minutes of vigorous two days. It should be what works for your life.

## Physical Activity Recommendations

### Children

- 60 minutes each day
  - Vigorous activity at least three days per week.

Lesson 3: Get Your Move On

Slide 32

Slide 32

Children are recommended to do 60 minutes of physical activity each day, with vigorous activity at least three of those days.



## 3.3: Goal Setting Activity

### Getting Ready



#### Time Required

5 minutes



#### Materials Needed

(\*Materials provided in the curriculum)

- \**Goal Setting: Get Your Move On* (Appendix 3D)  
Optional:
- \**Focus on Food Lesson 3 Newsletter* (Appendix 3E)
- \**Focus on Food Lesson 3* (PowerPoint)
- Computer
- PowerPoint Projector

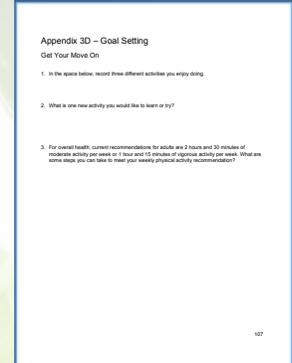


#### Preparation

1. Make copies of the *Goal Setting: Get Your Move On* Handout (Appendix 3D), one for each participant.

Optional:

2. Make copies of the *Focus on Food Lesson 3 Newsletter* (Appendix 3E), one for each participant.
3. Connect laptop to projector. Load *Focus on Food Lesson 3* (PowerPoint).
4. Queue the PowerPoint Presentation to Slide 33.





## Procedure (Experiencing)

1. **Say:** Now let's move on to Goal Setting! **(Slide 33)** We've talked about how important consuming a variety of foods is to our health. The next step is to set some goals and make a plan. I am going to distribute a Goal Setting Handout that has the following questions: **(Slide 34)**

- 1) Record three different activities you enjoy doing.
- 2) What is one new activity you would like to learn or try?
- 3) What are some steps you can take to meet your weekly physical activity recommendation?

**Facilitator Tip:** Allow participants to refer to the moderate and vigorous activity examples they previously explored for ideas on how to meet their weekly physical activity recommendations.

2. **Do:** Provide a copy of the *Goal Setting Handout: Get Your Move On* (Appendix 3D) to each participant. Allow participants a few minutes to complete the handout.
3. **Say:** Would anyone like to share the goals they set for themselves?

Optional:

4. **Say:** I'm going to distribute one last handout, which is a newsletter with some extra information you might be interested in. Thank you all for participating in Lesson 3! **(Slide 35)**
5. **Do:** Provide a copy of the *Focus on Food Lesson 3 Newsletter* (Appendix 3E) to each participant.



## Appendix 3A – Physical Activity Cards

### Stretching

Stretching is an activity in which someone extends and lengthens different parts of the body.

Benefits of stretching include:

- Improved flexibility
- Decreased risk of injury
- Improved athletic performance in certain activities
- Increased blood flow to muscles

### Playing Catch

Playing catch is an activity that generally two or more people participate in together. One person throws a ball to another person who catches the ball. The person who caught the ball then throws it back to the first person, or to anyone else playing.

Benefits of playing catch include:

- Improved hand-eye coordination
- Muscle strengthening

### Gardening

Gardening is an activity involving preparing soil, planting, watering, weeding, and harvesting of plants.

Benefits of gardening include:

- Improved heart health
- Muscle strengthening
- Reduced risk of chronic disease
- Improved sleep and mood

### Walking

Walking is an activity in which the body moves at a steady pace, placing one foot in front of the other but never having both feet off the ground at the same time.

Benefits of walking include:

- Improved bone strength
- Improved heart health
- Muscle strengthening
- Reduced risk of chronic disease
- Improved sleep and mood

### **Tennis (Doubles)**

Doubles tennis is an activity in which two people are on each side of the tennis court, hitting the tennis ball back and forth over the net.

Benefits of playing doubles tennis include:

- Improved bone strength
- Improved heart health
- Muscle strengthening
- Reduced risk of chronic disease
- Improved sleep and mood

### **Basketball**

Basketball is a team sport that involves running back and forth between defending one basket from being scored on, and offensively trying to score in the basket at the other end of the court.

Benefits of playing basketball include:

- Improved bone strength
- Improved heart health
- Muscle strengthening
- Reduced risk of chronic disease
- Improved sleep and mood

### **Swimming**

Swimming is an activity that incorporates the use of both the arms and legs to move the body through water.

Benefits of swimming include:

- Increased lung capacity
- Improved heart health
- Muscle strengthening
- Reduced risk of chronic disease
- Improved sleep and mood

### **Running**

Running is an activity in which the body moves quickly, placing one foot in front of the other. Often both feet are off the ground at the same time.

Benefits of running include:

- Improved bone strength
- Improved heart health
- Muscle strengthening
- Reduced risk of chronic disease
- Improved sleep and mood

## Appendix 3B – Physical Activity Intensities

### Low-level Physical Activity

Low activity is a slow, almost resting activity level in which the body uses minimal energy to work. The body might have a very small increase in amount of breathing and its pulse; however normal breathing occurs and the body does not usually sweat very much, if at all. A person doing a low-level activity should be able to sing while doing the activity.

### Moderate-level Physical Activity

Moderate activity is a medium activity level in which the body is using energy to work. Sweating, increased breathing rate, and increased heart rate are often a result of moderate-level activity. Approximately 4-7 calories are burned each minute while participating in moderate-level activity. A person participating in a moderate-level activity would be able to talk, but may not be able to sing.

### Vigorous-level Physical Activity

Vigorous activity is a high activity level in which the body is using a lot of energy to work hard. Immediate results of vigorous-level physical activity may include heavy breathing, fast heart rate, and increased sweating. More than 7 calories are burned each minute while participating in vigorous-level activity. A person doing a vigorous-level activity would have difficulty talking.

## Appendix 3C – Activity Chart

| Level of Intensity | Measurement |                |
|--------------------|-------------|----------------|
|                    | Heart Rate  | Breathing Rate |
| Resting            |             |                |
| Moderate           |             |                |
| Vigorous           |             |                |

Describe how you felt while resting.

Describe how you felt while doing moderate physical activity.

Describe how you felt while doing vigorous physical activity.



## Appendix 3E – Focus on Food Lesson 3 Newsletter

The optional newsletter on the following pages is designed to help reinforce the concepts learned. If offering this course in a single workshop, you may wish to distribute the lesson newsletters weekly in order to help refresh participants' memory and solidify the concepts.



# Get Your Move On

## In this issue...

- You're so intense!  
What low, moderate, and  
vigorous activity really  
means. Page 2
- Getting Active Page 2
- Heart and Lungs, Working  
Together Page 3
- What's your resting heart  
rate? Page 3
- Test your knowledge with  
the Physical Activity  
Crossword Puzzle! Pages 4-5



## Be Active, Be Healthy

Choose to make physical activity a part of your daily routine! Many health benefits result from being physically active. These benefits include increased muscle and bone strength, sleeping better, weight maintenance, and reduced risk of chronic diseases such as heart disease and type 2 diabetes. It can help you live a longer, healthier life – and it can be fun!

It is recommended that adults get at least 2 hours and 30 minutes of moderate physical activity per week, or 1 hour and 15 minutes of vigorous physical activity per week. You don't have to do all one or the other – mix it up! But what counts as moderate, and what counts as vigorous intensity?

*Turn the page to learn more about physical activity intensity!*

### Did you know?

Even activities like gardening and housework count as physical activity – as long as you're moving and getting your heart pumping faster!





## Getting Active

Physical activity doesn't mean you have to get an expensive gym membership. Think about the kind of physical activity you enjoyed as a kid. Did you like to play tag? Play tag with your kids or grandkids or nieces and nephews. Did you love to ride your bike around your neighborhood? Give it a try now! If you don't have a bike, borrow one from a friend and get pedaling. Or, just take a nice relaxing walk through a park or around the block.



# You're so intense!

What low, moderate, and vigorous activity really mean.

Heart rate and breathing rate change depending upon the degree of intensity of the activity. Heart rate may be measured by taking your pulse near your wrist or just under your jawline. Aerobic activities cause you to breathe harder and your heart to beat faster.

### Low-level Physical Activity

Low activity is a slow, almost resting activity level in which the body uses minimal energy to work. The body might have a very small increase in amount of breathing and its pulse, however normal breathing occurs and the body does not usually sweat very much, if at all. A person doing a low-level activity should be able to sing while doing the activity.

### Moderate-level Physical Activity

Moderate activity is a medium activity level in which the body is using energy to work. Sweating, increased breathing rate, and increased heart rate are often a result of moderate-level activity. Approximately 3.5-7 calories per minute are burned while participating in moderate-level activity. A person participating in a moderate-level activity would be able to talk, but may not be able to sing while doing the activity.

### Vigorous-level Physical Activity

Vigorous activity is a high activity level in which the body is using a lot of energy to work hard. Immediate results of vigorous-level physical activity may include heavy breathing, fast heart rate, and increased sweating. More than 7 calories per minute are burned while participating in vigorous-level activity. A person doing a vigorous-level activity would have difficulty talking while doing that activity.

# Heart and Lungs Working Together



Physical activity involves using energy to move the body. **Heart rate** and **breathing rate** change depending upon the degree of intensity of the activity. So why does this happen?

Our cells need **oxygen** to function and be active. When we breathe in, or **inhale**, our lungs take in oxygen. This oxygen gets picked up by red blood cells to make **oxygenated blood**. The heart pumps the **oxygenated blood** through the body so that oxygen can be delivered to the muscles and organs that need it.

Muscles and organs that are working hard make **carbon dioxide**. We don't want too

much of it hanging around, so it gets picked up by blood. The heart keeps right on pumping blood, which delivers the carbon dioxide to our lungs. Our lungs breathe out, or **exhale**, the carbon dioxide to get rid of it.

When our bodies are working hard, our muscles are using more oxygen. They are also making more carbon dioxide that the body needs to get rid of. To keep up with all of this, we need to breathe faster. The lungs **inhale and exhale more often** to bring in more oxygen and get rid of carbon dioxide made by the

muscles that are working hard. This means **breathing rate** increases.

The **heart also needs to pump faster** to carry the oxygenated blood to muscles, and to carry away carbon dioxide back to the lungs, so **heart rate** goes up.

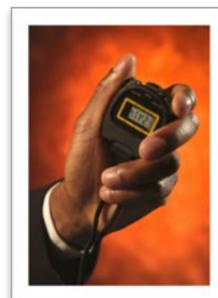
Together, the heart and lungs work to bring oxygen to the muscles, and take away the carbon dioxide that's not needed. And the more practice they get, the better they get at it!

## What's your Resting Heart Rate?

Follow these simple steps to find your resting heart rate.



Using two fingers, find your pulse on your wrist or on your neck, just under the jawbone.



Using a clock or stopwatch, count how many beats you feel for 6 seconds.

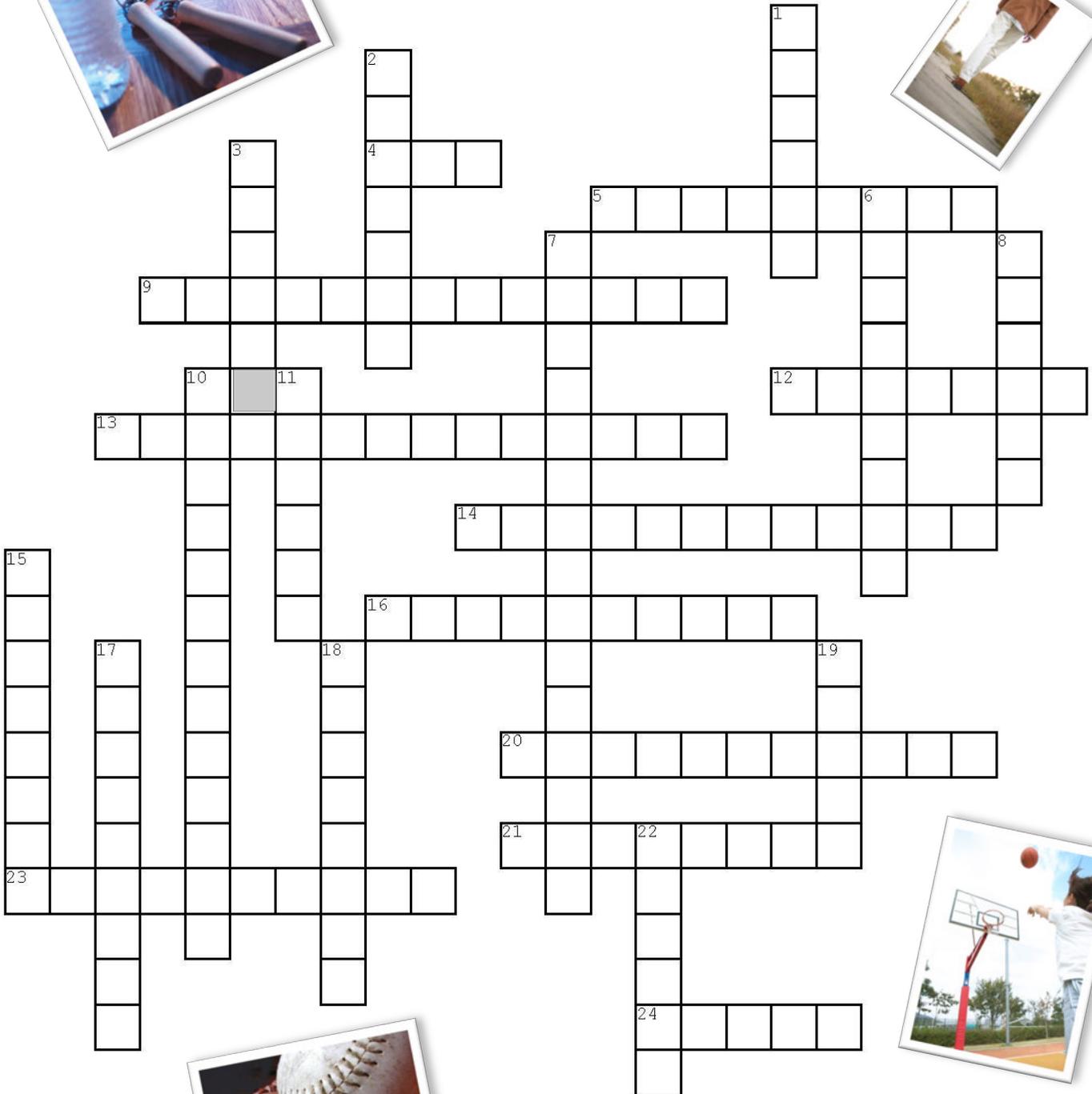
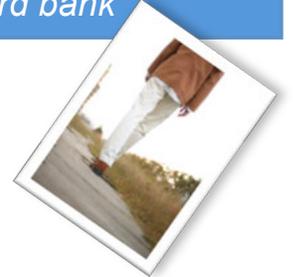


Multiply the number you get by ten. Now you have your resting heart rate in beats per minutes!



# Test your knowledge with the Physical Activity Crossword Puzzle!

See the next page for clues and a word bank

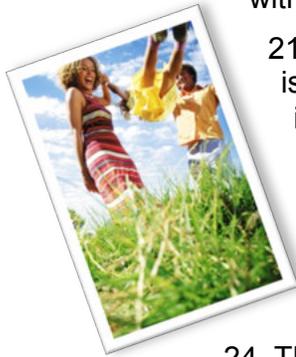


# Physical Activity Crossword Clues



## Across

4. Slow, almost resting activity level.
5. An activity involving preparing soil, planting, watering, weeding, and harvesting plants.
9. A gas produced by the body.
12. An activity in which the body moves quickly, placing one foot in front of the other. Often both feet are off the ground at the same time.
13. A disease that lasts for a long time.
14. An activity where one person throws a ball to another person, who catches it.
16. A team sport that involves running back and forth between defending one basket, and trying to score in the basket at the other end of the court.
20. The ability to bend and move the body with ease.
21. Activity in which a person is using energy to work, but is still able to hold a conversation.
23. An activity in which someone extends and lengthens different parts of the body.
24. The two organs responsible for breathing.



## Down

1. A gas consumed by breathing that is necessary for life.
2. An activity in which the body moves at a steady pace, placing one foot in front of the other but never having both feet off the ground at the same time.
3. The organ responsible for pumping blood through the body.
6. The level at which an activity is conducted, including low, moderate, and vigorous.
7. Blood that has a lot of oxygen.
8. An activity with one person on each side of a court, hitting a ball back and forth over a net using rackets.
10. The number of times a person breathes in one minute.
11. To draw air into the lungs.
15. High activity level that is using a lot of energy, and makes it difficult to hold a conversation.
17. The number of times the heart beats in one minute.
18. An activity that incorporates the use of both the arms and legs to move the body through water.
19. The physical beat felt through the skin that is a result of the heart beating.
22. To breathe air out of the lungs.



## Word Bank

*Exhale      Stretching      Tennis      Playing Catch      Swimming*  
*Moderate      Oxygen      Intensity      Low      Heart*  
*Vigorous      Lungs      Basketball      Running      Walking      Heart Rate*  
*Oxygenated Blood      Pulse      Carbon Dioxide      Chronic Disease*  
*Inhale      Flexibility      Breathing Rate      Gardening*



# Lesson 4: MyPlate – Foods for Life





# Lesson 4: MyPlate – Foods for Life

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## Background information

**MyPlate** is an illustration developed by the U. S. Department of Agriculture (USDA) to represent suggested food groupings for a healthy diet in terms of a place setting for a meal. The five suggested food groups are: fruits, vegetables, grains, protein, and dairy. Oils are not considered a food group, however are still important as they provide essential nutrients to the body. In addition to foods from the five suggested food groupings, it is also recommended that Americans consume adequate amounts of water.

The **fruit** group includes any fresh, canned, frozen, or dried fruit, and 100% fruit juice. Generally, 1 cup of fruit, 1 cup of 100% fruit juice, or ½ cup of dried fruit are all considered 1 cup from the fruit group. Fruits are sources of many nutrients, including potassium, dietary fiber, vitamin C, and folate (folic acid). Eating fruit as part of an overall healthy diet may reduce risk for heart disease and type 2 diabetes, protect against some cancers, and lower blood pressure.



The **vegetable** group includes any fresh, frozen, canned, dried, or dehydrated vegetable, and 100% vegetable juice. In general, 1 cup of raw or cooked vegetables, 1 cup of vegetable juice, or 2 cups of raw leafy greens are all considered 1 cup from the vegetable group. Vegetables are naturally low in calories and fat, and provide important sources of many nutrients. Some of these nutrients include potassium, dietary fiber, folate (folic acid), vitamin A, and vitamin C. Eating a diet rich in vegetables as part of an overall healthy diet may reduce risk for heart disease and type 2 diabetes, protect against some cancers, and lower blood pressure. MyPlate recommends making half your plate fruits and vegetables.

The **grains** group includes any food made from wheat, rice, oats, cornmeal, barley or another cereal grain. Examples include bread, pasta, oatmeal, breakfast cereals, tortillas, and grits. Nutrients found in grains include fiber, B-vitamins, and minerals such as iron. Two subgroups of grains are **whole grains** and **refined grains**. **Whole grains** contain all parts of the grain: the bran, germ, and endosperm. Examples of whole grains include whole wheat flour, quinoa, oatmeal, whole cornmeal, and brown rice. MyPlate recommends making half of the grains you eat whole grains. **Refined grains** are grains that have been milled, a process that removes the bran and germ so that only the endosperm remains. Milling the grain improves shelf life and results in a finer texture. However the milling process also removes the dietary fiber, vitamin E, iron, and many B-vitamins that are found in the grain's bran and germ. Most refined grains are **enriched**, meaning certain B-vitamins and iron are added back after the milling process. Fiber and vitamin E, however, are not added back to enriched grains. Generally, the following are considered equivalent to 1 ounce from the grain



group: 1 slice of bread; 1 cup of ready-to-eat cereal; or ½ cup of cooked rice, cooked pasta, or cooked cereal. Consuming whole grains as part of a healthy diet may reduce the risk of heart disease, reduce constipation, and help with weight management.



The **protein foods** group includes meat, poultry, seafood, beans and peas, eggs, processed soy products, nuts, and seeds. In general, 1 ounce of meat, poultry or fish, ¼ cup cooked beans, 1 egg, 1 tablespoon peanut butter, or ½ ounce nuts or seeds are considered 1 ounce equivalent from the protein foods group. MyPlate recommends selecting lean protein, low in saturated fat. Protein foods provide many nutrients including protein, B-vitamins, vitamin E, iron, zinc, and magnesium.

The **dairy** group includes all fluid milk products and many foods made from milk. Generally, 1 cup of milk, yogurt, or soymilk, 1 ½ ounces of natural cheese, or 2 ounces of processed cheese are considered equivalent to 1 cup from the dairy group. MyPlate recommends switching dairy products to fat-free or low-fat options. Nutrients found in dairy products include calcium, potassium, and vitamin D (fortified). Consumption of dairy products may improve bone health, lower blood pressure, and reduce the risk of osteoporosis, cardiovascular disease, and type 2 diabetes.



**Oils** are fats that are liquid at room temperature. Nutrients found in oils include healthful fatty acids and vitamin E. Oils generally come from plant sources such as nuts, seeds, avocados, and olives. Examples of commonly consumed oils include canola oil, olive oil, safflower oil, and soybean oil. However, fish are also a good source of oil.

While not included on MyPlate, **water** is a very important nutrient. Much of our bodies are made up of water, and being dehydrated can lead to negative consequences. While there are no set recommendations for water consumption, the Dietary Guidelines for Americans states that healthy individuals are generally able to meet their water needs by drinking when they are thirsty and consuming liquids with meals. MyPlate recommends drinking plain water or calorie-free beverages instead of sugary beverages like soda.



MyPlate also makes recommendations for daily amounts from each food group for individuals when considering their gender, age, and level of physical activity. These all contribute to determining the number of **calories** and **nutrients** needed each day.

# Concepts and Vocabulary

**B-vitamins:** Vitamins that are important in helping our bodies turn food into energy.

**Calcium:** A mineral important for bone health and muscle function.

**Calories:** The amount of energy in food; the number of calories necessary for normal body function depends on the individual.

**Dairy:** The food group consisting of all fluid milk products and many foods made from milk.

**Dietary fiber:** A type of carbohydrate that can't be digested, but is important for digestive health. It may help reduce blood cholesterol and lower risk of heart disease.

**Folate:** A B-vitamin that helps the body form red blood cells and is needed for growth and repair. It is also important in pregnancy to help prevent birth defects.

**Fruits:** The food group consisting of any fresh, canned, frozen, or dried fruit, and 100% fruit juice.

**Grains:** The food group consisting of foods made from wheat, rice, oats, cornmeal, barley, or another cereal grain.

**Iron:** A mineral that is important in red blood cells, and is used to move oxygen around in the blood.

**Mineral:** A micro-nutrient that helps with growth and maintenance in the body.

**MyPlate:** An illustration developed by the USDA depicting five recommended food groupings for a healthy diet, showing sections of a plate that should match the proportions of those foods when consumed over the course of a day.

**Nutrients:** Substances found in food and beverages that our bodies use for growth, maintenance, and repair.

**Protein foods:** The food group that includes meat, poultry, seafood, beans and peas, eggs, processed soy products, nuts, and seeds.

**Oils:** Fats that are liquid at room temperature, including mono- and poly-unsaturated fatty acids.

**Refined grains:** Grains that have been milled, which removes the bran and germ, leaving only the endosperm; most refined grains are enriched with certain B-vitamins and iron.

**Vegetables:** The food group consisting of raw or cooked, fresh, frozen, canned, dried, or dehydrated vegetables, and 100% vegetable juice.

**Vitamin:** A micronutrient that helps the body's growth and maintenance.

**Water:** A macronutrient that

**Whole grains:** Grains that contain all parts of the grain kernel, including the bran, germ, and endosperm.



# 4.1: Learning Activity

## Getting Ready



### Time Required

45 minutes



### Materials Needed

(\*Materials provided in the curriculum)

- Flip chart paper
- Markers, pens, or pencils
- \*MyPlate (Appendix 4A)
- \*Character Descriptions (Appendix 4B)
- \*MyPlate Recommendations (Appendix 4C)
- \*Food Cards (Appendix 4D) or food models
- \*Eating from MyPlate (Appendix 4E)
- \*MyPlate Serving Equivalents (Appendix 4F)
- \*Character Lunches (Appendix 4G)

Optional:

- \*Focus on Food Lesson 4 (PowerPoint)
- Computer
- PowerPoint Projector



Appendix 4C – MyPlate Recommendations

\*Recommendations for individuals with less than 30 minutes of moderate physical activity per day.

|                 | Fruits     | Vegetables | Grains              | Protein                 | Dairy      |
|-----------------|------------|------------|---------------------|-------------------------|------------|
| <b>Children</b> |            |            |                     |                         |            |
| 2-3 years       | 1 cup      | 1 cup      | 3 ounce equivalents | 2 ounce equivalents     | 2 cups     |
| 4-5 years       | 1 1/2 cups | 1 1/2 cups | 3 ounce equivalents | 2 ounce equivalents     | 2 1/2 cups |
| <b>Girls</b>    |            |            |                     |                         |            |
| 6-11 years      | 1 1/2 cups | 2 cups     | 3 ounce equivalents | 5 ounce equivalents     | 3 cups     |
| 12-15 years     | 1 1/2 cups | 2 1/2 cups | 3 ounce equivalents | 5 ounce equivalents     | 3 cups     |
| <b>Boys</b>     |            |            |                     |                         |            |
| 6-11 years      | 1 1/2 cups | 2 1/2 cups | 3 ounce equivalents | 5 ounce equivalents     | 3 cups     |
| 12-15 years     | 2 cups     | 3 cups     | 3 ounce equivalents | 6 ounce equivalents     | 3 cups     |
| <b>Women</b>    |            |            |                     |                         |            |
| 16-19 years     | 2 cups     | 2 1/2 cups | 3 ounce equivalents | 5 1/2 ounce equivalents | 3 cups     |
| 20-24 years     | 1 1/2 cups | 2 1/2 cups | 3 ounce equivalents | 5 1/2 ounce equivalents | 3 cups     |
| 25-34 years     | 1 1/2 cups | 2 cups     | 2 ounce equivalents | 5 ounce equivalents     | 3 cups     |
| 35-44 years     | 1 1/2 cups | 2 cups     | 2 ounce equivalents | 5 ounce equivalents     | 3 cups     |
| 45-54 years     | 1 1/2 cups | 2 cups     | 2 ounce equivalents | 5 ounce equivalents     | 3 cups     |
| 55-64 years     | 2 cups     | 3 cups     | 2 ounce equivalents | 5 1/2 ounce equivalents | 3 cups     |
| 65-74 years     | 2 cups     | 3 cups     | 2 ounce equivalents | 5 1/2 ounce equivalents | 3 cups     |
| 75+ years       | 2 cups     | 3 1/2 cups | 2 ounce equivalents | 5 1/2 ounce equivalents | 3 cups     |



Appendix 4E – Eating from MyPlate

Character name: \_\_\_\_\_

Recommended number of cups or ounce equivalents for each food group

| Food Group | Recommended number of cups or ounce equivalents for each food group |       |        |        | Total |
|------------|---|-------|--------|--------|-------|
|            | Breakfast   | Lunch | Dinner | Snacks |       |
| Fruits     |   |       |        |        |       |
| Vegetables |   |       |        |        |       |
| Dairy      |   |       |        |        |       |
| Protein    |   |       |        |        |       |
| Daily      |   |       |        |        |       |



## Preparation

1. Make copies of MyPlate (Appendix 4A), one for each group.
2. Make copies of the Character Descriptions (Appendix 4B), one character for each group.

**Facilitator Tip:** Printing these in color will make it easier to match to the Character Lunches when distributing to groups.

3. Make copies of MyPlate Recommendations (Appendix 4C), one for each group.
4. Prepare set of Food Cards (Appendix 4D) or food models, one set per group. (See Appendix 4D for a list of recommended food models.)
5. Make copies of Eating from MyPlate (Appendix 4E), one for each group.
6. Make copies of MyPlate Serving Equivalents (Appendix 4F), one per person.
7. Make copies of Character Lunches (Appendix 4G), one character for each group.
8. Organize the class into small groups of 2 to 3 participants.

**Facilitator Tip:** These can be the same groups that were formed in Lesson 1.

9. Provide each group with a sheet of flip chart paper and markers or writing utensils to answer opening questions/prompts.

10. Provide each group with a copy of *MyPlate* (Appendix 4A) to answer the opening questions.

Optional:

11. Before participants arrive, connect laptop to projector. Load *Focus on Food Lesson 4* (PowerPoint).



## Opening Questions/Prompts

1. **Say:** Let's get started with Lesson 4 – MyPlate: Foods for Life! To begin, I'd like everyone to discuss some opening questions within your group. Once you've discussed the prompts within your groups, we will come back together as a class and discuss your thoughts and responses as a whole. **(Slide 2)**

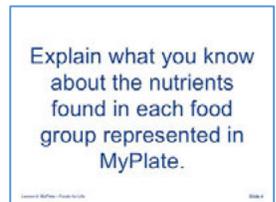
On your table is an image for you to refer to for this first prompt. The first prompt I'd like you to discuss within your groups is:

- Explain what you know about this image. **(Slide 3)**
2. **Do:** Allow 2 to 3 minutes for groups to discuss the prompt.
  3. **Say:** Now I'd like you to discuss within your groups the next prompt:
    - Explain what you know about the nutrients found in each food group represented in MyPlate. **(Slide 4)**
  4. **Do:** Allow 2 to 3 minutes for groups to discuss the prompt.
  5. **Say:** As a class, let's discuss what you talked about in your groups. What were some of your thoughts on the first prompt, "Explain what you know about this image"?
  6. **Do:** Allow about a minute for participants to share their thoughts on this topic with the class.

**Facilitator Tip:** This sharing phase is a great opportunity to begin to build rapport with participants. Some statements and questions to help engage participants at this phase are: "Tell me more about that"; "What do you mean by..."; "How is that motivating you?"; "Did anyone else write this?"; "That's a very popular opinion." At this stage, it is important that you do not correct misconceptions. Instead, make note of them, and if they are not corrected organically through the lesson, address them briefly at the end of the lesson.

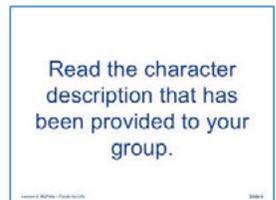
7. **Say:** What were some of your thoughts on the second prompt, "Explain what you know about the nutrients found in each food group represented in MyPlate"?
8. **Do:** Allow about a minute for participants to share their thoughts with the class.

**Facilitator Tip:** Continue to make note of misconceptions as they arise. Assure participants that there will be more time to discuss these topics at the end of the lesson.



## Procedure (Experiencing)

1. **Say:** Now that we've completed our opening discussion, we'll start on the activity for this lesson. This activity is about MyPlate. I am going to hand out a different *Character Description* to each group. Within your groups, read about your character. **(Slide 6)**
2. **Do:** Provide each group with one of the *Character Descriptions* (Appendix 4B). Allow one to two minutes for groups to read their description.



3. **Say:** Next, I'm going to hand out a *MyPlate Recommendations* chart. This chart shows recommendations for varying levels of activity, both genders, and different ages. Use this chart to identify your character's recommendations. **(Slide 7)**

Look through the food cards to become familiar with the foods, paying attention to the food groups and what counts as one cup or one ounce-equivalent.

4. **Do:** Provide each group with the *MyPlate Recommendations* Handout (Appendix 4C).

5. **Say:** Next, I will handout a set of *Food Cards* (or food models, if using) to each group. I'd like you to look through the food cards to become familiarized with the foods, paying attention to the food groups and what counts as one cup or one ounce-equivalent. **(Slide 8)**

Use the food cards as a guide for selecting foods to create a day's worth of food for your character.  
Complete the handout by recording the name of the foods and the number of cups or ounce equivalents they select for the different meals.

6. **Do:** Provide each group with a set of food cards (Appendix 4D) or food models. Allow a few minutes for groups to peruse the cards.

7. **Say:** Now that you've identified your character's recommendations, and had a chance to look through the food cards, I'm going to hand out a worksheet to complete as part of the next task:

Use the *MyPlate Recommendations Chart* to identify your character's recommendations.

- Use the food cards/food models to select foods to create a day's worth of meals and snacks for your character.
- First, record the recommendations for your character at the top of the handout.
- Then, complete the handout by recording the name of the foods and the number of servings you select for the different meals. **(Slide 9)**

8. **Do:** Provide each group with the *Eating from MyPlate* Handout (Appendix 4E). If using food models, provide each participant with the *MyPlate Serving Equivalents* Handout (Appendix 4F) to use as a reference.

**Facilitator Tip:** While participants are selecting foods for their character, visit with each group and ask them to describe their character, his or her recommendations, and how they are choosing foods for him or her. Some suggested prompts:

- Tell me a little bit about your character and his/her recommendations. How are these different from other age groups or physical activity levels? Explain why you think this might be.
- Describe how you are choosing foods for him/her.

**Facilitator Tip:** Participants may need to be reminded that not every food group needs to be present in each meal. However the total for each food group at the end of the day should meet the MyPlate recommendations.

9. **Say:** Now, let's change gears a little bit and think about school lunch. I'm going to hand out a card with your character's choices for school lunch. I'd like you to:

Determine if the student selected a reimbursable meal.  
Discuss within your group how the students' lunch selections compare to their daily food recommendations according to MyPlate.

- Determine if the student selected a reimbursable meal.
- Discuss within your groups how the students' lunch selections compare to their daily food recommendations according to MyPlate. **(Slide 10)**
- Record your observations on your flip chart paper.

10. **Do:** Provide each group with the *Character Lunch Choices* (Appendix 4G) that matches with the character previously assigned.

**Facilitator Tip:** While participants are reviewing the choices of the character, visit each group and ask them to describe their observations. Some suggested prompts:

- Explain how MyPlate recommendations are similar or different compared to the lunch meal pattern.
- Explain how your character's lunch fits within the MyPlate requirements for the day. Looking at his or her lunch choices, what are some changes you would consider to his or her breakfast, snack, or dinner choices?



## Activity Wrap-Up (Sharing, Processing, and Generalizing)

1. **Say:** As a class, let's discuss your observations about the students and their choices. First, let's go around the room and have each group present their character description along with the meals and serving sizes chosen for him or her. **(Slide 11)**
2. **Do:** Follow the group's line of thinking, and if necessary, ask more targeted questions.
  - Explain what you noticed about the amount of food recommended for your character from each food group.
  - Explain how and why the recommendations for each character differ.
  - Explain why age, physical activity, and gender might influence the recommended amount of food for a person.
  - Explain how or why MyPlate recommendations are different from the lunch meal pattern.



**Facilitator Tip:** If there are any misconceptions remaining in this phase of the lesson, you should address these now.



## Concept and Term Discovery/Introduction

Over the course of the lesson, participants should be able to identify the following concepts:

- Make sure the key messages of MyPlate are either discovered by the participants or are introduced to them, including:
  - » Make half your plate fruits and vegetables
  - » Make half your grains whole
  - » Go lean with protein
  - » Switch to fat-free or low-fat milk
- Participants should understand there are different caloric, food group, and nutrient needs depending on gender, age, and activity level of individuals. (This concept will be reinforced in Lesson 5.)

The following key vocabulary terms should be discovered by participants or introduced to them: dairy, fruits, grains, MyPlate, protein foods, oils, refined grains, vegetables, and whole grains.



## 4.2: Expanding Knowledge

### Getting Ready



#### Time Required

10 minutes



#### Materials Needed

(\*Materials provided in the curriculum)

- \**Focus on Food Lesson 4* (PowerPoint)
- PowerPoint Projector
- Computer



#### Preparation

1. Connect laptop to projector. Load *Focus on Food Lesson 4* PowerPoint.
2. Queue the PowerPoint presentation to Slide 12.



### Procedure

1. **Do:** Go through the Expanding Knowledge presentation slide by slide. The following script is available for use if you so choose.



## Expanding Knowledge

Lesson 4: MyPlate – Foods for Life

Slide 12

Slide 12

Let's review some of the concepts we learned during Lesson 4, MyPlate – Foods for Life.

## MyPlate

- An illustration developed by the USDA
- Depicts different proportions of different foods to include in your diet.



Lesson 4: MyPlate – Foods for Life

Slide 13

MyPlate is an illustration developed by the USDA to depict the different proportions of different foods to include in your diet.

### Slide 13

## Key Messages of MyPlate

- Make half your plate fruits and vegetables
- Make half your grains whole
- Go lean with protein
- Switch to fat-free or low-fat (1%) milk

Lesson 4: MyPlate – Foods for Life

Slide 14

The USDA has included four key messages they want Americans to keep in mind when choosing foods. These are:  
Make half your plate fruits and vegetables  
Make half your grains whole  
Go lean with protein  
Switch to fat-free or low-fat (1%) milk

What are some reasons you can think of for emphasizing these for key messages?

[Pause to allow responses from the class.]

### Slide 14

## MyPlate Food Groups

- The five MyPlate food groups are:
  - Fruit
  - Vegetables
  - Grains
  - Protein Foods
  - Dairy
- Oils and Water are not considered food groups, but are still important to include



Lesson 4: MyPlate – Foods for Life

Slide 15

MyPlate contains 5 food groupings. Fruit, Vegetables, Grains, Protein Foods, and Dairy. Oils and Water are not food groups, but are still important to include.

Thinking back to lesson 1, why are oils important?

[Pause to allow responses from the class.]

Why is water important?

[Pause to allow responses from the class.]

Oils contain healthy fats, essential fatty acids and vitamin E. Water is important to stay hydrated and keep our bodies cool and functioning.

### Slide 15



## Fruits

- Includes any fresh, canned, frozen, or dried fruit and 100% fruit juice.
- What counts as a cup?
  - 1 cup fruit
  - 1 cup 100% fruit juice
  - ½ cup of dried fruit
- What are some nutrients found in fruit?



Lesson 4: MyPlate – Foods for Life

Slide 16

Fruits are any fruit, including fresh, canned, frozen, dried, and juice as long as it's 100% juice.

The following counts as a cup: 1 cup of fruit, 1 cup of 100% fruit juice, and ½ cup of dried fruit

What are some nutrients you can recall that are found in fruit?  
[Pause to allow responses from the class.]

Slide 16



## Vegetables

- Includes any fresh, canned, frozen, or dried fruit and 100% vegetables juice.
- What counts as a cup?
  - 1 cup raw or cooked vegetables
  - 1 cup 100% vegetable juice
  - 2 cups of leafy greens
- What are some nutrients found in vegetables?



Lesson 4: MyPlate – Foods for Life

Slide 17

Vegetables are any vegetable, including fresh, canned, frozen, dried, and juice as long as it's 100% juice.

The following counts as a cup: 1 cup of vegetables, either cooked or raw, 1 cup of 100% vegetable juice, and 2 cups of leafy greens.

What are some nutrients you can recall that are found in vegetables?

[Pause to allow responses from the class.]

Slide 17



## Grains

- Includes any food made from wheat, rice, oats, cornmeal, barley, or other cereal grain.
- What counts as an ounce?
  - 1 slice of bread
  - 1 cup of cold cereal
  - ½ cup cooked rice, pasta, cereal
- What are some nutrients found in grains?



Lesson 4: MyPlate – Foods for Life

Slide 18

Grains include any foods that are made from rice, oats, cornmeal, barley or other cereal grain. What are some nutrients found in grains?

[Pause to allow responses from the class.]

Slide 18

## What is a whole grain?

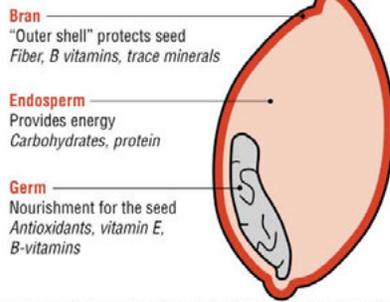


Image source: USDA Whole Grains Resource for the National School Lunch and School Breakfast Programs, 2014  
Lesson 4: MyPlate – Foods for Life Slide 19

Slide 19

MyPlate recommends that half our grains are whole, and the meal pattern requires that all grains are whole grain rich, meaning that they contain 51% or more whole grain.

What is a whole grain? A whole grain is a grain that still contains all three of its component parts. First is the bran, which is the outer shell of the grain. It has fiber, B vitamins, and minerals. Endosperm is the starchy part of the grain, and it has carbohydrates and protein. The germ provides nourishment for the seed when it's growing, and it contains antioxidants, vitamin E, and B vitamins.

## What is a refined grain?

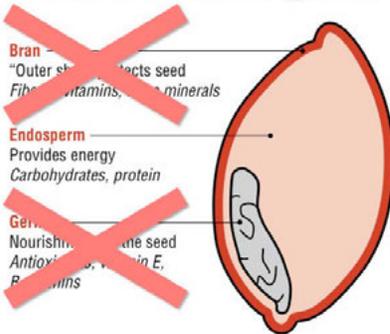


Image source: USDA Whole Grains Resource for the National School Lunch and School Breakfast Programs, 2014  
Lesson 4: MyPlate – Foods for Life Slide 20

Slide 20

A refined grain contains only the endosperm. The bran and the germ are removed. How do you think the nutrient content compares between whole grains and refined grains?

[Pause to allow responses from the class.]

By refining, we lose the fiber from the bran, a lot of the minerals and vitamins.

## Whole vs. Enriched Grains

| Whole Grains  | Enriched Grains   |
|---|---|
| <ul style="list-style-type: none"> <li>Contains bran, germ, and endosperm</li> <li>Nutrients found in the bran and germ remain: Niacin, Thiamin, Riboflavin, Iron, and Fiber</li> <li>Most are not fortified with folic acid</li> </ul> | <ul style="list-style-type: none"> <li>Contains only endosperm</li> <li>Milling removes nutrients found in bran and germ</li> <li>Nutrients added back: Niacin, Thiamin, Riboflavin, Iron</li> <li>Fortified with folic acid</li> </ul> |

Lesson 4: MyPlate – Foods for Life Slide 21

Slide 21

That's why we have what are called "enriched grains." Enriching adds back in some of what was lost when the bran and the germ were removed.

Enrichment adds back in certain B vitamins: Niacin, Thiamin, and Riboflavin, as well as iron. Enriched flour is also fortified with folic acid.

Are there any nutrients that typically aren't added back?

[Pause to allow responses from the class.]



## Protein Foods

- Includes all foods made from meat, poultry, seafood, beans and peas, eggs, processed soy products, nuts, and seeds.
- What counts as an ounce?
  - 1 ounce of meat, poultry, or seafood
  - ¼ cup cooked beans
  - 1 egg
  - 1 tablespoon peanut butter
  - ½ ounce of nuts or seeds
- What are some nutrients found in protein foods?



Lesson 4: MyPlate – Foods for Life

Slide 22

Slide 22

Protein foods include all foods made from meat, poultry, seafood, beans and peas, processed soy products, nuts and seeds. A long time ago, Protein Foods was called the Meat group, but that ignores all of the great sources of protein that are plant-based.

Protein foods are counted as ounce-equivalents. What counts as an ounce?

A ounce of meat, poultry our seafood.

¼ cup of cooked beans

1 egg

1 tablespoon or peanut butter or other nut butter

½ ounce of nuts or seeds.

What are some nutrients found in protein foods?

[Pause to allow responses from the class.]



## Dairy

- Includes fluid milk products and many foods made from milk.
- What counts as a cup?
  - 1 cup of fluid milk, yogurt, or soymilk
  - 1 ½ ounces of natural cheese
  - 2 ounces of processed cheese
- What are some nutrients found in dairy?



Lesson 4: MyPlate – Foods for Life

Slide 23

Slide 23

Dairy includes fluid milk products, many foods made from milk, and fortified soy beverages (which are usually called soymilk). Dairy is measured in cups.

1 cup of milk, yogurt, or soymilk is 1 cup of dairy.

1 ½ ounces of natural cheese is 1 cup.

2 ounces of processed cheese is 1 cup.

While the dairy group is illustrated as a glass of milk on the side of the plate, it doesn't have to be milk, it could be yogurt or cheese, and it can be incorporated onto the plate. For example, vegetable lasagna with 1 ½ ounces of mozzarella would have the equivalent of 1 cup of dairy.

What are some nutrients found in dairy?

[Pause to allow responses from the class.]

## MyPlate Recommendations

- Recommended amounts of each of the food groups over the course of a day.
- Differ by age, gender, and physical activity level.
- Get your personalized recommendations at:  
<http://www.choosemyplate.gov/tools-daily-food-plans>



Lesson 4: MyPlate – Foods for Life

Slide 24

Slide 24

MyPlate recommends that everyone consume foods from all five food groups, but the recommended amounts are different depending on age, gender, and physical activity level.

You can get your own personalized recommendations, such as a daily food plan on the ChooseMyPlate website at this link.

## Thinking about MyPlate

- Proportions are the important thing.
- Not every meal needs to look exactly like MyPlate as long as the food you eat over the course of the day does.

Lesson 4: MyPlate – Foods for Life

Slide 25

Slide 25

There are a few things you should keep in mind about MyPlate. What is important is that you're eating foods in the recommended proportions, not that every plate looks exactly like MyPlate.

Over the course of the day is what matters, not necessary each meal. Over one day, half of what you eat should be fruits and vegetables, one quarter should be protein foods, one quarter should be grains, and with that you should have the equivalent of three cups of dairy, or other calcium-rich alternatives. You can divide it up however makes sense to you.



## 4.3: Goal Setting Activity

### Getting Ready



#### Time Required

5 minutes



#### Materials Needed

(\*Materials provided in the curriculum)

- \*MyPlate Recommendations (Appendix 4C)
- \*Goal Setting: MyPlate – Foods for Life (Appendix 4H)



#### Preparation

1. Make copies of the *Goal Setting: MyPlate – Foods for Life* Handout (Appendix 4H), one for each participant.
2. Make sure that each table still has a copy of the *MyPlate Recommendations* (Appendix 4C) used in the Learning Activity.

Optional:

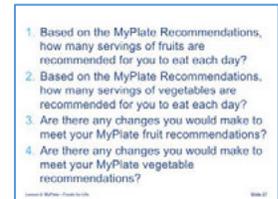
3. Make copies of the *Focus on Food Lesson 4 Newsletter* (Appendix 4I), one for each participant.
4. Connect laptop to projector. Load *Focus on Food Lesson 4* (PowerPoint).  
Queue the PowerPoint Presentation to Slide 26.



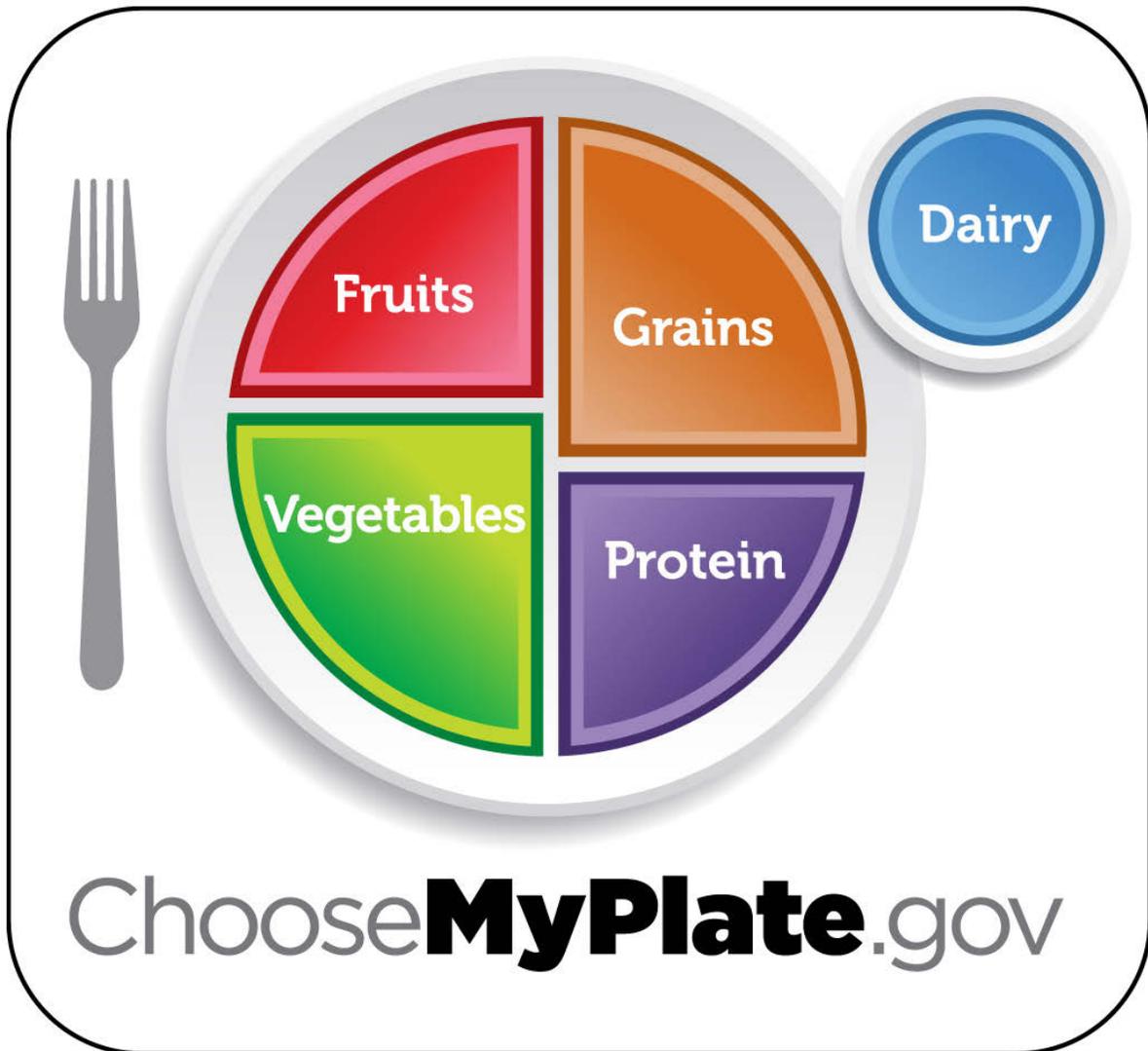


## Procedure (Experiencing)

1. **Say:** Now let's move on to Goal Setting! **(Slide 26)** We've talked about how important consuming a variety of foods is to our health. The next step is to set some goals and make a plan. First, are there any volunteers to share with the class some of the key messages of MyPlate you learned from the Expanding Knowledge portion of the lesson?
  2. **Say:** Now, I will distribute a Goal Setting Handout that has the following questions: **(Slide 27)**
    - 1) Based on the MyPlate Recommendations, how many cups of fruits are recommended for you each day?
    - 2) Based on the MyPlate Recommendations, how many cups of vegetables are recommended for you each day?
    - 3) Are there any changes you would make to your diet to meet your MyPlate fruit recommendations?
    - 4) Are there any changes you would make to your diet to meet your MyPlate vegetable recommendations?
  3. **Do:** Provide a copy of the *Goal Setting Handout: MyPlate – Foods for Life* (Appendix 4H) to each participant. Allow participants a few minutes to complete the handout.
  4. **Say:** Would anyone like to share the goals they set for themselves?
- Optional:
5. **Say:** I'm going to distribute one last handout, which is a newsletter with some extra information you might be interested in. Thank you all for participating in Lesson 4! **(Slide 41)**
  6. **Do:** Provide a copy of the *Focus on Food Lesson 4 Newsletter* (Appendix 4I) to each participant.



## Appendix 4A – MyPlate



## Appendix 4B – Character Descriptions

### Miguel

Miguel is 5 years old. He enjoys making artwork. He likes to paint pictures of animals. During recess at school, Miguel plays tag with his friends.

### Tiffany

Tiffany is 8 years old. She likes to ride her bike to school with friends who live in her neighborhood. Tiffany goes to dance class twice a week and goes to piano practice two different evenings during the week.

### Dominic

Dominic is 12 years old and likes to skateboard at the local skate park. He wants to be a professional skater one day so he skateboards as often as he can. Dominic also enjoys playing basketball with his older siblings in the evenings.

### Camilla

Camilla is 15 years old and loves to play soccer. She plays on the Varsity soccer team at her school and she also plays on a separate soccer team outside of school. When Camilla is not playing soccer she enjoys running and texting with her friends.

### Jacob

Jacob is 17 years old. He enjoys spending time with friends playing board games and trivia games. In his free time Jacob enjoys traveling and reading about where he wants to travel to next.

## Appendix 4C – MyPlate Recommendations

\*Recommendations for individuals with less than 30 minutes of moderate physical activity per day.

|                      | Fruits    | Vegetables | Grains              | Protein              | Dairy   |
|----------------------|-----------|------------|---------------------|----------------------|---------|
| <b>Children</b>      |           |            |                     |                      |         |
| <b>2-3 years</b>     | 1 cup     | 1 cup      | 3 ounce equivalents | 2 ounce equivalents  | 2 cups  |
| <b>4-8 years</b>     | 1-1½ cups | 1½ cups    | 5 ounce equivalents | 4 ounce equivalents  | 2½ cups |
| <b>Girls</b>         |           |            |                     |                      |         |
| <b>9-13 years</b>    | 1½ cups   | 2 cups     | 5 ounce equivalents | 5 ounce equivalents  | 3 cups  |
| <b>14-18 years</b>   | 1½ cups   | 2½ cups    | 6 ounce equivalents | 5 ounce equivalents  | 3 cups  |
| <b>Boys</b>          |           |            |                     |                      |         |
| <b>9-13 years</b>    | 1½ cups   | 2½ cups    | 6 ounce equivalents | 5 ounce equivalents  | 3 cups  |
| <b>14-18 years</b>   | 2 cups    | 3 cups     | 8 ounce equivalents | 6½ ounce equivalents | 3 cups  |
| <b>Women</b>         |           |            |                     |                      |         |
| <b>19-30 years</b>   | 2 cups    | 2½ cups    | 6 ounce equivalents | 5½ ounce equivalents | 3 cups  |
| <b>31-50 years</b>   | 1½ cups   | 2½ cups    | 6 ounce equivalents | 5 ounce equivalents  | 3 cups  |
| <b>51+ years old</b> | 1½ cups   | 2 cups     | 5 ounce equivalents | 5 ounce equivalents  | 3 cups  |
| <b>Men</b>           |           |            |                     |                      |         |
| <b>19-30 years</b>   | 2 cups    | 3 cups     | 8 ounce equivalents | 6½ ounce equivalents | 3 cups  |
| <b>31-50 years</b>   | 2 cups    | 3 cups     | 7 ounce equivalents | 6 ounce equivalents  | 3 cups  |
| <b>51+ years</b>     | 2 cups    | 2½ cups    | 6 ounce equivalents | 5½ ounce equivalents | 3 cups  |

**\*Recommendations for individuals with 30-60 minutes of moderate or vigorous physical activity per day.**

|                      | <b>Fruits</b> | <b>Vegetables</b> | <b>Grains</b>        | <b>Protein</b>       | <b>Dairy</b> |
|----------------------|---------------|-------------------|----------------------|----------------------|--------------|
| <b>Children</b>      |               |                   |                      |                      |              |
| <b>2-3 years</b>     | 1½ cup        | 1½ cup            | 5 ounce equivalents  | 4 ounce equivalents  | 2½ cups      |
| <b>4-8 years</b>     | 1½ cups       | 2 cups            | 5 ounce equivalents  | 5 ounce equivalents  | 3 cups       |
| <b>Girls</b>         |               |                   |                      |                      |              |
| <b>9-13 years</b>    | 1½ cups       | 2½ cups           | 6 ounce equivalents  | 5 ounce equivalents  | 3 cups       |
| <b>14-18 years</b>   | 2 cups        | 2½ cups           | 6 ounce equivalents  | 5½ ounce equivalents | 3 cups       |
| <b>Boys</b>          |               |                   |                      |                      |              |
| <b>9-13 years</b>    | 2 cups        | 2½ cups           | 6 ounce equivalents  | 5½ ounce equivalents | 3 cups       |
| <b>14-18 years</b>   | 2½ cups       | 3½ cups           | 10 ounce equivalents | 7 ounce equivalents  | 3 cups       |
| <b>Women</b>         |               |                   |                      |                      |              |
| <b>19-30 years</b>   | 2 cups        | 3 cups            | 7 ounce equivalents  | 6 ounce equivalents  | 3 cups       |
| <b>31-50 years</b>   | 2 cups        | 2½ cups           | 6 ounce equivalents  | 5½ ounce equivalents | 3 cups       |
| <b>51+ years old</b> | 2 cups        | 2½ cups           | 6 ounce equivalents  | 5½ ounce equivalents | 3 cups       |
| <b>Men</b>           |               |                   |                      |                      |              |
| <b>19-30 years</b>   | 2½ cups       | 3½ cups           | 10 ounce equivalents | 7 ounce equivalents  | 3 cups       |
| <b>31-50 years</b>   | 2 cups        | 3½ cups           | 9 ounce equivalents  | 6½ ounce equivalents | 3 cups       |
| <b>51+ years</b>     | 2 cups        | 3 cups            | 8 ounce equivalents  | 6½ ounce equivalents | 3 cups       |

**\*Recommendations for individuals with more than 60 minutes of moderate or vigorous physical activity per day.**

|                      | <b>Fruits</b> | <b>Vegetables</b> | <b>Grains</b>        | <b>Protein</b>       | <b>Dairy</b> |
|----------------------|---------------|-------------------|----------------------|----------------------|--------------|
| <b>Children</b>      |               |                   |                      |                      |              |
| <b>2-3 years</b>     | 1½ cup        | 1½ cup            | 5 ounce equivalents  | 4 ounce equivalents  | 2½ cups      |
| <b>4-8 years</b>     | 1½ cups       | 2½ cups           | 6 ounce equivalents  | 5 ounce equivalents  | 3 cups       |
| <b>Girls</b>         |               |                   |                      |                      |              |
| <b>9-13 years</b>    | 2 cups        | 2½ cups           | 6 ounce equivalents  | 5½ ounce equivalents | 3 cups       |
| <b>14-18 years</b>   | 2 cups        | 3 cups            | 8 ounce equivalents  | 6½ ounce equivalents | 3 cups       |
| <b>Boys</b>          |               |                   |                      |                      |              |
| <b>9-13 years</b>    | 2 cups        | 3 cups            | 7 ounce equivalents  | 6 ounce equivalents  | 3 cups       |
| <b>14-18 years</b>   | 2½ cups       | 4 cups            | 10 ounce equivalents | 7 ounce equivalents  | 3 cups       |
| <b>Women</b>         |               |                   |                      |                      |              |
| <b>19-30 years</b>   | 2 cups        | 3 cups            | 8 ounce equivalents  | 6½ ounce equivalents | 3 cups       |
| <b>31-50 years</b>   | 2 cups        | 3 cups            | 7 ounce equivalents  | 6 ounce equivalents  | 3 cups       |
| <b>51+ years old</b> | 2 cups        | 3 cups            | 7 ounce equivalents  | 6 ounce equivalents  | 3 cups       |
| <b>Men</b>           |               |                   |                      |                      |              |
| <b>19-30 years</b>   | 2½ cups       | 4 cups            | 10 ounce equivalents | 7 ounce equivalents  | 3 cups       |
| <b>31-50 years</b>   | 2½ cups       | 3½ cups           | 10 ounce equivalents | 7 ounce equivalents  | 3 cups       |
| <b>51+ years</b>     | 2½ cups       | 3½ cups           | 10 ounce equivalents | 7 ounce equivalents  | 3 cups       |

## Appendix 4D – Food Cards

In lieu of Food Cards, you may also use food models. The recommended food models for each group are:

Milk  
Yogurt  
Cheese  
Carrots  
Potato (baked or mashed)  
Broccoli  
Spinach  
Lettuce  
Red Pepper  
Beans (black or pinto)  
Eggs

Fish  
Chicken  
Almonds  
Bread (two slices)  
Oatmeal  
Tortilla  
Raisins  
Juice  
Apple  
Grapes

### **Fat-Free Milk**

1 cup counts as 1 cup of dairy

### **Low-Fat Fruit Yogurt**

1 cup counts as 1 cup of dairy

### **Cheddar Cheese**

1½ ounces counts as 1 cup of dairy

### **Carrots (Cooked)**

1 cup counts as 1 cup of vegetables

**Baked Potato (with skin)**

1 medium counts as 1 cup of vegetables

**Broccoli (Cooked)**

1 cup counts as 1 cup of vegetables

**Spinach (Cooked)**

1 cup counts as 1 cup of vegetables

**Romaine Lettuce (Raw)**

2 cups count as 1 cup of vegetables

**Red Bell Pepper (Raw)**

1 cup chopped counts as 1 cup of vegetables

**Black Beans (Cooked)**

1 cup counts as 1 cup of vegetables  
¼ cup counts as 1 oz of protein foods

**Egg (Cooked)**

1 egg counts as 1 oz of protein foods

**Turkey Deli Meat**

1 slice counts as 1 oz of protein foods

**Fish (Broiled)**

1 oz counts as 1 oz of protein foods

**Chicken (Baked)**

1 oz counts as 1 oz of protein foods

**Almonds (Raw)**

½ oz counts as 1 oz of protein foods

**Whole Wheat Bread**

1 slice counts as 1 oz of grains

**Whole Wheat Crackers**

5 crackers count as 1 oz of grains

**Oatmeal (Cooked)**

½ cup counts as 1 oz of grains

**Rice (White or Brown, Cooked)**

½ cup counts as 1 oz of grains

**Tortilla (Flour or Corn)**

1 small tortilla counts as 1 oz of grains

**Whole Grain Muffin**

1 muffin counts as 1 oz of grain

**Whole Grain Roll**

1 roll counts as 1 oz of grain

**Whole Grain Breakfast Bar**

1 muffin counts as 1 oz of grain

**Tomato Sauce**

1 cup counts as 1 cup of vegetables

**Pasta (White or Brown, Cooked)**

½ cup counts as 1 oz of grains

**Ground Turkey Meat**

1 serving counts as 3 oz of protein foods

**Raisins**

½ cup counts as 1 cup of fruit

**100% Fruit Juice**

1 cup counts as 1 cup of fruit

**Apple (Whole)**

1 small apple counts as 1 cup of fruit

**Grapes**

1 cup counts as 1 cup of fruit

**Peach (Whole)**

1 large peach counts as 1 cup of fruit

**Applesauce (Unsweetened)**

1 cup counts as 1 cup of fruit

# Appendix 4E – Eating from MyPlate

Character name: \_\_\_\_\_

Recommended number of cups or ounce equivalents for each food group:

Fruits: \_\_\_\_\_; Vegetables: \_\_\_\_\_; Grains: \_\_\_\_\_; Protein: \_\_\_\_\_; Dairy: \_\_\_\_\_

|                   | <b>Breakfast</b> | <b>Lunch</b> | <b>Dinner</b> | <b>Snacks</b> | <b>Total</b> |
|-------------------|------------------|--------------|---------------|---------------|--------------|
| <b>Fruits</b>     |                  |              |               |               |              |
| <b>Vegetables</b> |                  |              |               |               |              |
| <b>Grains</b>     |                  |              |               |               |              |
| <b>Protein</b>    |                  |              |               |               |              |
| <b>Dairy</b>      |                  |              |               |               |              |

## Appendix 4F – MyPlate Equivalents

### Fruits

| Amount that counts as<br>1 cup of fruit     |
|---|
| 1 small apple                               |
| 1 cup applesauce                            |
| 1 cup whole grapes                          |
| 1 large peach                               |
| 1 cup whole, halved, or sliced strawberries |
| 1 cup 100% fruit juice                      |
| ½ cup raisins                               |
| ½ cup dried apricots                        |

### Grains

| Amount that counts as<br>1 ounce equivalent of grains |
|---|
| 1 regular slice of bread                              |
| 1 “mini” bagel  |
| 5 whole wheat crackers                                |
| ½ English muffins                                     |
| ½ cup cooked oatmeal                                  |
| 3 cups popped popcorn                                 |
| 1 cup ready-to-eat cereal, flakes or rounds           |
| 1 ¼ cup ready-to-eat cereal, puffed                   |
| ½ cup cooked rice                                     |
| ½ cup cooked pasta                                    |
| 1 small flour or corn tortilla (6” diameter)          |

### Dairy

| Amount that counts as<br>1 cup of dairy                       |
|---|
| 1 cup milk  |
| 1 regular 8 ounce container of yogurt                         |
| 1 cup of yogurt   |
| 1 ½ ounces hard cheese (cheddar, mozzarella, Swiss, Parmesan) |
| 2 cups cottage cheese   |
| 1 cup frozen yogurt   |
| 1 ½ cups ice cream  |
| 1 cup calcium-fortified soymilk                               |

### Vegetables

| Amount that counts as<br>1 cup of vegetables                                 |
|--|
| 1 cup broccoli, chopped or florets   |
| 1 cup cooked spinach or greens (kale, collards)                              |
| 2 cups raw leafy greens (spinach, romaine, leafy lettuce)                    |
| 1 cup baby carrots   |
| 1 cup chopped carrots  |
| 1 cup chopped red peppers  |
| 1 cup tomatoes   |
| 1 cup tomato juice   |
| 1 large sweet potato   |
| 1 cup whole or mashed beans (black, garbanzo, kidney, pinto, soybeans, etc.) |
| 1 cup corn   |
| 1 large ear of corn  |
| 1 cup celery   |
| 1 cup green beans  |

### Protein Foods

| Amount that counts as 1 ounce<br>equivalent of protein foods                                   |
|--|
| 1 ounce lean beef or pork  |
| 1 ounce cooked chicken or turkey   |
| 1 slice turkey deli meat   |
| 1 ounce cooked fish  |
| 1 egg  |
| 1 Tablespoon peanut butter   |
| ½ ounce of nuts (12 almonds, 24 pistachios, 7 walnut halves)                                   |
| ¼ cup cooked beans (black, kidney, pinto, etc.) or peas (chickpeas, lentils, split peas, etc.) |
| ¼ cup (approximately 2 ounces) of tofu   |

## Appendix 4G – Character Lunch Choices

### Miguel

For lunch Miguel decided to take 1 cup of croutons from the salad bar (MyPlate 2 ounce equivalent of grains). He also decided to take 1 cup of applesauce (MyPlate 1 cup of fruit) and 1 cup of fat-free chocolate milk (MyPlate 1 cup of dairy).

### Tiffany

Tiffany went to the salad bar for lunch and selected 1 cup of romaine lettuce (MyPlate ½ cup of vegetables), 1 cup of red bell peppers (MyPlate 1 cup of vegetables), and 1 egg (MyPlate 1 ounce equivalent of protein foods). She also chose 1 cup of calcium-fortified soymilk (MyPlate 1 cup of dairy).

### Dominic

For lunch Dominic decided to eat 3 cups of corn flakes cereal (MyPlate 3 ounce equivalents of grains) with 1 cup of milk (MyPlate 1 cup of dairy). He also selected 1 cup of 100% fruit juice (MyPlate 1 cup of fruit) and 1 cup of fat-free chocolate milk (MyPlate 1 cup of dairy).

### Camilla

Camilla chose the teriyaki bowl for lunch, which included ½ cup cooked brown rice (MyPlate 1 ounce equivalent of grains), 2 ounces of chicken (MyPlate 2 ounce equivalent of protein foods), and ½ cup carrots (MyPlate ½ cup of vegetables). She also selected 1 large peach (MyPlate 1 cup of fruit) and 1 cup of low-fat milk (MyPlate 1 cup of dairy).

### Jacob

Jacob chose 1 English muffin (MyPlate 2 ounce equivalents of grains) with 2 tablespoons of peanut butter (MyPlate 2 ounce equivalents of protein foods). He also chose 1 small apple (MyPlate 1 cup of fruit) and ½ cup green beans (MyPlate ½ cup of vegetables), with one bottle of water.



## Appendix 4I – Focus on Food Lesson 4 Newsletter

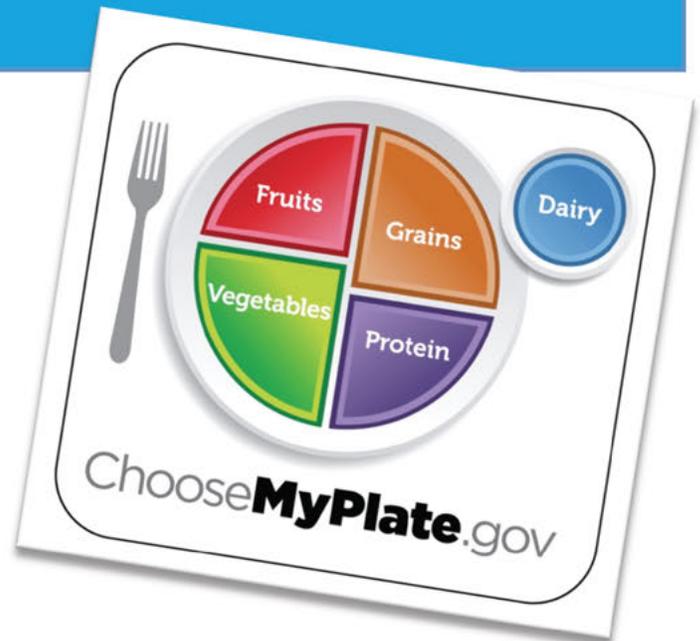
The optional newsletter on the following pages is designed to help reinforce the concepts learned. If offering this course in a single workshop, you may wish to distribute the lesson newsletters weekly in order to help refresh participants' memory and solidify the concepts.



# MyPlate - Foods for Life

## In this issue...

|   |        |
|---|--------|
| Focus on Fruits and Veggies                     | Page 2 |
| Whole Grains: Whole Lot of Nutrients            | Page 3 |
| Protein Foods: More than Just Meat              | Page 4 |
| Dairy: Something for Everyone                   | Page 4 |
| What Is Lactose Intolerance Anyway?             | Page 4 |
| Test your knowledge! Take our whole grain quiz! | Page 5 |



## What's on your plate?

**MyPlate** is an illustration developed by the United States Department of Agriculture (USDA) to represent the five food groups for a healthy diet in terms of a place setting. The five food groups are: **fruits**, **vegetables**, **grains**, **protein**, and **dairy**.

**Oils** are not considered a food group, however are still important as they provide essential nutrients to the body.

**Water** is also not included as a food group, but proper hydration is very important for overall health.

*Turn the page to learn more about the MyPlate food groups!*

## Shop Smart for Fruits and Veggies

Want to know an easy tip for spending less on fresh fruits and vegetables AND getting better flavor?

Buy fruits and vegetables that are **in season**! An in-season fruit or veggie is one that's currently being harvested – it's going from the farm to the market in abundance. This saves you money because there is a lot available. And, as an added bonus, in-season produce is the best tasting!

For handy lists of what's in season, check out:

<http://www.fruitsandveggiesmorematters.org/what-fruits-and-vegetables-are-in-season>

## Did you know?

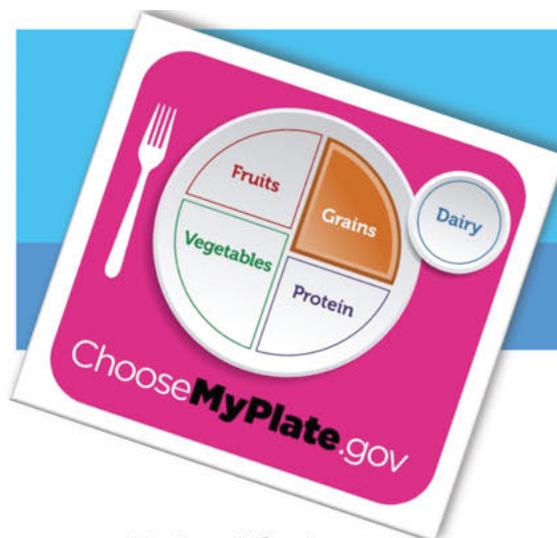
Meatless meals can be delicious and healthy! Challenge yourself to Meatless Monday with our recipe for Black Bean and Veggie Tostada Ole on page 2!



# Whole Grains

## Whole Lot of Nutrients

The **grains** group includes any food made from wheat, rice, oats, cornmeal, barley, or another cereal grain. Examples include bread, pasta, oatmeal, breakfast cereals, tortillas, and grits. Nutrients found in grains include **fiber**, **B-vitamins**, and **minerals** such as **iron**. Consuming whole grains as part of a healthy diet may **reduce the risk of heart disease**, **reduce constipation**, and help with **weight management**.



There are two subgroups of grains: **whole grains** and **refined grains**.

### Whole Grains

These contain all parts of the grain: bran, germ, and endosperm

Examples include:  
Whole Wheat Flour  
Quinoa  
Oatmeal  
Whole Cornmeal  
Brown Rice

What is considered as 1 ounce equivalent from the **grains** group?

1 slice of bread  
1 cup of ready-to-eat cereal  
½ cup of cooked rice, pasta, or cereal

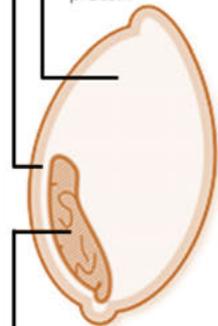
### Whole Grain Kernel

#### Bran

"Outer shell" protects seed  
Contains: Fiber, B-vitamins, trace minerals

#### Endosperm

Provides energy  
Contains: Carbohydrates, protein



#### Germ

Nourishment for the seed  
Contains: Antioxidants, vitamin E, B-vitamins

### Refined Grains

These have been milled which removes the bran and germ, leaving only the endosperm.

#### Milling Pros and Cons

| Pros:               | Cons:                   |
|---------------------|-------------------------|
| Improves shelf life | Removes dietary fiber   |
| Finer texture       | Removes iron            |
|                     | Removes many B-vitamins |

Note: Most refined grains are enriched, meaning certain B-vitamins and iron are added back after the milling process. Fiber, however, is not added back to enriched grains.

### Did you know?

Labels on the front of packaging can be misleading.

Check for known whole grains or the word "Whole" when looking at the ingredients.

## Make Half Your Grains Whole!

Try some of these delicious alternatives to refined grains.



Brown Rice



Whole Grain Bread



Oatmeal



# Protein Foods

## More Than Just Meat

The **protein** foods group includes all foods made from meat, poultry, seafood, as well as beans and peas, eggs, processed soy products, nuts, and seeds. Protein foods provide many nutrients including **protein**, **B-vitamins**, **vitamin E**, **iron**, **zinc**, and **magnesium**. MyPlate recommends selecting **lean protein** that is low in fat and saturated fat. There are a lot of great protein options that contain no meat. Beans are chock full of nutrients like fiber, potassium, and folate, which aren't found in meat.



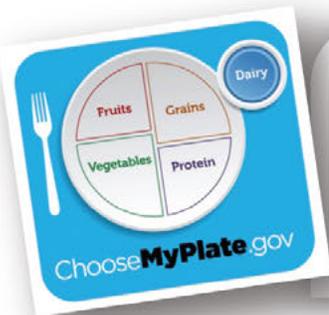
### Examples of Lean Protein

- |                  |                        |
|------------------|------------------------|
| Egg Whites       | Fish (not fried)       |
| Meatless Burgers | Poultry (without skin) |
| Shellfish        | Beans and Peas         |
| Tofu             |                        |



What is considered as 1 ounce equivalent from the **protein** foods group?

- 1 ounce of meat, poultry, or fish
- ¼ cup of cooked beans
- 1 egg
- 1 tablespoon peanut butter
- ½ ounce nuts or seeds



# Dairy



## Something for Everyone

What is considered as 1 cup from the **dairy** foods group?

- 1 cup of milk, yogurt, or soymilk
- 1½ ounces of natural cheese
- 2 ounces of processed cheese

The **dairy** group includes all fluid milk products and many foods made from milk. MyPlate recommends switching dairy products to **fat-free** or **low-fat** (1% milk) options. Nutrients found in dairy products include **calcium**, **potassium**, and **vitamin D**. Consumption of dairy products may **improve bone health**, **lower blood pressure**, and **reduce the risk of osteoporosis, cardiovascular disease, and type 2 diabetes**.

## What is Lactose Intolerance Anyway?

**Lactose intolerance** is an impaired ability to digest lactose, a sugar found in milk and other dairy products. Many adults with lactose intolerance are still able to digest some lactose. While digesting fresh milk may be difficult, some people can still safely eat certain dairy products like **cheese** and **yogurt**, which contain **less lactose**.

For those who can't have dairy at all, try calcium-rich alternatives, like soy milk.





## Test your knowledge! Take our whole grain quiz!

Can you figure out if a food is whole grain just by looking at the name?

1. Brown rice
  - a. Whole grain
  - b. Not whole grain
  - c. Could be either
2. Wheat bread
  - a. Whole grain
  - b. Not whole grain
  - c. Could be either
3. Oatmeal
  - a. Whole grain
  - b. Not whole grain
  - c. Could be either
4. Popcorn
  - a. Whole grain
  - b. Not whole grain
  - c. Could be either
5. Shredded Wheat Cereal
  - a. Whole grain
  - b. Not whole grain
  - c. Could be either
6. Bran Muffin
  - a. Whole grain
  - b. Not whole grain
  - c. Could be either

### The Results are In!

*If you got all six right:*

You are a whole grain guru! You know which grains are whole and which are not. Keep getting out there and learning more!

*If you got three to five right:*

You're on the right track! Try finding the information you missed in other pages of this newsletter to become a whole grain master!

*If you got two or less right:*

It just means you have more opportunities to learn. Read through the newsletter again, or try contacting your local Cooperative Extension office to get reliable nutrition information. Find your Cooperative Extension office at [http://ucanr.edu/County\\_Offices/](http://ucanr.edu/County_Offices/)



# Lesson 5: Nutrients of Concern





# Lesson 5: Nutrients of Concern

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## Background Information

All humans need the same basic set of nutrients: vitamins, minerals, protein, carbohydrates, fats, and water. However, individual requirements for these nutrients differ based on several factors. When it comes to children, some of those differences are based on stage of **growth**, gender, and physical activity. By weight, children tend to need more of most nutrients compared to adults.



In general, humans are able to meet their nutrient needs through consuming a variety of nutrient dense foods. **Nutrient-dense** foods are foods that contain many essential nutrients relative to the amount of calories they provide. Some examples of nutrient dense foods include vegetables, fruits, low-fat or non-fat dairy, whole grains, beans, nuts, seeds, seafood, and lean cuts of meat. In contrast, an **empty calorie food** is a food that contains very little to no essential nutrients relative to the amount of calories it provides. Some examples of empty calorie foods include sugar-sweetened beverages, fried chips, cookies, candy, cake, and other processed foods. While consuming empty calorie foods in moderation is perfectly fine, it may become a problem if an individual is not consuming enough nutrient-dense foods.



Unfortunately, many Americans consume diets high in empty calorie foods and low in nutrient dense foods. Consequently, a large proportion of Americans are routinely consuming less than the recommended amounts of a variety of essential nutrients. As identified in the 2015 – 2020 Dietary Guidelines for Americans, some **nutrients of concern** include: **calcium, vitamin D, dietary fiber, and potassium**. In addition to these, **iron** is a nutrient of concern for women and adolescent girls that are capable of becoming pregnant, because of iron losses due to menstruation. **Folate** is a nutrient of concern for women of child-bearing age as it is essential in preventing certain kinds of birth defects, called neural tube defects.

## Concepts and Vocabulary

**Calcium:** A mineral important for bone health and muscle function.

**Dietary fiber:** A type of carbohydrate that can't be digested, but is important for digestive health. It may help reduce blood cholesterol and lower risk of heart disease.

**Empty calorie food:** A food that contains very little to no essential nutrients relative to the amount of calories it provides.

**Iron:** A mineral that is important in red blood cells, and is used to move oxygen around in the blood.

**Folate:** A B-vitamin needed for growth and repair. It is also important in pregnancy to help prevent certain kinds of birth defects called neural tube defects.

**Growth:** The process of increasing in physical size and maturity.

**Nutrients of concern:** Nutrients that a large proportion of Americans are routinely consuming less of than the recommended amounts.

**Nutrient-dense foods:** Foods that contain many essential nutrients relative to the amount of calories they provide.

**Nutrient recommendations:** The amounts of different nutrients that individuals should consume. These are evidence-based for healthy individuals and vary due to age, gender, and physical activity.

**Potassium:** A mineral that is important for muscle and nerve function. Eating a diet rich in potassium is also helpful in preventing high blood pressure.

**Puberty:** Stage of rapid growth in which adolescents become capable of reproduction.

**Vitamin D:** A vitamin that is needed for bone health and immune function. Sunlight helps us make this vitamin in our skin.



# 5.1: Learning Activity

## Getting Ready



### Time Required

45 minutes



### Materials Needed

(\*Materials provided in the curriculum)

- Flip chart paper
- Markers, pens, or pencils
- Calculators
- \*Nutrient Mystery (Appendix 5A)
- \*Nutrient Recommendations (Appendix 5B)
- \*One Day of Food Choices (Appendix 5C)
- \*Food Choices Worksheet (Appendix 5D)
- \*Food Sources Cards (Appendix 5E)

Optional:

- \*Focus on Food Lesson 5 (PowerPoint)
- Computer
- PowerPoint Projector



### Preparation

1. Make copies of *Nutrient Mystery* (Appendix 5A), one for each group.

**Facilitator Tip:** Print these in color to simplify matching with the corresponding *One Day of Food Choices* (Appendix 5C).

2. Make copies of *Nutrient Recommendations* (Appendix 5B), one for each group.
3. Make copies of *One Day of Food Choices* (Appendix 5C), so that each group will have the handout corresponding to their respective *Nutrient Mystery* Handout (Appendix 5A).

**Facilitator Tip:** Print these in color to simplify matching with the corresponding *Nutrient Mystery*.

4. Make copies of *Food Choices Worksheet* (Appendix 5D) one for each group.
5. Make copies of the *Food Sources Cards* (Appendix 5E), one set for each group.

**Facilitator Tip:** Printing each of the different nutrients on different colored cardstock will help with organization.

6. Cut out the *Food Sources Cards* (Appendix 5E).

**Facilitator Tip:** Placing each set in an envelope or plastic baggie will help with keeping these organized.

7. Organize the class into small groups of 2 to 4 participants.

**Facilitator Tip:** These groups can be the same groups formed in earlier lessons.

Appendix 5A – Nutrient Mystery

Part I. Use the clues to figure out the nutrients. Your choices are: Iron, Calcium, Potassium, Vitamin D, and Dietary Fiber.

| Clue # | Clue   | Nutrient      | Amount Recommended |
|--------|--|---------------|--------------------|
| Clue 1 | I help you build strong and are calcium. You need me. You only find me in fortified soy products and certain kinds of dairy fat. The sun helps you make me in your skin. | Vitamin D     | 15 micrograms      |
| Clue 2 | I am important for bone health and muscle function. You can find me in dairy foods, dark green leafy vegetables, and fish bones. (Salmon, canned sardines)               | Calcium       | 1300 milligrams    |
| Clue 3 | I am important in red blood cells to move oxygen around in the blood.  | Iron          | 11 milligrams      |
| Clue 4 | I am important for muscle and nerve function. Getting a diet deficient in me is also helpful in preventing high blood pressure.  | Potassium     | 4700 milligrams    |
| Clue 5 | I can be found in meat, poultry and seafood, beans and peas, and other grain products and legumes, kidney and dried fruit.   | Zinc          | 11 milligrams      |
| Clue 6 | I can be found in dairy and vegetable products. I am important for digestive health. I am important for digestive health. I am important for digestive health.           | Dietary Fiber | 31 grams           |

Part II. The nutrient recommendations listed above are for a mystery character. Using the *Nutrient Recommendations Worksheet*, read the clues to find the age, gender, and daily calorie needs of your mystery character.

Age: \_\_\_\_\_ Gender: \_\_\_\_\_ Daily Calorie: \_\_\_\_\_

Appendix 5B – Nutrient Recommendations

| Age                          | 1-3   | 4-8   | 9-13  | 14-18 | 19-30 | 31-50 | 51-70 | 71-90 |
|------------------------------|-------|-------|-------|-------|-------|-------|-------|-------|
| Calories (kcal)              | 1000  | 1400  | 1800  | 2200  | 2600  | 2200  | 2000  | 1800  |
| Protein (g)                  | 13    | 19    | 19    | 24    | 34    | 46    | 46    | 52    |
| Carbohydrate (g)             | 130   | 150   | 150   | 150   | 150   | 150   | 150   | 130   |
| Total Fat (g)                | 14    | 17    | 20    | 22    | 25    | 25    | 25    | 25    |
| Total Fat (as % of calories) | 30-40 | 25-35 | 25-35 | 25-35 | 25-35 | 25-35 | 25-35 | 25-35 |
| <b>Minerals</b>              |       |       |       |       |       |       |       |       |
| Calcium (mg)                 | 700   | 1000  | 1000  | 1300  | 1300  | 1300  | 1300  | 1300  |
| Iron (mg)                    | 7     | 10    | 10    | 8     | 8     | 8     | 8     | 11    |
| Magnesium (mg)               | 80    | 130   | 130   | 240   | 240   | 300   | 300   | 410   |
| Potassium (mg)               | 3000  | 3800  | 3800  | 4500  | 4500  | 4700  | 4700  | 4700  |
| Zinc (mg)                    | 5     | 5     | 5     | 8     | 8     | 9     | 9     | 11    |
| Copper (mg)                  | 900   | 900   | 900   | 900   | 900   | 900   | 900   | 900   |
| Cadmium (mg)                 | 20    | 20    | 20    | 20    | 20    | 20    | 20    | 20    |
| <b>Vitamins</b>              |       |       |       |       |       |       |       |       |
| Vitamin A (mg)               | 500   | 600   | 600   | 600   | 600   | 700   | 700   | 900   |
| Vitamin B (mg)               | 15    | 15    | 15    | 15    | 15    | 15    | 15    | 15    |
| Vitamin C (mg)               | 6     | 7     | 7     | 11    | 11    | 11    | 11    | 15    |
| Vitamin E (mg)               | 10    | 10    | 10    | 10    | 10    | 10    | 10    | 10    |
| Vitamin K (mg)               | 0.5   | 0.5   | 0.5   | 0.5   | 0.5   | 0.5   | 0.5   | 0.5   |
| Biotin (mg)                  | 0.5   | 0.5   | 0.5   | 0.5   | 0.5   | 0.5   | 0.5   | 0.5   |
| Niacin (mg)                  | 6     | 6     | 6     | 12    | 12    | 14    | 14    | 16    |
| Folate (mg)                  | 100   | 200   | 200   | 300   | 300   | 400   | 400   | 400   |
| Vitamin B <sub>6</sub> (mg)  | 0.5   | 0.5   | 0.5   | 1.0   | 1.0   | 1.2   | 1.2   | 1.3   |
| Vitamin B <sub>12</sub> (mg) | 0.5   | 1.2   | 1.2   | 1.8   | 1.8   | 2.4   | 2.4   | 2.4   |
| Choline (mg)                 | 250   | 250   | 250   | 375   | 375   | 400   | 500   | 500   |
| Vitamin K <sub>2</sub> (mg)  | 30    | 55    | 55    | 60    | 60    | 75    | 75    | 75    |

Appendix 5C – One Day of Food Choices

Group 1

|                           | Flour (grams) | Calcium (milligrams) | Iron (micrograms) | Potassium (micrograms) | Vitamin B (micrograms) |
|---------------------------|---------------|----------------------|-------------------|------------------------|------------------------|
| <b>Breakfast</b>          |               |                      |                   |                        |                        |
| 1 cup cereal              | 0.5           | 54 mg                | 2 mg              | 133 mcg                | 1.16                   |
| 1 cup orange juice        | 0             | 57 mg                | 0 mg              | 142 mcg                | 0.96                   |
| 2 slices toast, white     | 1             | 79 mg                | 2 mg              | 152 mcg                | 0.96                   |
| <b>Snack</b>              |               |                      |                   |                        |                        |
| 1 cup chocolate ice cream | 0             | 0 mg                 | 0 mg              | 0 mcg                  | 0.00                   |
| 1 slice pizza             | 4.5           | 20 mg                | 1 mg              | 84 mcg                 | 0.96                   |
| 1 banana                  | 0             | 14 mg                | 1 mg              | 123 mcg                | 0.96                   |
| 1 slice bread             | 1             | 10 mg                | 0 mg              | 29 mcg                 | 0.96                   |
| 1 cup milk                | 0             | 12 mg                | 0 mg              | 28 mcg                 | 0.96                   |
| 1 cup chocolate milk      | 1             | 283 mg               | 1 mg              | 453 mcg                | 0.96                   |
| 1 apple                   | 0             | 0 mg                 | 0 mg              | 0 mcg                  | 0.00                   |
| 1 medium orange           | 0             | 27 mg                | 0 mg              | 227 mcg                | 0.96                   |
| 1 cup coffee              | 0             | 0 mg                 | 0 mg              | 0 mcg                  | 0.00                   |
| 1 cup hot chili           | 1             | 4 mg                 | 0 mg              | 50 mcg                 | 0.96                   |
| 1 medium banana           | 0             | 0 mg                 | 0 mg              | 0 mcg                  | 0.00                   |
| <b>Dinner</b>             |               |                      |                   |                        |                        |
| 1 slice pizza             | 0             | 223 mg               | 1 mg              | 133 mcg                | 0.96                   |
| 1 cup spaghetti           | 0             | 2 mg                 | 0 mg              | 37 mcg                 | 0.96                   |
| 1 cup milk                | 0             | 12 mg                | 0 mg              | 28 mcg                 | 0.96                   |
| <b>Snacks</b>             |               |                      |                   |                        |                        |
| 1 slice pizza             | 1             | 60 mg                | 2 mg              | 35 mcg                 | 0.96                   |
| 1 cup milk                | 0             | 12 mg                | 0 mg              | 28 mcg                 | 0.96                   |
| <b>Total</b>              | 7.5           | 1133 mg              | 14 mg             | 2744 mcg               | 6.92                   |

Notes: Nutrients do not equal 100% of the daily recommended amount. This is based on the 2015-2020 Dietary Guidelines for Americans. The nutrient recommendations listed above are for a mystery character. Using the *Nutrient Recommendations Worksheet*, read the clues to find the age, gender, and daily calorie needs of your mystery character.

Which nutrients do your character NOT consume enough of based on his or her nutrient recommendations?

What are some different choices he or she could make to meet his or her daily nutrient recommendations?

Appendix 5D – Food Choices Worksheet

What are some different choices your character could make to meet his or her daily recommendations?

| Breakfast | Snack | Dinner | Snacks | Total |
|-----------|-------|--------|--------|-------|
|           |       |        |        |       |
|           |       |        |        |       |
|           |       |        |        |       |
|           |       |        |        |       |



8. Provide each group with a sheet of flip chart paper and markers, pens, or pencils to answer opening questions/prompts.

Optional:

9. Before participants arrive, connect laptop to projector. Load *Focus on Food Lesson 5* (PowerPoint).



## Opening Questions/Prompts

1. **Say:** Let's get started with Lesson 5 – Nutrients of Concern! To begin, I'd like everyone to discuss some opening questions within your group. Once you've discussed the prompts within your groups, we will come back together as a class and discuss your thoughts and responses as a whole. **(Slide 2)**

The first prompt I'd like you to discuss within your groups is:

- Explain what you know about how or why the nutrient needs of children might be different from adults. **(Slide 3)**

2. **Do:** Allow 2 to 3 minutes for groups to discuss the prompts.
3. **Say:** Now I'd like you to discuss within your groups the next prompt:
  - Explain what you know about nutrients children might not be getting enough of. **(Slide 4)**

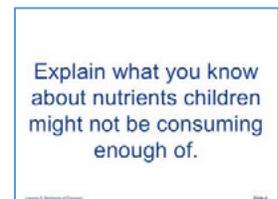
4. **Do:** Allow 2 to 3 minutes for groups to discuss the prompts.
5. **Say:** As a class, let's discuss what you talked about in your groups. What were some of your thoughts on the first prompt, "Explain what you know about how or why the nutrient needs of children might be different from adults"?

6. **Do:** Allow about a minute for participants to share their thoughts on this topic with the class.

**Facilitator Tip:** This sharing phase is a great opportunity to begin to build rapport with participants. Some statements and questions to help engage participants at this phase are: "Tell me more about that"; "What do you mean by..."; "How is that motivating you?"; "Did anyone else write this?"; "That's a very popular opinion." At this stage, it is important that you do not correct misconceptions. Instead, make note of them, and if they are not corrected organically through the lesson, address them briefly at the end of the lesson.

7. **Say:** What were some of your thoughts on the second prompt, "Explain what you know about nutrients children might not be getting enough of"?
8. **Do:** Allow about a minute for participants to share their thoughts on this topic with the class.

**Facilitator Tip:** Continue to make note of misconceptions as they arise. Assure participants that there will be more time to discuss these topics at the end of the lesson.



## Procedure (Experiencing)

1. **Say:** Now that we've completed our opening discussion, we'll start on the activity for this lesson, which will involve solving a nutrient mystery. I will distribute a handout with two parts that will be used in this activity. **(Slide 5)**



- **Part I** will involve guessing which nutrient is being described by each clue or to “solve the nutrient mystery”. You should record this information on **Part I** of the *Nutrient Mystery Handout* (Appendix 5A). **(Slide 6)**
- In **Part II**, you will use the *Nutrient Recommendations Handout* to figure out the age and gender of a mystery character. **(Slide 7)**

Complete Part I of the handout by figuring out which nutrient each clue is referring to.

2. **Do:** Provide each group with a one copy of the *Nutrient Mystery Handout* (Appendix 5A).

**Facilitator Tip:** There are five different versions; each group should be provided with a different version. If there are more than five groups, it is acceptable for some groups to receive duplicates.

Using the *Nutrient Recommendations* handout, determine the age, gender, and calorie needs of your mystery character. Record this on Part II of your handout.

3. **Do:** Distribute a copy of the *Nutrient Recommendations* (Appendix 5B) to each group.
4. **Do:** Allow several minutes for learners to complete the handout.

**Facilitator Tip:** Use prompts when visiting each group, such as:

- Explain how you’re figuring out the nutrient that each clue is referring to.

**Facilitator Tip:** If groups are struggling with deciphering the clues, try to use prompts or questions to help guide them toward the nutrient. For example, if participants are struggling with the clue for dietary fiber, some prompts or questions might be:

- This clue mentions carbohydrates. Explain what you know about different kinds of carbohydrates.
- Describe what you’ve heard or know about nutrients that help with digestion.

5. **Say:** Now we’re going to take a look at a typical day of meal and snack choices for your character, which is on the handout I’ll distribute next. Look over the handout, focusing on the total amounts of nutrients that the meal and snack choices provide. **(Slide 8)**

Look over the *One Day of Food Choices* Handout. Focus on the total amounts of nutrients that the meal and snack choices provide.

6. **Do:** Distribute the *One Day of Food Choices* Handout (Appendix 5C) to the groups, being sure to match each group to the correct *Nutrient Mystery Handout* (Appendix 5A).

7. **Say:** Now I’d like you to compare the total amounts of nutrients on your character’s *One Day of Food Choices* to the nutrient recommendations listed in column 3 of the *Nutrient Mystery Handout* in order to answer the two questions on the handout:

- Which nutrients did your character consume enough of based on his or her nutrient recommendations?
- Which nutrients did your character NOT consume enough of based on his or her nutrient recommendations? **(Slide 9)**

On the *One Day of Food Choices* handout, answer the first two questions.

8. **Do:** Allow a few minutes for participants to complete this step.
9. **Say:** The next step is to recommend some different choices your character could make in order to help them meet their nutrient recommendations. **(Slide 10)**

Record some different choices your character could make to meet his or her nutrient recommendations.

- This might mean adding some new foods, or swapping out foods for a nutrient-dense alternative.
  - Each group will receive a set of *Food Sources Cards* to give you some ideas of different food choices your character could make.
10. **Do:** Hand out one copy of *Food Choices Worksheet* (Appendix 5D), set of *Food Sources Cards* (Appendix 5E) and a calculator to each group.
11. **Do:** Allow several minutes for the groups to complete this step.

**Facilitator Tip:** When visiting with each group, use targeted questions to guide them towards the concept of “nutrients of concern.” They should be able to infer from their cards that some nutrient needs may not be met with a typical Western diet. Some suggested prompts:

- What can you tell me about your character?
- What can you tell me about the foods your character chose?
- Explain how you decided which foods to add or swap out.
- Explain some of the differences and similarities between what you chose and what you think a student at your school might eat.
- What does this suggest to you about some of the nutrients we’re looking at today?



## Activity Wrap-Up (Sharing, Processing, and Generalizing)

1. **Say:** As a class, let’s discuss your observations about your character and the meals and snacks you planned for him or her. **(Slide 11)**
2. **Do:** Follow the group’s line of thinking, and if necessary, ask more targeted questions.
  - What did you notice about the foods the students chose?
  - Describe how the students’ choices impacted the nutrients they are getting or missing.
  - Describe what it might mean if they are missing a nutrient.
  - What if the student doesn’t get all their needed nutrients in one meal?
  - Describe any connections you might see between the different components in the meal patterns and different nutrients.



**Facilitator Tip:** If there are any misconceptions remaining in this phase of the lesson, you should address these now.



## Concept and Term Discovery/Introduction

Over the course of the lesson, participants should be able to identify the following concepts:

- Several nutrients are identified as nutrients of concern: calcium, vitamin D, fiber, and potassium; iron and folate for certain age groups (while folate was not one of the nutrients they investigated in the activity, it will be discussed in *5.2: Expanding Knowledge*).
- Nutrient recommendations are different for males versus females and change as children grow.
- Growth and puberty are related to changes in nutrient needs.
- Some foods are nutrient-dense, while others are not.
- School lunch personnel play a role in helping children reach their nutrient needs.

The following key vocabulary terms should be discovered by participants or introduced to them: nutrients of concern, well-balanced diet, growth, puberty, and nutrient recommendations.



## 5.2: Expanding Knowledge

### Getting Ready



#### **Time Required**

10 minutes



#### **Materials Needed**

(\*Materials provided in the curriculum)

- \**Focus on Food Lesson 5* (PowerPoint)
- PowerPoint Projector
- Computer



#### **Preparation**

1. Connect laptop to projector. Load *Focus on Food Lesson 5* PowerPoint.
2. Queue the PowerPoint presentation to Slide 10.



### Procedure

1. Go through the Expanding Knowledge presentation slide by slide. The following script is available for use if you so choose.



## Expanding Knowledge

Lesson 5: Nutrients of Concern

Slide 12

Slide 12

Let's recap some main concepts that we learned in Lesson 5, Nutrients of Concern

## Nutrient Recommendations

- For each essential nutrient, there are recommendations for how much should be consumed each day.
- These vary by:
  - Age
  - Gender

Lesson 5: Nutrients of Concern

Slide 13

First, we learned that, for each of the essential nutrients, there are nutrient recommendations for how much should be consumed each day. We also learned that these nutrient recommendations may vary by age and gender.

### Slide 13

## Children and Adolescents

- Children have higher nutrient needs than adults.
- Children that do not get proper nutrition may experience stunted growth and development.

Lesson 5: Nutrients of Concern

Slide 14

Let's go over the nutrient needs of Children and Adolescents. Children have higher nutrient needs than adults. Why might that be the case?

[Pause to allow responses from the class.]

Children are growing, which is why they need more nutrients by weight than adults. This is why children that do not get proper nutrition may experience stunted growth and development.

### Slide 14

## Adults

- Nutrient recommendations to prevent disease and support health.
- Men tend to have higher nutrient needs.
  - With the exception of iron and folate.
- Older adults (50+) have increased needs for calcium and vitamin B6.

Lesson 5: Nutrients of Concern

Slide 15

For adults, the main goal of nutrient recommendations is to prevent disease and support health. There are some differences in nutrient needs due to age and gender. For example, men tend to have higher nutrient needs because they often have greater weight and muscle mass compared to women. This isn't the case for every nutrient. Women need more iron and folate compared to men. We'll talk about why that is in just a minute. Older adults (50+) have increased needs for calcium and vitamin B6.

### Slide 15

## Nutrients of Concern

- Nutrients that a large proportion of Americans are consuming less than recommended.
  - Potassium
  - Fiber
  - Calcium
  - Vitamin D
- What are some reasons Americans might not be consuming enough of these?

Lesson 5: Nutrients of Concern

Slide 16

These are nutrients that a large proportion of Americans are consuming less than recommended. These nutrients of concern include: Potassium; Fiber; Calcium; and Vitamin D.

What are some reasons Americans might not be consuming enough of these?

[Pause to allow responses from the class.]

Slide 16

## Nutrients of Concern for Women

- For pre-menopausal women and adolescent girls there are also these nutrients of concern:
  - Folate or folic acid – important for preventing neural tube (brain) defects in growing fetuses.
  - Iron – replacing iron lost due to menstruation.

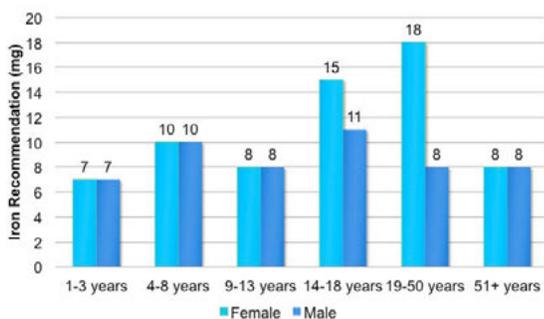
Lesson 5: Nutrients of Concern

Slide 17

Pre-menopausal women and adolescent girls have additional nutrients of concern, including folate or folic acid and Iron. Folate or folic acid are important in pregnancy for preventing certain birth defects called neural tube defects. These are a type of brain and spinal cord defect. Women who are menstruating experience iron losses every month, which needs to be replaced. This contributes to the higher iron needs of pre-menopausal women and adolescent girls.

Slide 17

## Changing Iron Needs with Age



Lesson 5: Nutrients of Concern

Slide 18

Here is a graph that shows the changing needs of iron with age. The light blue bars represent iron recommendations for females, while the dark blue bars represent iron recommendations for males. As you can see, the iron recommendations for males stay relatively the same through the years, with slight increases in needs at ages 4-8 and 14-18. But, you can see that in the case of females, the iron recommendations greatly increase between the ages of 14 and 50. What happens around 50 year of age?

[Pause to allow responses from the class.]

Slide 18

## Food Sources of Nutrients of Concern

- Different food groups provide different nutrients of concern.
- What are some other food sources?



Eating enough fruits and vegetables helps with potassium and fiber intake.



Eating enough dairy helps with potassium, calcium, and vitamin D intake.



Enriched grains are fortified with folic acid.

Lesson 5: Nutrients of Concern

Slide 19

### Slide 19

Let's review some food sources for the nutrients of concern. First, it is important to note that different food groups provide different nutrients of concern. For example, eating enough fruits and vegetables helps with potassium and fiber intake. Eating enough dairy helps with potassium, calcium, and vitamin D intake. Also, enriched grains are fortified with folic acid.

What are some other food sources?

[Pause to allow responses from the class.]

## Nutrients of Concern in School Meals

- What are some ways the breakfast and lunch meal patterns help children consume nutrients of concern?

Lesson 5: Nutrients of Concern

Slide 20

### Slide 20

Now, let's brainstorm the ways in which school meals can contribute to student health. What are some ways the breakfast and lunch meal patterns help children consume nutrients of concern?

[Pause to allow responses from the class.]



# 5.3: Goal Setting Activity

## Getting Ready



### Time Required

5 minutes



### Materials Needed

(\*Materials provided in the curriculum)

- \*Goal Setting: Nutrients of Concern (Appendix 5G)
- \*Food Sources Cards (Appendix 5E)



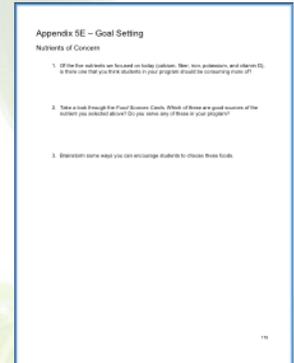
### Preparation

1. Make copies of the *Goal Setting: Nutrients of Concern* Handout (Appendix 5G), one for each participant.
2. Make copies of *Food Sources Cards* (Appendix 5E), one set for each group.

**Facilitator Tip:** These can be the same ones used in 5.1: Learning Activity.

Optional:

3. Make copies of the *Focus on Food Lesson 5 Newsletter* (Appendix 5G), one for each participant.
4. Connect laptop to projector. Load *Focus on Food Lesson 5* (PowerPoint).
5. Queue the PowerPoint Presentation to Slide 21.

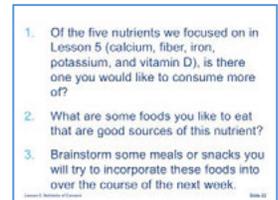


## Procedure (Experiencing)

1. **Say:** Now let's move on to Goal Setting! **(Slide 21)** We've talked about nutrients of concern and how nutrient recommendations differ. The next step is to set some goals and make a plan. I am going to distribute a Goal Setting Handout that has the following questions: **(Slide 22)**



- 1) Of the five nutrients we focused on today (calcium, fiber, iron, potassium, and vitamin D), is there one that you think students in your program should be consuming more of?
- 2) Take a look through the *Food Sources Cards* (Appendix 5E). Which of these are good sources of the nutrient you selected above? Do you serve any of these in your program?



- 3) Brainstorm some ways you can encourage students to choose these foods.

2. **Do:** Provide a copy of the *Goal Setting: Nutrients of Concern* Handout (Appendix 5F) to each participant. Allow participants a few minutes to complete the handout.
3. **Say:** Would anyone like to share the goals they set for themselves?

Optional:

4. **Say:** I'm going to distribute one last handout, which is a newsletter with some extra information you might be interested in. Thank you all for participating in Lesson 5! **(Slide 23)**
5. **Do:** Provide a copy of the *Focus on Food Lesson 5 Newsletter* (Appendix 5G) to each participant.



# Appendix 5A – Nutrient Mystery

## Group 1

**Part I.** Use the clue to figure out the nutrients. Your choices are: **Iron, Calcium, Potassium, Vitamin D, and Dietary Fiber.**

|               |  | <b>Nutrient</b> | <b>Amount Recommended</b> |
|---------------|--|-----------------|---------------------------|
| <b>Clue 1</b> | <p>I help our bodies absorb and use calcium. You need me for strong bones and a healthy immune system.</p> <p>You can find me in fortified dairy products and certain kinds of fatty fish. The sun helps you make me in your skin.</p>   |                 | <b>15 micrograms</b>      |
| <b>Clue 2</b> | <p>I am important for bone health and muscle function.</p> <p>You can find me in dairy foods, dark green leafy vegetables, and fish with bones (Sardines, canned salmon).</p>  |                 | <b>1300 milligrams</b>    |
| <b>Clue 3</b> | <p>I am important in red blood cells to move oxygen around in the blood.</p> <p>You can find me in meat, poultry and seafood, beans and peas (except green peas), spinach and broccoli, baked potatoes with skin, whole grains, fortified grain products, and dried fruit.</p>                               |                 | <b>11 milligrams</b>      |
| <b>Clue 4</b> | <p>I am important for muscle and nerve function. Eating a diet rich in me is also helpful in preventing high blood pressure.</p> <p>You can find me in fruits and vegetables (especially bananas, oranges, avocados, potatoes, melons, spinach, sweet potato, tomatoes, winter squash, and dried fruit).</p> |                 | <b>4700 milligrams</b>    |
| <b>Clue 5</b> | <p>I am a type of carbohydrate that can't be digested, but I am important for digestive health.</p> <p>You can find me in whole grains, fruits, vegetables, legumes, nuts, and seeds.</p>  |                 | <b>31 grams</b>           |

**Part II.** The nutrient recommendations listed above are for a mystery character. Using the *Nutrient Recommendations Handout*, what do you think is the age, gender, and daily calorie needs of your mystery character?

**Age:** \_\_\_\_\_

**Gender:** \_\_\_\_\_

**Daily Calories:** \_\_\_\_\_

# Nutrient Mystery

## Group 2

**Part I.** Use the clue to figure out the nutrients. Your choices are: **Iron, Calcium, Potassium, Vitamin D, and Dietary Fiber.**

|        |  | Nutrient | Amount Recommended |
|--------|--|----------|--------------------|
| Clue 1 | <p>I am a type of carbohydrate that can't be digested, but I am important for digestive health.</p> <p>You can find me in whole grains, fruits, vegetables, legumes, nuts, and seeds.</p>  |          | 25 grams           |
| Clue 2 | <p>I help our bodies absorb and use calcium. You need me for strong bones and a healthy immune system.</p> <p>You can find me in fortified dairy products and certain kinds of fatty fish. The sun helps you make me in your skin.</p>   |          | 15 micrograms      |
| Clue 3 | <p>I am important for muscle and nerve function. Eating a diet rich in me is also helpful in preventing high blood pressure.</p> <p>You can find me in fruits and vegetables (especially bananas, oranges, avocados, potatoes, melons, spinach, sweet potato, tomatoes, winter squash, and dried fruit).</p> |          | 4700 milligrams    |
| Clue 4 | <p>I am important in red blood cells to move oxygen around in the blood.</p> <p>You can find me in meat, poultry and seafood, beans and peas (except green peas), spinach and broccoli, baked potatoes with skin, whole grains, fortified grain products, and dried fruit.</p>                               |          | 15 milligrams      |
| Clue 5 | <p>I am important for bone health and muscle function.</p> <p>You can find me in dairy foods, dark green leafy vegetables, and fish with bones (Sardines, canned salmon).</p>  |          | 1300 milligrams    |

**Part II.** The nutrient recommendations listed above are for a mystery character. Using the *Nutrient Recommendations Handout*, what do you think is the age, gender, and daily calorie needs of your mystery character?

Age: \_\_\_\_\_

Gender: \_\_\_\_\_

Daily Calories: \_\_\_\_\_

# Nutrient Mystery

## Group 3

**Part I.** Use the clue to figure out the nutrients. Your choices are: **Iron, Calcium, Potassium, Vitamin D, and Dietary Fiber.**

|               |  | <b>Nutrient</b> | <b>Amount Recommended</b> |
|---------------|--|-----------------|---------------------------|
| <b>Clue 1</b> | <p>I am important for muscle and nerve function. Eating a diet rich in me is also helpful in preventing high blood pressure.</p> <p>You can find me in fruits and vegetables (especially bananas, oranges, avocados, potatoes, melons, spinach, sweet potato, tomatoes, winter squash, and dried fruit).</p> |                 | <b>3000 milligrams</b>    |
| <b>Clue 2</b> | <p>I am important in red blood cells to move oxygen around in the blood.</p> <p>You can find me in meat, poultry and seafood, beans and peas (except green peas), spinach and broccoli, baked potatoes with skin, whole grains, fortified grain products, and dried fruit.</p>                               |                 | <b>7 milligrams</b>       |
| <b>Clue 3</b> | <p>I am a type of carbohydrate that can't be digested, but am important for digestive health.</p> <p>You can find me in whole grains, fruits, vegetables, legumes, nuts, and seeds.</p>  |                 | <b>14 grams</b>           |
| <b>Clue 4</b> | <p>I am important for bone health and muscle function.</p> <p>You can find me in dairy foods, dark green leafy vegetables, and fish with bones (Sardines, canned salmon).</p>  |                 | <b>700 milligrams</b>     |
| <b>Clue 5</b> | <p>I help our bodies absorb and use calcium. You need me for strong bones and a healthy immune system.</p> <p>You can find me in fortified dairy products and certain kinds of fatty fish. The sun helps you make me in your skin.</p>   |                 | <b>15 micrograms</b>      |

**Part II.** The nutrient recommendations listed above are for a mystery character. Using the *Nutrient Recommendations Handout*, what do you think is the age, gender, and daily calorie needs of your mystery character?

**Age:** \_\_\_\_\_

**Gender:** \_\_\_\_\_

**Daily Calories:** \_\_\_\_\_

# Nutrient Mystery

## Group 4

**Part I.** Use the clue to figure out the nutrients. Your choices are: **Iron, Calcium, Potassium, Vitamin D, and Dietary Fiber.**

|        |  | Nutrient | Amount Recommended |
|--------|--|----------|--------------------|
| Clue 1 | <p>I am important in red blood cells to move oxygen around in the blood.</p> <p>You can find me in meat, poultry and seafood, beans and peas (except green peas), spinach and broccoli, baked potatoes with skin, whole grains, fortified grain products, and dried fruit.</p>                               |          | 8 milligrams       |
| Clue 2 | <p>I am a type of carbohydrate that can't be digested, but am important for digestive health.</p> <p>You can find me in whole grains, fruits, vegetables, legumes, nuts, and seeds.</p>  |          | 22 grams           |
| Clue 3 | <p>I am important for bone health and muscle function.</p> <p>You can find me in dairy foods, dark green leafy vegetables, and fish with bones (Sardines, canned salmon).</p>  |          | 1300 milligrams    |
| Clue 4 | <p>I help our bodies absorb and use calcium. You need me for strong bones and a healthy immune system.</p> <p>You can find me in fortified dairy products and certain kinds of fatty fish. The sun helps you make me in your skin.</p>   |          | 15 micrograms      |
| Clue 5 | <p>I am important for muscle and nerve function. Eating a diet rich in me is also helpful in preventing high blood pressure.</p> <p>You can find me in fruits and vegetables (especially bananas, oranges, avocados, potatoes, melons, spinach, sweet potato, tomatoes, winter squash, and dried fruit).</p> |          | 4500 milligrams    |

**Part II.** The nutrient recommendations listed above are for a mystery character. Using the *Nutrient Recommendations Handout*, what do you think is the age, gender, and daily calorie needs of your mystery character?

**Age:** \_\_\_\_\_ **Gender:** \_\_\_\_\_ **Daily Calories:** \_\_\_\_\_

# Nutrient Mystery

## Group 5

**Part I.** Use the clue to figure out the nutrients. Your choices are: **Iron, Calcium, Potassium, Vitamin D, and Dietary Fiber.**

|               |  | <b>Nutrient</b> | <b>Amount Recommended</b> |
|---------------|--|-----------------|---------------------------|
| <b>Clue 1</b> | <p>I am important for bone health and muscle function.</p> <p>You can find me in dairy foods, dark green leafy vegetables, and fish with bones (Sardines, canned salmon).</p>  |                 | <b>1300 milligrams</b>    |
| <b>Clue 2</b> | <p>I am important for muscle and nerve function. Eating a diet rich in me is also helpful in preventing high blood pressure.</p> <p>You can find me in fruits and vegetables (especially bananas, oranges, avocados, potatoes, melons, spinach, sweet potato, tomatoes, winter squash, and dried fruit).</p> |                 | <b>4500 milligrams</b>    |
| <b>Clue 3</b> | <p>I help our bodies absorb and use calcium. You need me for strong bones and a healthy immune system.</p> <p>You can find me in fortified dairy products and certain kinds of fatty fish. The sun helps you make me in your skin.</p>   |                 | <b>15 micrograms</b>      |
| <b>Clue 4</b> | <p>I am a type of carbohydrate that can't be digested, but am important for digestive health.</p> <p>You can find me in whole grains, fruits, vegetables, legumes, nuts, and seeds.</p>  |                 | <b>25 grams</b>           |
| <b>Clue 5</b> | <p>I am important in red blood cells to move oxygen around in the blood.</p> <p>You can find me in meat, poultry and seafood, beans and peas (except green peas), spinach and broccoli, baked potatoes with skin, whole grains, fortified grain products, and dried fruit.</p>                               |                 | <b>8 milligrams</b>       |

**Part II.** The nutrient recommendations listed above are for a mystery character. Using the *Nutrient Recommendations Handout*, what do you think is the age, gender, and daily calorie needs of your mystery character?

**Age:** \_\_\_\_\_

**Gender:** \_\_\_\_\_

**Daily Calories:** \_\_\_\_\_

## Appendix 5B – Nutrient Recommendations

| Nutrient  | Child<br>1-3 | Female<br>4-8 | Male<br>4-8 | Female<br>9-13 | Male<br>9-13 | Female<br>14-18 | Male<br>14-18 |
|---|--------------|---------------|-------------|----------------|--------------|-----------------|---------------|
| <b>Macronutrients</b>                               |              |               |             |                |              |                 |               |
| <b>Calories</b> (for moderately active individuals) | 1000 - 1400  | 1400 - 1600   | 1400 - 1600 | 1600 - 2000    | 1800 - 2200  | 2000            | 2400 - 2800   |
| <b>Protein</b> (g)                                  | 13           | 19            | 19          | 34             | 34           | 46              | 52            |
| <b>Carbohydrates</b> (g)                            | 130          | 130           | 130         | 130            | 130          | 130             | 130           |
| <b>Total fiber</b> (g)                              | 14           | 17            | 20          | 22             | 25           | 25              | 31            |
| <b>Total fat</b> (% of calories)                    | 30-40        | 25-35         | 25-35       | 25-35          | 25-35        | 25-35           | 25-35         |
| <b>Minerals</b>                                     |              |               |             |                |              |                 |               |
| <b>Calcium</b> (mg)                                 | 700          | 1000          | 1000        | 1300           | 1300         | 1300            | 1300          |
| <b>Iron</b> (mg)                                    | 7            | 10            | 10          | 8              | 8            | 15              | 11            |
| <b>Magnesium</b> (mg)                               | 80           | 130           | 130         | 240            | 240          | 360             | 410           |
| <b>Potassium</b> (mg)                               | 3000         | 3800          | 3800        | 4500           | 4500         | 4700            | 4700          |
| <b>Zinc</b> (mg)                                    | 3            | 5             | 5           | 8              | 8            | 9               | 11            |
| <b>Copper</b> (mcg)                                 | 340          | 440           | 440         | 700            | 700          | 890             | 890           |
| <b>Selenium</b> (mcg)                               | 20           | 30            | 30          | 40             | 40           | 55              | 55            |
| <b>Vitamins</b>                                     |              |               |             |                |              |                 |               |
| <b>Vitamin A</b> (mcg RAE)                          | 300          | 400           | 400         | 600            | 600          | 700             | 900           |
| <b>Vitamin D</b> (mcg)                              | 15           | 15            | 15          | 15             | 15           | 15              | 15            |
| <b>Vitamin E</b> (mg AT)                            | 6            | 7             | 7           | 11             | 11           | 15              | 15            |
| <b>Vitamin C</b> (mg)                               | 15           | 25            | 25          | 45             | 45           | 65              | 75            |
| <b>Thiamin</b> (mg)                                 | 0.5          | 0.6           | 0.6         | 0.9            | 0.9          | 1.0             | 1.2           |
| <b>Riboflavin</b> (mg)                              | 0.5          | 0.6           | 0.6         | 0.9            | 0.9          | 1.0             | 1.3           |
| <b>Niacin</b> (mg)                                  | 6            | 8             | 8           | 12             | 12           | 14              | 16            |
| <b>Folate</b> (mcg)                                 | 150          | 200           | 200         | 300            | 300          | 400             | 400           |
| <b>Vitamin B<sub>6</sub></b> (mcg)                  | 0.5          | 0.6           | 0.6         | 1.0            | 1.0          | 1.2             | 1.3           |
| <b>Vitamin B<sub>12</sub></b> (mcg)                 | 0.9          | 1.2           | 1.2         | 1.8            | 1.8          | 2.4             | 2.4           |
| <b>Choline</b> (mg)                                 | 200          | 250           | 250         | 375            | 375          | 400             | 550           |
| <b>Vitamin K</b> (mcg)                              | 30           | 55            | 55          | 60             | 60           | 75              | 75            |

# Appendix 5C – One Day of Food Choices

## Group 1

|                                 | Fiber<br>(grams) | Calcium<br>(milligrams) | Iron<br>(milligrams) | Potassium<br>(milligrams) | Vitamin D<br>(micrograms) |
|---------------------------------|------------------|-------------------------|----------------------|---------------------------|---------------------------|
| <b>Breakfast</b>                |                  |                         |                      |                           |                           |
| 2 eggs, scrambled               | 0 g              | 54 mg                   | 2 mg                 | 133 mg                    | 1 µg                      |
| 1 cup orange juice              | 1 g              | 27 mg                   | 0 mg                 | 443 mg                    | 0 µg                      |
| 2 slices toast, white bread     | 1 g              | 79 mg                   | 2 mg                 | 52 mg                     | 0 µg                      |
| <b>Lunch</b>                    |                  |                         |                      |                           |                           |
| Teriyaki chicken rice bowl      |                  |                         |                      |                           |                           |
| Brown rice                      | 4 g              | 20 mg                   | 1 mg                 | 84 mg                     | 0 µg                      |
| Chicken                         | 0 g              | 14 mg                   | 1 mg                 | 229 mg                    | 0 µg                      |
| Broccoli                        | 1 g              | 10 mg                   | 0 mg                 | 39 mg                     | 0 µg                      |
| Carrots                         | 1 g              | 13 mg                   | 0 mg                 | 70 mg                     | 0 µg                      |
| Teriyaki sauce                  | 0 g              | 4 mg                    | 0 mg                 | 36 mg                     | 0 µg                      |
| 1 cup chocolate milk (fat-free) | 1 g              | 288 mg                  | 1 mg                 | 463 mg                    | 3 µg                      |
| 1 medium orange                 | 3 g              | 52 mg                   | 0 mg                 | 237 mg                    | 0 µg                      |
| ½ cup baby carrots              | 2 g              | 27 mg                   | 1 mg                 | 201 mg                    | 0 µg                      |
| 1 oz multigrain chips           | 1 g              | 1 mg                    | 0 mg                 | 36 mg                     | 0 µg                      |
| <b>Dinner</b>                   |                  |                         |                      |                           |                           |
| 3 slices pepperoni pizza        | 6 g              | 576 mg                  | 8 mg                 | 635 mg                    | 0 µg                      |
| 20 ounces sports drink          | 0 g              | 2 mg                    | 0 mg                 | 37 mg                     | 0 µg                      |
| <b>Snacks</b>                   |                  |                         |                      |                           |                           |
| Cheese puffs                    | 3 g              | 86 mg                   | 0 mg                 | 69 mg                     | 0 µg                      |
| <b>Totals</b>                   | <b>24 g</b>      | <b>1253 mg</b>          | <b>16 mg</b>         | <b>2764 mg</b>            | <b>4 µg</b>               |

Which nutrients did your character consume enough of based on his or her nutrient recommendations?

Which nutrients did your character NOT consume enough of based on his or her nutrient recommendations?

# One Day of Food Choices

## Group 2

|  | <b>Fiber<br/>(grams)</b> | <b>Calcium<br/>(milligrams)</b> | <b>Iron<br/>(milligrams)</b> | <b>Potassium<br/>(milligrams)</b> | <b>Vitamin D<br/>(micrograms)</b> |
|--|--------------------------|---------------------------------|------------------------------|-----------------------------------|-----------------------------------|
| <b>Breakfast</b>   |                          |                                 |                              |                                   |                                   |
| 1 cup orange juice   | 1 g                      | 27 mg                           | 0 mg                         | 443 mg                            | 0 µg                              |
| <b>Lunch</b>   |                          |                                 |                              |                                   |                                   |
| Salad Bar  |                          |                                 |                              |                                   |                                   |
| 1 cup romaine lettuce  | 1 g                      | 25 mg                           | 0 mg                         | 131 mg                            | 0 µg                              |
| ¼ cup cucumber   | 0 g                      | 4 mg                            | 0 mg                         | 40 mg                             | 0 µg                              |
| 2 tbsp grated cheese   | 0 g                      | 132 mg                          | 0 mg                         | 18 mg                             | 0 µg                              |
| ½ cup croutons   | 1 g                      | 19 mg                           | 1 mg                         | 36 mg                             | 0 µg                              |
| 1 tbsp Caesar dressing   | 0 g                      | 7 mg                            | 0 mg                         | 4 mg                              | 0 µg                              |
| 1 mini pizza   | 1 g                      | 134 mg                          | 2 mg                         | 189 mg                            | 0 µg                              |
| 1 cup milk (low-fat)   | 0 g                      | 305 mg                          | 0 mg                         | 366 mg                            | 3 µg                              |
| 1 clementine orange  | 1 g                      | 28 mg                           | 0 mg                         | 125 mg                            | 0 µg                              |
| <b>Dinner</b>  |                          |                                 |                              |                                   |                                   |
| 2 tacos (with beans, cheese, meat, lettuce, tomato, and salsa) | 4 g                      | 156 mg                          | 2 mg                         | 417 mg                            | 0 µg                              |
| ¼ cup black beans  | 2 g                      | 16 mg                           | 1 mg                         | 152 mg                            | 0 µg                              |
| 1 oz tortilla chips  | 1 g                      | 38 mg                           | 1 mg                         | 61 mg                             | 0 µg                              |
| ½ cup salsa  | 2 g                      | 34 mg                           | 1 mg                         | 370 mg                            | 0 µg                              |
| <b>Snacks</b>  |                          |                                 |                              |                                   |                                   |
| 15 gummy worms   | 0 g                      | 3 mg                            | 0 mg                         | 6 mg                              | 0 µg                              |
| <b>Totals</b>  | <b>14 g</b>              | <b>928 mg</b>                   | <b>8 mg</b>                  | <b>2358 mg</b>                    | <b>3 µg</b>                       |

Which nutrients did your character consume enough of based on his or her nutrient recommendations?

Which nutrients did your character NOT consume enough of based on his or her nutrient recommendations?

# One Day of Food Choices

## Group 3

|                           | Fiber<br>(grams) | Calcium<br>(milligrams) | Iron<br>(milligrams) | Potassium<br>(milligrams) | Vitamin D<br>(micrograms) |
|---------------------------|------------------|-------------------------|----------------------|---------------------------|---------------------------|
| <b>Breakfast</b>          |                  |                         |                      |                           |                           |
| ½ cup milk (low-fat)      | 0 g              | 153 mg                  | 0 mg                 | 183 mg                    | 1 µg                      |
| ½ cup banana, sliced      | 2 g              | 4 mg                    | 0 mg                 | 269 mg                    | 0 µg                      |
| ½ slice white bread       | 0 g              | 20 mg                   | 0 mg                 | 13 mg                     | 0 µg                      |
| ½ tbsp peanut butter      | 0 g              | 4 mg                    | 0 mg                 | 62 mg                     | 0 µg                      |
| <b>Lunch</b>              |                  |                         |                      |                           |                           |
| Grilled cheese sandwich   |                  |                         |                      |                           |                           |
| 1 slice white bread       | 1 g              | 39 mg                   | 1 mg                 | 26 mg                     | 0 µg                      |
| 1 slice American cheese   | 0 g              | 113 mg                  | 0 mg                 | 58 mg                     | 0 µg                      |
| ¼ cup baby carrots        | 1 g              | 10 mg                   | 0 mg                 | 71 mg                     | 0 µg                      |
| ½ cup milk (low-fat)      | 0 g              | 153 mg                  | 0 mg                 | 183 mg                    | 1 µg                      |
| 1 small oatmeal cookie    | 0 g              | 4 mg                    | 0 mg                 | 6 mg                      | 0 µg                      |
| <b>Dinner</b>             |                  |                         |                      |                           |                           |
| Spaghetti with meat sauce |                  |                         |                      |                           |                           |
| ½ cup pasta               | 1 g              | 5 mg                    | 1 mg                 | 31 mg                     | 0 µg                      |
| 2 tbsp tomato sauce       | 1 g              | 8 mg                    | 0 mg                 | 98 mg                     | 0 µg                      |
| 2 oz ground turkey        | 0 g              | 14 mg                   | 1 mg                 | 150 mg                    | 0 µg                      |
| ½ cup milk (low-fat)      | 0 g              | 153 mg                  | 0 mg                 | 183 mg                    | 1 µg                      |
| <b>Snacks</b>             |                  |                         |                      |                           |                           |
| ½ cup goldfish crackers   | 1 g              | 40 mg                   | 1 mg                 | 38 mg                     | 0 µg                      |
| 1 clementine orange       | 1 g              | 28 mg                   | 0 mg                 | 125 mg                    | 0 µg                      |
| <b>Totals</b>             | <b>8 g</b>       | <b>748 mg</b>           | <b>4 mg</b>          | <b>1496 mg</b>            | <b>3 µg</b>               |

Which nutrients did your character consume enough of based on his or her nutrient recommendations?

Which nutrients did your character NOT consume enough of based on his or her nutrient recommendations?

# One Day of Food Choices

## Group 4

|                                 | Fiber<br>(grams) | Calcium<br>(milligrams) | Iron<br>(milligrams) | Potassium<br>(milligrams) | Vitamin D<br>(micrograms) |
|---------------------------------|------------------|-------------------------|----------------------|---------------------------|---------------------------|
| <b>Breakfast</b>                |                  |                         |                      |                           |                           |
| 1 cup milk (low-fat)            | 0 g              | 305 mg                  | 0 mg                 | 366 mg                    | 3 µg                      |
| 1 cup Cheerios                  | 3 g              | 122 mg                  | 10 mg                | 183 mg                    | 1 µg                      |
| <b>Lunch</b>                    |                  |                         |                      |                           |                           |
| Turkey sandwich                 |                  |                         |                      |                           |                           |
| 2 slices whole wheat bread      | 4 g              | 60 mg                   | 1 mg                 | 139 mg                    | 0 µg                      |
| 1 slice Swiss cheese            | 0 g              | 224 mg                  | 0 mg                 | 22 mg                     | 0 µg                      |
| 1 oz turkey lunchmeat           | 0 g              | 2 mg                    | 0 mg                 | 60 mg                     | 0 µg                      |
| 1 cup chocolate milk (fat-free) | 1 g              | 288 mg                  | 1 mg                 | 463 mg                    | 3 µg                      |
| ¼ cup raisins                   | 1 g              | 18 mg                   | 1 mg                 | 272 mg                    | 0 µg                      |
| <b>Dinner</b>                   |                  |                         |                      |                           |                           |
| Lasagna with meat sauce         | 3 g              | 247 mg                  | 3 mg                 | 464 mg                    | 0 µg                      |
| 12 oz lemon-lime soda           | 0 g              | 7 mg                    | 0 mg                 | 4 mg                      | 0 µg                      |
| Salad                           |                  |                         |                      |                           |                           |
| 1 cup iceberg lettuce           | 1 g              | 10 mg                   | 0 mg                 | 78 mg                     | 0 µg                      |
| ¼ cup grated carrots            | 1 g              | 9 mg                    | 0 mg                 | 88 mg                     | 0 µg                      |
| 1 tbsp Ranch dressing           | 0 g              | 2 mg                    | 0 mg                 | 4 mg                      | 0 µg                      |
| <b>Snacks</b>                   |                  |                         |                      |                           |                           |
| Corn puffs                      | 1 g              | 16 mg                   | 0 mg                 | 53 mg                     | 0 µg                      |
| 1 medium chocolate cupcake      | 1 g              | 46 mg                   | 1 mg                 | 70 mg                     | 0 µg                      |
| <b>Totals</b>                   | <b>16 g</b>      | <b>1356 g</b>           | <b>17 mg</b>         | <b>2266 mg</b>            | <b>7 µg</b>               |

Which nutrients did your character consume enough of based on his or her nutrient recommendations?

Which nutrients did your character NOT consume enough of based on his or her nutrient recommendations?

# One Day of Food Choices

## Group 5

|   | Fiber<br>(grams) | Calcium<br>(milligrams) | Iron<br>(milligrams) | Potassium<br>(milligrams) | Vitamin D<br>(micrograms) |
|---|------------------|-------------------------|----------------------|---------------------------|---------------------------|
| <b>Breakfast</b>  |                  |                         |                      |                           |                           |
| 1 cup chocolate milk (fat-free)                                       | 1 g              | 288 mg                  | 1 mg                 | 463 mg                    | 3 µg                      |
| ½ cup yogurt, low-fat   | 0 g              | 209 mg                  | 0 mg                 | 268 mg                    | 1 µg                      |
| ¼ cup granola   | 2 g              | 11 mg                   | 1 mg                 | 68 mg                     | 1 µg                      |
| ½ cup strawberries, sliced  | 2 g              | 18 mg                   | 1 mg                 | 164 mg                    | 0 µg                      |
| <b>Lunch</b>  |                  |                         |                      |                           |                           |
| 1 small bean and cheese burrito                                       | 7 g              | 224 mg                  | 3 mg                 | 381 mg                    | 0 µg                      |
| 1 cup chocolate milk (fat-free)                                       | 1 g              | 288 mg                  | 1 mg                 | 463 mg                    | 3 µg                      |
| ¼ cup salsa   | 1 g              | 17 mg                   | 0 mg                 | 185 mg                    | 0 µg                      |
| ¾ cup sliced apples   | 2 g              | 5 mg                    | 0 mg                 | 88 mg                     | 0 µg                      |
| <b>Dinner</b>   |                  |                         |                      |                           |                           |
| 1 small chicken breast, baked   | 0 g              | 11 mg                   | 1 mg                 | 191 mg                    | 0 µg                      |
| 1 cup mixed vegetables (corn, lima beans, peas, green beans, carrots) | 8 g              | 46 mg                   | 1 mg                 | 306 mg                    | 0 µg                      |
| ½ cup mashed potatoes (no skin)                                       | 2 g              | 22 mg                   | 0 mg                 | 309 mg                    | 0 µg                      |
| 1 cup apple juice   | 0 g              | 20 mg                   | 0 mg                 | 250 mg                    | 0 µg                      |
| ½ cup chocolate ice cream   | 1 g              | 72 mg                   | 1 mg                 | 166 mg                    | 0 µg                      |
| <b>Snacks</b>   |                  |                         |                      |                           |                           |
| 1 oz multigrain chips   | 1 g              | 1 mg                    | 0 mg                 | 36 mg                     | 0 µg                      |
| <b>Totals</b>   | <b>28 g</b>      | <b>1232 mg</b>          | <b>10 mg</b>         | <b>3338 mg</b>            | <b>8 µg</b>               |

Which nutrients did your character consume enough of based on his or her nutrient recommendations?

Which nutrients did your character NOT consume enough of based on his or her nutrient recommendations?

# Appendix 5D – Food Choices Worksheet

What are some different choices your character could make to meet his or her daily recommendations?

|                  |  |
|------------------|--|
|                  |  |
| <b>Breakfast</b> |  |
| <b>Lunch</b>     |  |
| <b>Dinner</b>    |  |
| <b>Snacks</b>    |  |
| <b>Totals</b>    |  |

# Appendix 5E – Food Sources Cards

## Protein Foods

### **Hard-Boiled Egg**

1 large

Calcium – 25 milligrams  
Vitamin D – 1.1 micrograms  
Potassium – 63 milligrams  
Iron – 0.6 grams  
Fiber – 0 grams

### **Tuna (Canned in Water)**

3 ounces

Calcium – 12 milligrams  
Vitamin D – 1.7 micrograms  
Potassium – 201 milligrams  
Iron – 0.8 grams  
Fiber – 0 grams

### **Smoked Salmon**

3 ounces

Calcium – 9 milligrams  
Vitamin D – 14.5 micrograms  
Potassium – 149 milligrams  
Iron – 0.7 grams  
Fiber – 0 grams

### **Salami**

5 slices

Calcium – 9 milligrams  
Vitamin D – 0.6 micrograms  
Potassium – 194 milligrams  
Iron – 1 grams  
Fiber – 0 grams

### **Chicken Breast (Grilled)**

3 ounces

Calcium – 4 milligrams  
Vitamin D – 0 micrograms  
Potassium – 332 milligrams  
Iron – 0 grams  
Fiber – 0 grams

### **Canadian Bacon**

2 slices

Calcium – 4 milligrams  
Vitamin D – 0.1 micrograms  
Potassium – 551 milligrams  
Iron – 0 grams  
Fiber – 0 grams

**Sardines (Canned)**

3 ounces

Calcium – 325 milligrams  
Vitamin D – 4.1 micrograms  
Potassium – 338 milligrams  
Iron – 2.5 grams  
Fiber – 0 grams

**Beef Liver**

3 ounces

Calcium – 5 milligrams  
Vitamin D – 1.0 micrograms  
Potassium – 287 milligrams  
Iron – 5.3 grams  
Fiber – 0 grams

**Tofu (Firm)**

¼ block

Calcium – 553 milligrams  
Vitamin D – 0 micrograms  
Potassium – 192 milligrams  
Iron – 2.15 grams  
Fiber – 1.9 grams

**Pork Sausage**

1 link

Calcium – 2 milligrams  
Vitamin D – 0.3 micrograms  
Potassium – 79 milligrams  
Iron – 0 grams  
Fiber – 0 grams

**Sunflower Seed Butter**

1 ounce

Calcium – 18 milligrams  
Vitamin D – 0 micrograms  
Potassium – 163 milligrams  
Iron – 1.2 grams  
Fiber – 1.6 grams

**Beef Patty (80/20)**

3 ounces

Calcium – 22 milligrams  
Vitamin D – 0 micrograms  
Potassium – 285 milligrams  
Iron – 2.2 grams  
Fiber – 0 grams

**Almonds**

1 ounce

Calcium – 76 milligrams  
Vitamin D – 0 micrograms  
Potassium – 208 milligrams  
Iron – 1 gram  
Fiber – 3.5 grams

**Oysters**

6 medium

Calcium – 37 milligrams  
Vitamin D – 0 micrograms  
Potassium – 104 milligrams  
Iron – 4.86 grams  
Fiber – 0 grams

**Turkey Deli Meat**

2 ounces

Calcium – 5 milligrams  
Vitamin D – 0.1 micrograms  
Potassium – 120 milligrams  
Iron – 0 grams  
Fiber – 0 grams

**Tri-Tip Roast**

3 ounces

Calcium – 17 milligrams  
Vitamin D – 0 micrograms  
Potassium – 305 milligrams  
Iron – 1.43 grams  
Fiber – 0 grams

## Grains Foods

### **Saltine Crackers**

5 crackers

Calcium – 3 milligrams  
Vitamin D – 0 micrograms  
Potassium – 23 milligrams  
Iron – 0.83 grams  
Fiber – 0.4 grams

### **Corn Tortilla**

1 ounce

Calcium – 50 milligrams  
Vitamin D – 0 micrograms  
Potassium – 44 milligrams  
Iron – 0.4 grams  
Fiber – 1.5 grams

### **Wild Rice**

½ cup

Calcium – 2 milligrams  
Vitamin D – 0 micrograms  
Potassium – 83 milligrams  
Iron – 0.5 grams  
Fiber – 1.5 grams

### **Raisin Bran Cereal (Fortified)**

1 cup

Calcium – 25 milligrams  
Vitamin D – 2.3 micrograms  
Potassium – 385 milligrams  
Iron – 7.3 grams  
Fiber – 6.7 grams

### **Whole-Wheat Bread**

1 slice

Calcium – 52 milligrams  
Vitamin D – 0 micrograms  
Potassium – 81 milligrams  
Iron – 0.79 grams  
Fiber – 1.7 grams

### **Whole-Wheat English Muffin**

1 muffin

Calcium – 175 milligrams  
Vitamin D – 0 micrograms  
Potassium – 139 milligrams  
Iron – 1.62 grams  
Fiber – 4.4 grams

**Brown Rice (Cooked)**

1 cup

Calcium – 10 milligrams  
Vitamin D – 0 micrograms  
Potassium – 77 milligrams  
Iron – 0.5 grams  
Fiber – 1.8 grams

**Instant Oatmeal (Cooked)**

1 packet

Calcium – 21 milligrams  
Vitamin D – 0 micrograms  
Potassium – 144 milligrams  
Iron – 1.7 grams  
Fiber – 4.0 grams

**Low-Fat Microwave Popcorn  
(Popped)**

3 cups

Calcium – 0 milligrams  
Vitamin D – 0 micrograms  
Potassium – 100 milligrams  
Iron – 0 grams  
Fiber – 2 grams

**Whole-Wheat Pita**

1 small pita

Calcium – 4 milligrams  
Vitamin D – 0 micrograms  
Potassium – 48 milligrams  
Iron – 0.9 grams  
Fiber – 1.7 grams

## Dairy Foods

### **Fat-Free Milk**

1 cup

Calcium – 299 milligrams  
Vitamin D – 2.9 micrograms  
Potassium – 383 milligrams  
Iron – 0 grams  
Fiber – 0 grams

### **Fat-Free Fruit Yogurt (Fortified)**

8 ounces

Calcium - 345 milligrams  
Vitamin D - 3 micrograms  
Potassium - 440 milligrams  
Iron - 0 milligrams  
Fiber – 0 grams

### **Cheddar Cheese**

1½ ounces

Calcium – 307 milligrams  
Vitamin D – 0.3 micrograms  
Potassium – 32 milligrams  
Iron – 0 grams  
Fiber – 0 grams

### **Low-Fat Vanilla Yogurt (Fortified)**

8 ounces

Calcium – 388 milligrams  
Vitamin D – 2.7 micrograms  
Potassium – 497 milligrams  
Iron – 0 grams  
Fiber – 0 grams

### **Soymilk (Fortified)**

1 cup

Calcium – 299 milligrams  
Vitamin D – 2.7 micrograms  
Potassium – 296 milligrams  
Iron – 1 grams  
Fiber – 0.5 grams

### **Mozzarella Cheese**

1½ ounces

Calcium – 300 milligrams  
Vitamin D – 0.2 micrograms  
Potassium – 80 milligrams  
Iron – 0 grams  
Fiber – 0 grams

## Vegetables

### **Green Peas (Raw)**

½ cup

Calcium – 18 milligrams  
Vitamin D – 0 micrograms  
Potassium – 177 milligrams  
Iron – 1.07 grams  
Fiber – 4.1grams

### **Corn (Yellow)**

½ cup

Calcium – 2 milligrams  
Vitamin D – 0 micrograms  
Potassium – 162 milligrams  
Iron – 0.34 grams  
Fiber – 1.8 grams

### **Broccoli (Cooked)**

½ cup

Calcium – 31 milligrams  
Vitamin D – 0 micrograms  
Potassium – 229 milligrams  
Iron – 0.52 grams  
Fiber – 2.6 grams

### **Green Beans (Cooked)**

½ cup

Calcium – 28 milligrams  
Vitamin D – 0 micrograms  
Potassium – 91 milligrams  
Iron – 0.41 grams  
Fiber – 2 grams

### **Asparagus (Cooked)**

½ cup

Calcium – 21 milligrams  
Vitamin D – 0 micrograms  
Potassium – 202 milligrams  
Iron – 0.82 grams  
Fiber – 1.8 grams

### **Acorn Squash (Cooked)**

½ cup, cubes

Calcium – 45 milligrams  
Vitamin D – 0 micrograms  
Potassium – 448 milligrams  
Iron – 0.95 grams  
Fiber – 4.5 grams

**Baked Potato (With skin)**

1 medium

Calcium – 26 milligrams  
Vitamin D – 0 micrograms  
Potassium – 926 milligrams  
Iron – 1.9 grams  
Fiber – 3.8 grams

**White Mushrooms (Raw)**

½ cup

Calcium – 44 milligrams  
Vitamin D – 0.1 micrograms  
Potassium – 111 milligrams  
Iron – 0.18 grams  
Fiber – 0.4 grams

**Cherry Tomatoes**

¼ cup

Calcium – 4 milligrams  
Vitamin D – 0 micrograms  
Potassium – 88 milligrams  
Iron – 0 grams  
Fiber – 0.1 grams

**Carrots (Raw)**

¼ cup

Calcium – 11 milligrams  
Vitamin D – 0 micrograms  
Potassium – 102 milligrams  
Iron – 0.1 grams  
Fiber – 0.9 grams

**Romaine Lettuce (Raw)**

1 cup

Calcium – 44 milligrams  
Vitamin D – 0 micrograms  
Potassium – 116 milligrams  
Iron – 0.46 grams  
Fiber – 1.0 grams

**Spinach (Raw)**

1 cup

Calcium – 30 milligrams  
Vitamin D – 0 micrograms  
Potassium – 167 milligrams  
Iron – 0.8 grams  
Fiber – 0.7 grams

**Broccoli (Cooked)**

½ cup

Calcium – 31 milligrams  
Vitamin D – 0 micrograms  
Potassium – 229 milligrams  
Iron – 0.52 grams  
Fiber – 2.6 grams

**White Beans (Canned)**

½ cup

Calcium – 97 milligrams  
Vitamin D – 0 micrograms  
Potassium – 595 milligrams  
Iron – 3.9 grams  
Fiber – 6.3 grams

**Soybeans**

½ cup

Calcium – 130 milligrams  
Vitamin D – 0 micrograms  
Potassium – 485 milligrams  
Iron – 2.3 grams  
Fiber – 3.8 grams

**Pinto Beans (Canned)**

½ cup

Calcium – 44 milligrams  
Vitamin D – 0 micrograms  
Potassium – 190 milligrams  
Iron – 0.9 grams  
Fiber – 3.8 grams

**Mixed Vegetables (Cooked)**

1 cup

Calcium – 23 milligrams  
Vitamin D – 0 micrograms  
Potassium – 154 milligrams  
Iron – 0.75 grams  
Fiber – 4.0 grams

**Zucchini Squash (Raw)**

1 cup sliced

Calcium – 18 milligrams  
Vitamin D – 0 micrograms  
Potassium – 295 milligrams  
Iron – 0 grams  
Fiber – 1.1 grams

## Fruit

### **Dates**

¼ cup

Calcium – 14 milligrams  
Vitamin D – 0 micrograms  
Potassium – 241 milligrams  
Iron – 0.37 grams  
Fiber – 2.9 grams

### **Pear**

1 medium

Calcium – 16 milligrams  
Vitamin D – 0 micrograms  
Potassium – 206 milligrams  
Iron – 0.32 grams  
Fiber – 5.5 grams

### **Raisins**

1/4 cup

Calcium – 10 milligrams  
Vitamin D – 0 micrograms  
Potassium – 299 milligrams  
Iron – 0.94 grams  
Fiber – 2.5 grams

### **Apple**

1 medium

Calcium – 11 milligrams  
Vitamin D – 0 micrograms  
Potassium – 195 milligrams  
Iron – 0.22 grams  
Fiber – 4.4 grams

### **Strawberries (Raw)**

½ cup

Calcium – 44 milligrams  
Vitamin D – 0 micrograms  
Potassium – 116 milligrams  
Iron – 0.3 grams  
Fiber – 1.5 grams

### **Banana**

1 medium

Calcium – 44 milligrams  
Vitamin D – 0 micrograms  
Potassium – 422 milligrams  
Iron – 0.3 grams  
Fiber – 3.1 grams

**Orange Juice (Fortified)**

1/2 cup

Calcium – 250 milligrams  
Vitamin D – 1.7 micrograms  
Potassium – 221 milligrams  
Iron – 0.25 grams  
Fiber – 0.2 grams

**Orange**

1 medium

Calcium – 60 milligrams  
Vitamin D – 0 micrograms  
Potassium – 271 milligrams  
Iron – 0.14 grams  
Fiber – 3.8 grams



## Appendix 5G – Focus on Food Lesson 5 Newsletter

The optional newsletter on the following pages is designed to help reinforce the concepts learned. If offering this course in a single workshop, you may wish to distribute the lesson newsletters weekly in order to help refresh participants' memory and solidify the concepts.



# Nutrients of Concern

## In this issue...

|   |        |
|---|--------|
| Age is Not Just a Number                  | Page 2 |
| Why Are We Concerned About Nutrients?     | Page 3 |
| Try this Recipe for Veg-Out Chilean Stew! | Page 4 |
| Snack Attack!                             | Page 4 |
| Nutrients of Concern Word Search          | Page 5 |



## Growing Strong and Healthy

All humans need the same basic set of nutrients: vitamins, minerals, protein, carbohydrates, fats, and water. However, individual requirements for these nutrients differ based on several factors. When it comes to children, some of those differences are based on stage of growth, gender, and physical activity level.

Because of these differences, there are some nutrients that certain groups need more of. For some nutrients, a large number of people aren't meeting their nutrient needs. We call these "**nutrients of concern.**"

*Turn the page to learn more about nutrient needs and nutrients of concern!*

### Different Bodies, Different Needs

Nutrient needs not only change as people age, but some can also vary depending on gender. This is because males and females have different nutrient needs to keep their bodies healthy.

#### Teenage Boys vs. Teenage Girls

Boys tend to need more calories than girls because they generally are larger and thus need more energy.

Girls tend to need more iron than boys because they need to help replace what is lost monthly during menstruation.

#### Men vs. Women

Men tend to need more **protein** than women because they generally have more muscle mass.

Women capable of becoming pregnant tend to need more **folate** than men because it helps prevent birth defects.

### Did you know?

There are plenty of delicious dishes that can help you consume the nutrients of concern. Try our recipe for Veg-Out Chilean Stew on page 4!

## Weigh it Out

Even though nutrient needs by unit of measure (milligrams, micrograms, etc.) may be the same for a child and an adult, actual needs by weight for children tend to be higher.

**Sonia** is 10 years old and weighs 75 pounds.



She needs 4,500 mg of potassium and 1,300 mg of calcium a day.

**Andre** is 35 years old and weighs 200 pounds.



He needs 4,700 mg of potassium and 1,000 mg of calcium each day.

If we do the math per pound, Sonia needs more than **twice as much potassium** and **three times as much calcium** per pound as Andre!

This means it's extra important for children to eat foods that are packed with nutrients to meet their nutrient needs and grow strong and healthy.

## Age is Not Just a Number

Nutrient needs change as we age due to different factors throughout our stages of life.



### A toddler needs...

the highest percentage of calories from fat.

### Why?

Toddlers are growing at a very fast rate and need plenty of fat to support the growth.



### A child needs...

more protein by weight than the average adult.

### Why?

Proteins are broken down into amino acids which are used for a variety of functions that are important for a child's development.



### A teenager needs...

to consume more calcium than any other age group.

### Why?

Calcium helps support bone growth which is important for teenagers who typically grow several inches during puberty.



### An adult needs...

to intake a lower amount of total fat than younger age groups.

### Why?

High fat diets have been associated with several chronic diseases which adults tend to be more susceptible to.



### An older adult needs...

more vitamin D than any other age group.

### Why?

Vitamin D is naturally produced in our skin when exposed to sunlight. Older adults tend to not expose their skin to sunlight often and thus must seek dietary sources for vitamin D.

# Why are we concerned about nutrients?



In general, humans are able to meet their nutrient needs through a **well-balanced diet**. Unfortunately, many Americans consume a diet that is light on fruits, veggies, low-fat dairy, and whole grains. This is sometimes referred to as the **Western diet**. As a result, there are several nutrients that have been identified as being “nutrients of concern”. These are nutrients that a large proportion of Americans are routinely consuming less than is recommended.

## Calcium

**Why do children need it?**  
Bone growth and health;  
muscle function

**Why do adults need it?**  
Bone health and muscle  
function

**Food sources:**  
Dark green leafy vegetables,  
foods fortified with calcium,  
fish with bones

## Vitamin D

**Why do children need it?**  
Helps absorb calcium; bone  
health; immune function

**Why do adults need it?**  
Helps absorb calcium; bone  
health; immune function

**Food sources:**  
Fortified dairy products,  
certain kinds of fatty fish, sun  
exposure

## Fiber

**Why do children need it?**  
Digestive health

**Why do adults need it?**  
Digestive health; may help  
reduce blood cholesterol

**Food sources:**  
Whole grains, fruit,  
vegetables, legumes, nuts  
and seeds

## Potassium

**Why do children need it?**  
Muscle and nerve function

**Why do adults need it?**  
Muscle and nerve function;  
helpful in preventing high  
blood pressure

**Food sources:**  
Fruits and vegetables



## Women and Teenaged Girls

In addition to calcium, vitamin D, fiber, and potassium, there are two more nutrients of concern for women capable of becoming pregnant, and teenaged girls.

## Iron

**Why do we need it?**  
Helps move oxygen around in  
the blood

**Why do women and teenaged girls need more of it?**  
To replace iron lost through  
menstruation.

**Food sources:**  
Meat, poultry, seafood, beans  
and peas, nuts, whole grains  
and fortified grains

## Folate

**Why do we need it?**  
Growth and repair

**Why do women capable of becoming pregnant need more of it?**  
Helps prevent certain kinds of  
birth defects in pregnancy

**Food sources:**  
Dark green leafy vegetables,  
fortified and enriched grains,  
beans and peas

## Try this recipe for Veg-Out Chilean Stew



Recipe serves 4-6 people

3 tablespoons olive oil  
1 medium red onion, medium chopped  
1 small butternut squash, diced, or 10 ounces frozen pre-cut butternut squash  
15-oz can diced tomatoes, not drained  
1 cup water or vegetable broth  
3 purple (or red) potatoes, medium chopped  
4 cloves garlic, finely chopped  
Salt and pepper  
1 cup collard greens or Swiss chard, center rib removed, medium chopped  
1 cup mushrooms, medium chopped  
1 cup baby spinach  
1 bunch fresh basil, roughly chopped  
1/2 cup shaved or grated parmesan cheese (optional)

Recipe courtesy of *Cooking Up Healthy Choices*. For more information about this curriculum, please visit: <http://cns.ucdavis.edu/programs/shcp/cooking.html>

*This recipe is a delicious and healthy way to eat three nutrients of concern all at once! (Not to mention lots of other fantastic nutrients!)*

1. Heat 3 tablespoons olive oil in large wok or saucepan over medium heat.
2. Add red onion and pre-cubed butternut squash and sauté about 4 minutes.
3. Add can of diced tomatoes and the juice, water or vegetable broth, purple potatoes, and garlic.
4. Continue cooking, stirring occasionally, for about 10 minutes. Season with salt and pepper.
5. Add collard greens/Swiss chard, mushrooms, and spinach. Cook for about 4 minutes, stirring occasionally. Add chopped fresh basil.
6. Top stew with shaved parmesan cheese separately.

## Snack Attack!

Try these healthy and delicious snacks to get more calcium, vitamin D, fiber, and potassium in your diet!



Yogurt is a great source of calcium, vitamin D, and potassium! Add a handful of low-fat whole grain granola for some added fiber and a fun crunch!



White bean hummus is a tasty companion to fresh veggies, and contains potassium, fiber, and even a little calcium!



Make a simple caprese salad by layering tomato slices, basil, and fresh mozzarella! Vitamin D, calcium, and potassium, all in one bite! Top it off with a teaspoon of olive oil.

# Can you find all the words in this Nutrients of Concern word search puzzle?

I am a class of micronutrients that are either fat-soluble or water-soluble and primarily perform regulatory roles in the body.

I am a macronutrient that serves as the main fuel source for our brains.

I am what our bodies use to power everything we do.

I am a vitamin important in preventing certain birth defects.

Eating a diet rich in me may help prevent high blood pressure. Bananas are a good source of me.

I am a class of micronutrient that comes from water and soil and is absorbed by plants or eaten by animals.

J B L E Z M V U Z J J M U I C L A C H N  
 H H X V X D E C N A L A B - L L E W I F  
 X E T R A V X P J J N L D V M Y K E U V  
 J A M L Q I Y V H T O F F U B Y T E U O  
 W L I W R M K S Y P K J I T B O F E H A  
 E T N A Y M S D N F O S R K R T Q T M I  
 E H E T G N Q A O D S R R P O P R P Q L  
 S Y R E R F Z L M A J K S R A M E D Y F  
 H W A R E F A U T O M J E X D R B A O Y  
 I V L X N T E O F T Z Z T E Z W I K T Y  
 S P S X E Z P V G L U Y A A F E F F Y U  
 W Q C R U L Y S X N U V R Y M W J P E D  
 J K V Z S A J G K V I R D O O L U V L S  
 G A Z I B V T J X T S F Y Z Z K R M E P  
 T E J D V Q K U A X M F H E I G Q I U E  
 K Y Z W W O A M W O X E O P V I R O Q C  
 H F H J C F I S Y B C X B I R O N K M H  
 J F M Z O N T V S G J H R L L Y V B U J  
 R D E D S A C E R S F F A A F C F C T U  
 O O I L F M H U K P X O C E J M L H Z I

Created with TheTeachersCorner.net word search maker

I am a macronutrient with 9 calories per gram and can be solid or liquid at room temperature. \_\_\_\_\_

I am the amount of energy in food. \_\_\_\_\_

I am a mineral important for bone health and muscle function. \_\_\_\_\_

I am an adjective describing 'in good health'. \_\_\_\_\_

I am a macronutrient that provides structure in the form of muscles, tendons, and collagen. \_\_\_\_\_

I am a macronutrient that does not provide calories and makes up 60% of our body weight. \_\_\_\_\_

I am a mineral important in red blood cells for moving oxygen around our bodies. \_\_\_\_\_

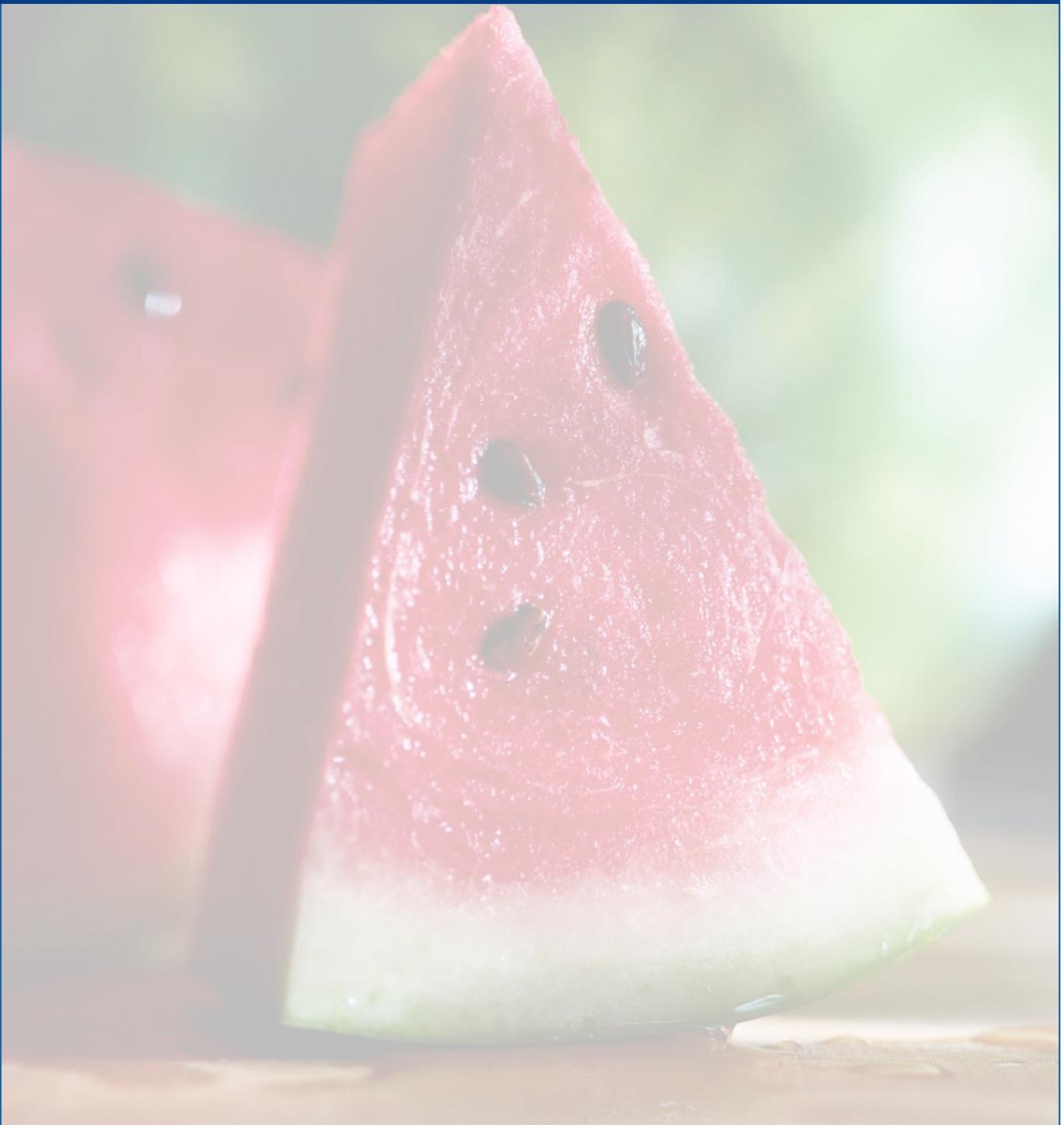
I am a type of carbohydrate that our bodies cannot digest, but is important for digestive health. \_\_\_\_\_

I am a type of diet that includes eating a variety of nutrient-dense foods. \_\_\_\_\_

Created with TheTeachersCorner.net word search maker



# Lesson 6: Understanding Influences on Food Choices





# Lesson 6: Understanding Influences on Food Choices

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## Background Information

The Western food environment tends to be filled with a variety of food choices and many factors that contribute to decision-making when selecting foods.



Some examples of the **factors of influence** that contribute to an individual's food choices include **individual factors**, such as knowledge, personal taste preference, mood, hunger level, health status, special diet requirements, ethnicity, and personal income.

**Environmental factors** such as weather, time of day, environment, or advertisements also influence food choices. Restaurants and markets often take advantage of this. For example, a grocery store might put items at eye level to encourage shoppers to purchase the item, or a buffet restaurant might place items in a certain order, knowing that customers will often choose to take more of the first few items. Other more indirect factors may effect food choices. For example, government policies might influence the cost of raw materials, as could weather or climate. The resulting changes in

prices could in turn influence food purchases.

As an example of factors influencing food choice: an individual that hasn't eaten all day (hunger level), has little money to spend (personal income), and is running late to their second job (time) might choose a two-for-one taco special at a fast food restaurant.

Many of these factors are apparent when we consider the National School Lunch Program and School Breakfast Program. Many factors influence the students' choices, such as length of the serving line, the presence of colorful fruits and vegetables on the salad bar, or time available for purchasing and consuming the meal.



## Concepts and Vocabulary

**Environmental factors:** Aspects of a setting, atmosphere, or location that influence an individual's choices, such as layout, ambience, marketing, and availability.

**Factors of influence:** Factors that can contribute to an individual's food choice, which are both individual and environmental.

**Personal factors:** Personal characteristics that influence choices, such as taste preference, knowledge, hunger level, income, and special diet requirements.



# 6.1: Learning Activity

## Getting Ready



### Time Required

45 minutes



### Materials Needed

(\*Materials provided in the curriculum)

- Flip chart paper
- Markers, pens, or pencils
- \**Food Choice Scenarios* (Appendix 6A)
- Prepared flip chart papers for each scenario
- Flip chart markers.

Optional:

- \**Focus on Food Lesson 6* (PowerPoint)
- Computer
- PowerPoint Projector



### Preparation

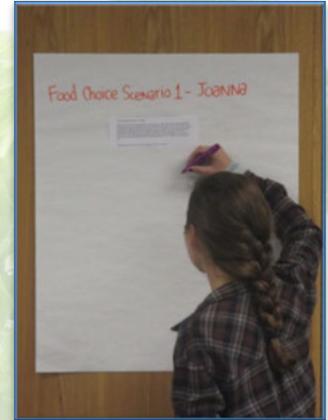
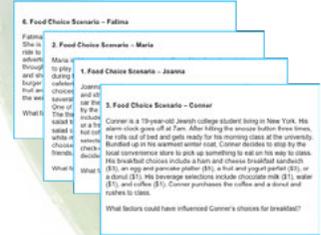
1. Make one copy of *Food Choice Scenarios* (Appendix 6A).
2. Next, use the dotted lines to cut out each scenario, resulting in 6 scenarios.
3. Prepare one flip chart for each of the characters listed on the *Food Choice Scenarios* (Appendix 6A). Each flip chart should have the following: number and name of scenario written across the top; scenario taped or passed to the flip chart.
4. Post the prepared flip chart papers in numerical order around the room.
5. Organize the class into small groups of 2 to 4 participants.

**Facilitator Tip:** These groups can be the same groups formed in earlier lessons.

6. Provide each group with a sheet of flip chart paper and markers, pens, or pencils to answer opening questions/prompts.

Optional:

7. Before participants arrive, connect laptop to projector. Load *Focus on Food Lesson 6* (PowerPoint).





## Opening Questions/Prompts

1. **Say:** Let's get started with Lesson 6 – Understanding Influences on Food Choices! To begin, I'd like everyone to discuss an opening question within your group. Once you've discussed the prompt within your groups, we will come back together as a class and discuss your thoughts and responses as a whole. **(Slide 2)**

The prompt I'd like you to discuss within your groups is:

- Explain what you know about how our food choices are influenced. **(Slide 3)**
2. **Do:** Allow 2 to 3 minutes for groups to discuss the prompt.
  3. **Say:** As a class, let's discuss what you talked about in your groups. What were some of your thoughts on the first prompt, "Explain what you know about how our food choices are influenced"?
  4. **Do:** Allow about a minute for participants to share their thoughts on this topic with the class.

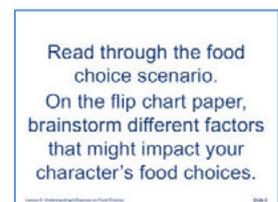
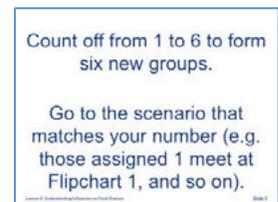
**Facilitator Tip:** This sharing phase is a great opportunity to begin to build rapport with participants. Some statements and questions to help engage participants at this phase are: "Tell me more about that"; "What do you mean by..."; "How is that motivating you?"; "Did anyone else write this?"; "That's a very popular opinion." At this stage, it is important that you do not correct misconceptions. Instead, make note of them, and if they are not corrected organically through the lesson, address them briefly at the end of the lesson.



## Procedure (Experiencing)

1. **Say:** Now that we've completed our opening discussion, we'll start on the activity for this lesson. This activity involves factors that influence food choices. **(Slide 4)**
  - There are six flip chart papers with different scenarios around the room.
  - I'm going to count off by six, after which you'll go to the scenario that matches your number.
  - Within these groups, read through the food choice scenario on the flip chart paper and brainstorm different factors that might impact the character's food choices. **(Slide 5)**
  - You should write the factors you brainstorm on the flip chart paper. **(Slide 6)**
2. **Do:** Have the learners count off from 1 to 6 to form six new groups.
3. **Do:** Allow one to two minutes for the groups to read the scenario and brainstorm at least two to three factors.

**Facilitator Tip:** When visiting with each group, use targeted questions to guide them towards the concept of "factors of influence." Some suggested prompts:



- What can you tell me about the character?
  - What can you tell me about the factors that many have influenced the character's food choices?
4. **Say:** Now I'm going to have you move to the next numbered scenario. Those at scenario 1 should move to 2, those at 2 should move to 3, those at 6 should move to 1, etc. **(Slide 7)**
- Read through and discuss the new scenario as well as the responses recorded by previous groups.
  - Add any other factors that you feel might have impacted the character's food choices to the flip chart paper. **(Slide 8)**
5. **Do:** Repeat Steps 3 and 4 every few minutes until each group has discussed three or four scenarios.

Move to the next flip chart paper.

Read through the food choice scenario. On the flip chart paper, brainstorm different factors that might influence your character's food choices.



## Activity Wrap-Up (Sharing, Processing, and Generalizing)

1. **Say:** As a class, let's discuss the scenarios. **(Slide 9)** Can I have a volunteer at the first scenario read it to the class?
2. **Do:** Allow the volunteer to read the scenario to the class.
3. **Say:** Let's discuss the scenario. What were some of factors that were brainstormed and some of the observations you had?
4. **Do:** Repeat Steps 2 and 3 for each scenario.
5. **Do:** Follow the group's line of thinking, and if necessary, ask more targeted questions.
  - Explain what you observed about the different influences.
  - Explain the similarities and differences in food choices.
  - Explain the differences and similarities between how children versus adults made decisions in these scenarios.
  - Explain how these different factors of influences might impact what a student chooses in the lunch line.
  - Explain how we could make changes to the environment of the lunchroom to influence choices.

  
Activity Wrap-Up

**Facilitator Tip:** If there are any misconceptions remaining in this phase of the lesson, you should address these now.



## Concept and Term Discovery/Introduction

Over the course of the lesson, participants should be able to identify the following concepts:

- A variety of factors influence an individual's food choices.
- Some influences might affect just one person, or may impact many.

- There are differences and similarities between what motivates children versus adults to make certain food choices.
- Environmental factors may influence choices.
- Changing the environment is a strategy to encourage healthier choices.

The following key vocabulary terms should be discovered by participants or introduced to them: factors of influence, individual factors, and environmental factors.



## 6.2: Expanding Knowledge

### Getting Ready



#### **Time Required**

10 minutes



#### **Materials Needed**

(\*Materials provided in the curriculum)

- \**Focus on Food Lesson 6* (PowerPoint)
- PowerPoint Projector
- Computer



#### **Preparation**

1. Connect laptop to projector. Load *Focus on Food Lesson 6* PowerPoint.
2. Queue the PowerPoint presentation to Slide 10.



### Procedure

1. Go through the Expanding Knowledge presentation slide by slide. The following script is available for use if you so choose.



## Expanding Knowledge

Lesson 6: Understanding Influences on Food Choices

Slide 10

Slide 10

Now let's review some concepts that we learned in Lesson 6, understanding Influences on Food Choices.

## Food Choices

- Individuals make food choices for a variety of reasons.
  - Taste
  - Health
  - Convenience
  - Price
- In addition to more noticeable influences, there are also less obvious ways that the world around us can impact choices.

Lesson 6: Understanding Influences on Food Choices

Slide 11

Slide 11

Individuals make food choices for a variety of reasons, including, but not limited to: Taste, Health, Convenience, and Price. In addition to more noticeable influences, there are also less obvious ways that the world around us can impact choices. What are some influences you can think of?

[Pause to allow responses from the class.]

## Personal Factors

- Factors that are different from person to person.
- Examples: taste preferences, genetics, age, knowledge, and health.
- What are some other factors that vary from person to person?

Lesson 6: Understanding Influences on Food Choices

Slide 12

Slide 12

Let's begin by discussing some personal factors that may impact food choices. Personal factors are defined as factors that are different from person to person. We can also call them individual factors. Some examples include taste preferences, genes, age, knowledge, and health. What are some other factors that vary from person to person?

[Pause to allow responses from the class.]

## Environmental Factors

- Aspects of a setting, atmosphere, or location that influence an individual's choices.
- Examples: Layout, marketing, climate, weather, price, and availability
- What are some environmental factors from the scenarios in the activity?

Lesson 6: Understanding Influences on Food Choices

Slide 13

Slide 13

Environmental factors can also have an influence on our food choices. These are aspects of a setting, atmosphere, or location that influence an individual's choices. Layout, marketing, climate, weather, price, and availability are examples of environmental factors. What are some other environmental factors?

[Pause to allow responses from the class.]

## Example of Different Influences



- Matt and his daughter Gina are at a family barbecue.
- Matt chose to eat spicy chicken wings and carrot salad. He avoids the green salad, because it contains cilantro.
- Matt selects a plate of food for Gina. Gina eats a hot dog (but not the bun) and some fruit salad. She picks out all the honeydew and only eats the watermelon, grapes, and strawberries.

Lesson 6: Understanding Influences on Food Choices

Slide 14

Slide 14

Let's go over an example. Matt and his daughter Gina are at a family barbecue. Matt chose to eat spicy chicken wings and carrot salad. He avoids the green salad, because it contains cilantro. Matt selects a plate of food for Gina. Gina eats a hot dog (but not the bun) and some fruit salad. She picks out all the honeydew and only eats the watermelon, grapes, and strawberries. Now let's discuss some examples of factors that may have influenced Matt and Gina's food choices.

What do you think might have influenced their choices?

[Pause to allow responses from the class.]

## Personal Factors

**Taste preferences:**  
Hates spicy food, loves watermelon and strawberries.

**Age:**  
At the age where children are typically resistant to trying new foods.

**Personal knowledge:**  
Has heard that some foods help you run fast.

**Genetic factors:**  
Has a gene that makes cilantro taste bad.



**Taste preferences:**  
Loves spicy food, hates cilantro.

**Hunger:**  
Didn't eat breakfast and is very hungry by lunchtime.

**Health factors:**  
Allergic to strawberries.

**Personal knowledge:**  
Knows that carrots are good source of vitamin A.

**Genetic factors:**  
Has a gene that makes cilantro taste bad.

Lesson 6: Understanding Influences on Food Choices

Slide 15

Slide 15

Let's look at personal factors impacting Gina's food choices: Let's begin with her taste preferences: Gina hates spicy food, loves watermelon and strawberries. The fact that she is at the age where children are typically resistant to trying new foods may also be a factor that influences her food choices. Some personal knowledge may also have an influence on her food choice. For example, Gina has heard that some foods help you run fast, which might make her want to eat these foods. An example of a genetic factors that may impact her food choice is the fact that Gina has a gene that makes cilantro taste bad. Now let's look at personal factors impacting Matt's food choices: Let's begin with his taste preferences: Matt loves spicy food, hates cilantro.

The fact that he didn't eat breakfast and is very hungry by lunchtime most likely also impacted his food choices. Some personal knowledge may also have an influence on his food choice. For example, Matt knows that carrots are good source of vitamin A. An example of a genetic factor that may impact his food choice is the fact that Matt, like Gina, has a gene that makes cilantro taste bad.

## Environmental Factors

**Agriculture:**  
Watermelon and strawberries are in season.

**Placement:**  
All of the food is laid out on a single table. There is one long line to get food.

**Time:**  
Matt hurries when selecting food since others are waiting and Gina is hungry.



**Setting:**  
The barbecue is at a park. Gina rushes to eat her lunch, so she can play on the playground equipment.

**Park rules:**  
Glass containers are prohibited, so Matt brings canned beverages.

**Weather:**  
88 degrees, humid.

Lesson 6: Understanding Influences on Food Choices

Slide 16

Slide 16

Now let's take a look at environmental factors impacting Gina and Matt's food choices: There may be some **agriculture** factors that influenced Gina & Matt's choices. For example, watermelon and strawberries are in season. The **placement** of food can also be an environmental factor. For example, all of the food is laid out on a single table. There is one long line to get food. **Time** is another factor. For example: Matt hurries when selecting food since others are waiting and Gina is hungry. **The setting** of the BBQ may also influence choice. For example, the barbecue is at a park & Gina rushes to eat her lunch, so she can play on the playground equipment. **Park rules** may also be a factor. For example, glass containers are prohibited, so Matt brings canned beverages. Finally, **Weather** may be a factor: The fact that it is 88 degrees and humid are environmental factor that most likely will affect Matt and Gina's food choices.

## Factors Changing Over Time

- Many of these influences are not set in stone.
- Even personal taste preferences can change.
- What are some examples of the way influences on our food choices can change over time?

Lesson 6: Understanding Influences on Food Choices

Slide 17

Slide 17

It is important to note that many of these influences are not set in stone. Even personal taste preferences can change. What are some examples of the way influences on our food choices can change over time?

[Pause to allow responses from the class.]

## Why does this matter?

- By being more aware of environmental and personal factors, we can make smarter choices.

Lesson 6: Understanding Influences on Food Choices

Slide 18

Why does this matter? By being more aware of environmental and personal factors, we can make smarter choices.

### Slide 18

## Using Environmental Factors

- Some of these can be very simple changes.
- At the barbecue Matt and Gina attended, the line for food was very long.
- Matt may not have been making the best choices because he was rushed.
- How could the food have been arranged differently to encourage smarter choices?

Lesson 6: Understanding Influences on Food Choices

Slide 19

Let's go over some examples of how we can use environmental factors to improve food choices. If you remember the food at the BBQ that Matt and Gina attended was served on one long table, Matt may not have been making the best choices because he was rushed to get through the line. How could the food have been arranged differently to encourage smarter choices?

[Pause to allow responses to the class.]

### Slide 19





## Procedure (Experiencing)

1. **Say:** Now let's move on to Goal Setting! **(Slide 20)** We've talked about how a variety of factors can influence our food choices. The next step is to set some goals and make a plan. I am going to distribute a Goal Setting Handout that has the following questions: **(Slide 21)**

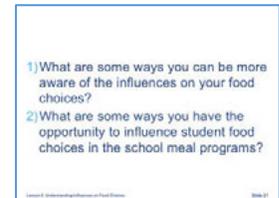
- 1) What are some ways you can be more aware of the influences on your food choices?
- 2) What are some ways you have the opportunity to influence student food choices in the school meal program?

2. **Do:** Provide a copy of the *Goal Setting: Understanding Influences on Food Choices* Handout (Appendix 6B) to each participant. Allow participants a few minutes to complete the handout.

3. **Say:** Would anyone like to share the goals they set for themselves?

Optional:

4. **Say:** I'm going to distribute one last handout, which is a newsletter with some extra information you might be interested in. Thank you all for participating in Lesson 6! **(Slide 41)**
5. **Do:** Provide a copy of the *Focus on Food Lesson 6 Newsletter* (Appendix 6C) to each participant.



## Appendix 6A – Food Choice Scenarios

### 1. Food Choice Scenario – Joanna

Joanna is a 35-year-old woman living in sunny Arizona. After a long and stressful day at work, she hops in her car and blasts the A/C. Her car thermometer reads 108° F. On her way home she decides to stop by the self-serve food bar at the local supermarket. Her food options include meatloaf and mashed potatoes (\$5), vegetable barley soup (\$3), or a fresh Chinese chicken salad (\$5). Her beverage choices include hot coffee (\$2), bottled water (\$1), or ice-cold lemonade (\$1.50). She selects the salad and lemonade. As she is paying for her meal at the check-out counter, she spots a double chocolate brownie (\$1) and decides to purchase that, too.

What factors could have influenced Joanna's choices for dinner?

## 2. Food Choice Scenario – Maria

Maria is 11-years-old and in sixth grade. One of her favorite activities is to play a trading card game about magical animals with her friends during the 20-minute lunch period. There are three lunch lines in the cafeteria. The first two lines each have a salad bar, followed by hot food choices. In these lines, students have a choice of two entrée selections, several different sides, and non-fat chocolate milk or low-fat white milk. One of today's entrée selections is pepperoni pizza, Maria's favorite. The third line is a grab-and-go line. This line serves Southwest spinach salad topped with diced chicken, corn, peppers, and black beans. The salad comes packaged with a whole-grain roll, an apple, and low-fat white milk. Maria sees that the grab-and-go line is the shortest, and chooses this one. Once she has her lunch, she hurries to join her friends.

What factors could have influenced Maria's choices for lunch?

### **3. Food Choice Scenario – Conner**

Conner is a 19-year-old Jewish college student living in New York. His alarm clock goes off at 7am. After hitting the snooze button three times, he rolls out of bed and gets ready for his morning class at the university. Bundled up in his warmest winter coat, Conner decides to stop by the local convenience store to pick up something to eat on his way to class. His breakfast choices include a ham and cheese breakfast sandwich (\$3), an egg and pancake platter (\$5), a fruit and yogurt parfait (\$3), or a donut (\$1). His beverage selections include chocolate milk (\$1), water (\$1), and coffee (\$1). Conner purchases the coffee and a donut and rushes to class.

What factors could have influenced Conner's choices for breakfast?

## **4. Food Choice Scenario – Joey**

Joey is a five-year-old boy. His favorite commercial stars a panda bear that loves to eat peanut butter and chocolate flavored cereal. One evening, Joey gets dropped off at his grandma's house. His grandma is tired and is not feeling very well, so she lets Joey select anything he wants from the pantry for dinner. The pantry is full of items such as trail mix, vegetable soup, granola bars, instant macaroni and cheese, canned salmon, peanut butter and jelly, and a wide selection of cereals. Joey selects the peanut butter and chocolate flavored cereal for dinner.

What factors could have influenced Joey's choices for dinner?

## 5. Food Choice Scenario – Daniel

Daniel is a 42-year-old father of four children under ten who makes a modest salary for a living. It is his night to take care of the children, including selecting what restaurant they will eat at for dinner. The family dinner choices include a taco special that includes two tacos and a free quesadilla with the purchase of a large drink at a fast food restaurant (\$5), an all-you-can-eat sushi buffet meal at a sit-down restaurant (\$20), or a complete fresh fish meal including the catch of the day, jasmine brown rice with herbs, grilled local vegetables, and bottomless strawberry infused water (\$25). Daniel chooses the taco place for his family.

What factors could have influenced Daniel's choices for his family dinner?

## 6. Food Choice Scenario – Fatima

Fatima is a 23-year-old woman that happens to be lactose-intolerant. She is excited for her trip to Cabo San Lucas, Mexico. During her taxi-ride to the airport, Fatima sees a billboard with a famous super model advertising a luxury shoe company. While waiting for her flight, she flips through her fashion magazine filled with slim models. Lunchtime arrives and she decides to buy lunch at the airport. Her lunch choices include a burger and fries (\$9), a small greek salad with low-fat cheese (\$12), a fruit and yogurt parfait (\$6), or a weight loss bar (\$4). Fatima purchases the weight loss bar for lunch.

What factors could have influenced Fatima's choices for lunch?



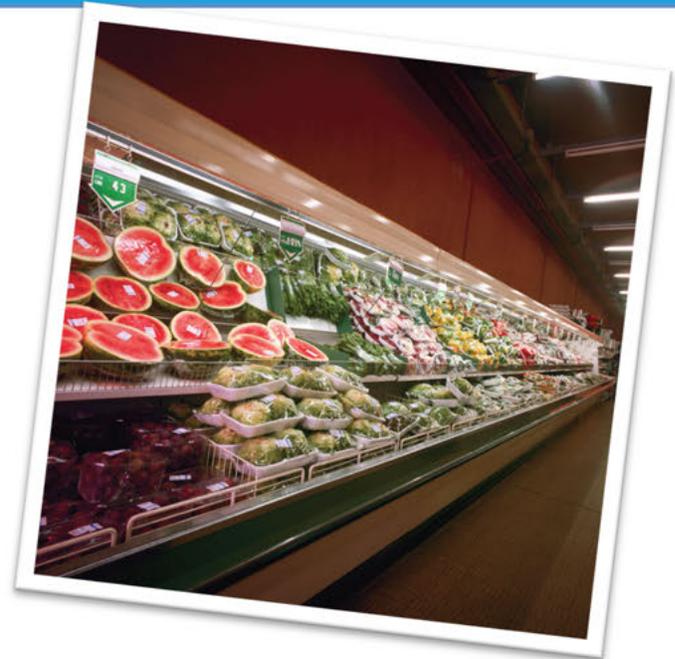
## Appendix 6C – Focus on Food Lesson 6 Newsletter

The optional newsletter on the following pages is designed to help reinforce the concepts learned. If offering this course in a single workshop, you may wish to distribute the lesson newsletters weekly in order to help refresh participants' memory and solidify the concepts.

# Understanding Influences on Food Choices

## In this issue...

|   |        |
|---|--------|
| Personal Factors  | Page 2 |
| Environmental Factors   | Page 3 |
| How Do Restaurants Use These Concepts to Influence Choices?   | Page 3 |
| But What About the Lunchroom?   | Page 4 |
| Which Factors Have More of an Influence on You: Personal or Environmental? Take our Quiz to Find Out! | Page 5 |



## Factor This

You may not notice them, but there are several factors of influence that come into play while you're making decisions every day. Certain factors are especially important when you're making food choices. Think about the last thing you ate. Why did you eat it? Were you extra hungry? Was that food item the most convenient because you were in a hurry? Did you see an advertisement that made you want a certain food? Or was it something else? Understanding the different factors, **personal** and **environmental**, that influence our food choices will help you understand why we choose to eat certain foods.

*Turn the page to learn more about factors of influence!*

## Did you know?

Even our genes have an influence on the food choices we make. Some foods taste yummy to some people, but bitter to others. Although this does not account for the majority of taste preferences, it does play a role in why there are certain foods some people just don't like.

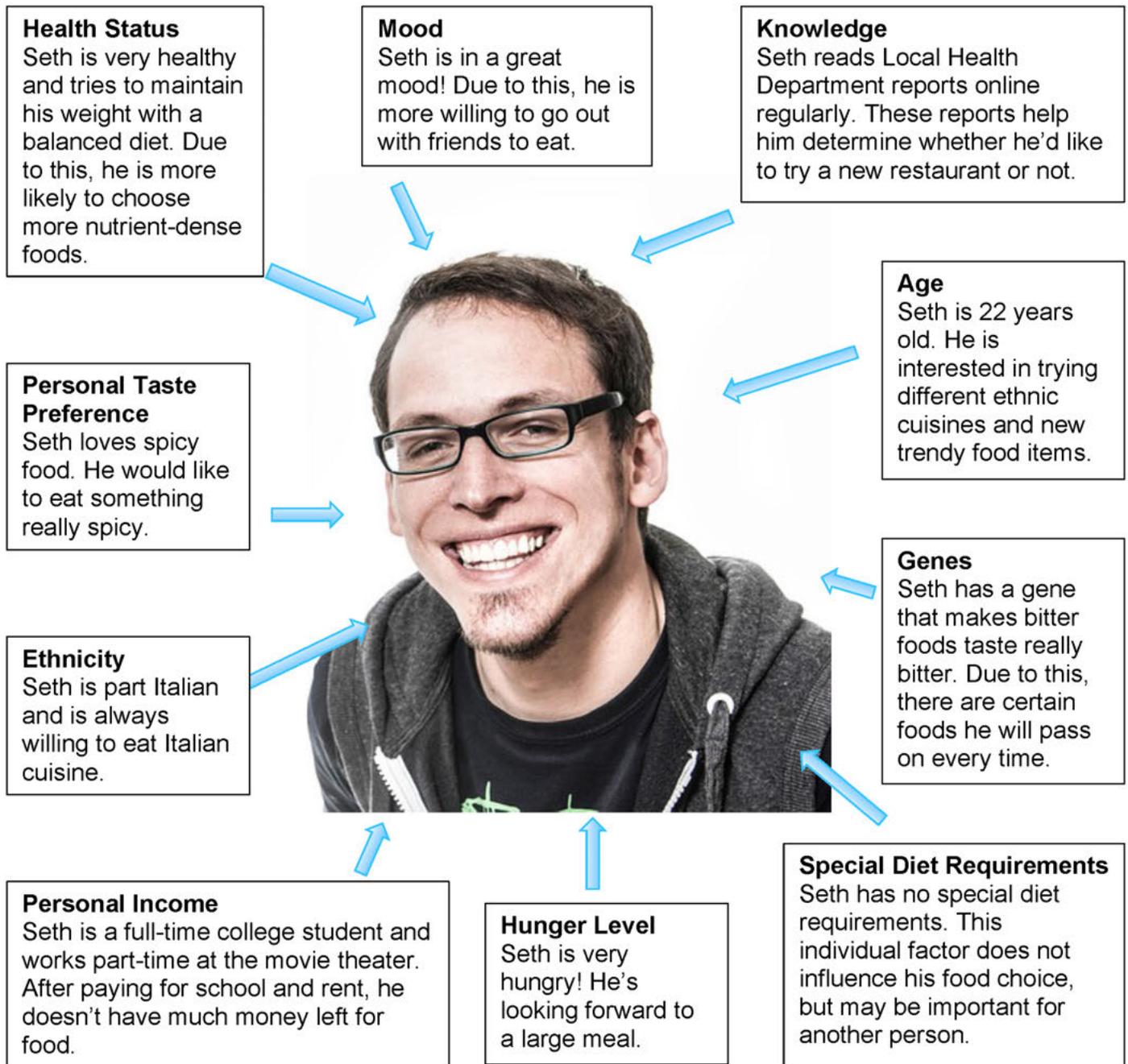


## Try it yourself!

Did you know using a smaller plate might help to eat less? Research shows that people take and eat less food when using a smaller plate compared to a bigger one!

# Personal Factors

Personal factors influence food choices differently from person to person. There may be one factor, such as knowledge, that is very important to one person, but does not matter to another person. The variability in what can influence food choices at the individual level is something that helps make us unique from one another. Below is an example of how personal factors influence Seth's food choices.



# Environmental Factors

Environmental factors influence food choices a little differently than individual factors because they can apply to each person or to an entire group of people. Also, environmental factors may influence your food choices without you even realizing it. Below are a few examples of different environmental factors.

Can you think of any others?

## Weather

Ever crave ice cream on a hot day? What about a warm bowl of soup when it's cold? These food choices are influenced by the weather.



## Ambiance

The ambiance of a location may also influence if you choose to eat there. For a special occasion, do you want an elegant candle lit dinner or something more casual?

## Government Policies

Government policies can directly affect other factors which in turn can influence food choices. For example, government policies might influence the cost of raw materials which could alter prices. The resulting changes in price could influence food purchases.



## Availability

Sometimes the food you actually want may not be available. You will then have to decide to either make a substitution or not have that food at all. On the other hand, there are food items, such as apples, that tend to regularly be available. Knowing that you can almost always get a food item may influence your decision as well.



## How do restaurants use these concepts to influence choices?

Although some factors of influence may be more easily identified as environmental, like weather or climate, others may surprise you.

For example, a buffet-style restaurant might strategically place items in a certain order knowing that people will tend to take more of the first few items. The restaurant could use this layout to put lower cost items in the front and higher cost items in the back of the buffet.

# But What About the Lunchroom?

Students have several choices in the lunchroom. Examples of the factors that may play a role in their decision-making in the lunchroom are highlighted below.



## Length of the serving line

The length of the serving line may influence a student's food choice. A student in a rush may opt for the shortest line while a student whose favorite food is being served may be willing to wait in a longer line.



## Presence of colorful fruits and vegetables on the salad bar

Visual appeal is very important to students. Fruits and vegetables that are colorful and look fresh may draw more students to the salad bar.

## Time available for purchasing and consuming the meal

Time plays a role in students' food choices in the lunchroom. Some students may want to purchase and eat lunch as soon as possible to get out to recess faster. Other students may want to purchase their food quickly in order to have more time to consume the meal.





## Which Factors Have More of an Influence on You: Personal or Environmental? Take our Quiz to Find Out!

### The Results are In!

Total up the number of A's and B's that you selected.

*If you chose mostly A's:*

Your food choices are more influenced by personal factors than by environmental factors. For a review of individual factors, see page 2.

*If you chose mostly B's:*

Your food choices are more influenced by environmental factors than by personal factors. For a review of environmental factors, see page 3.

*If you chose the same number of A's and B's:*

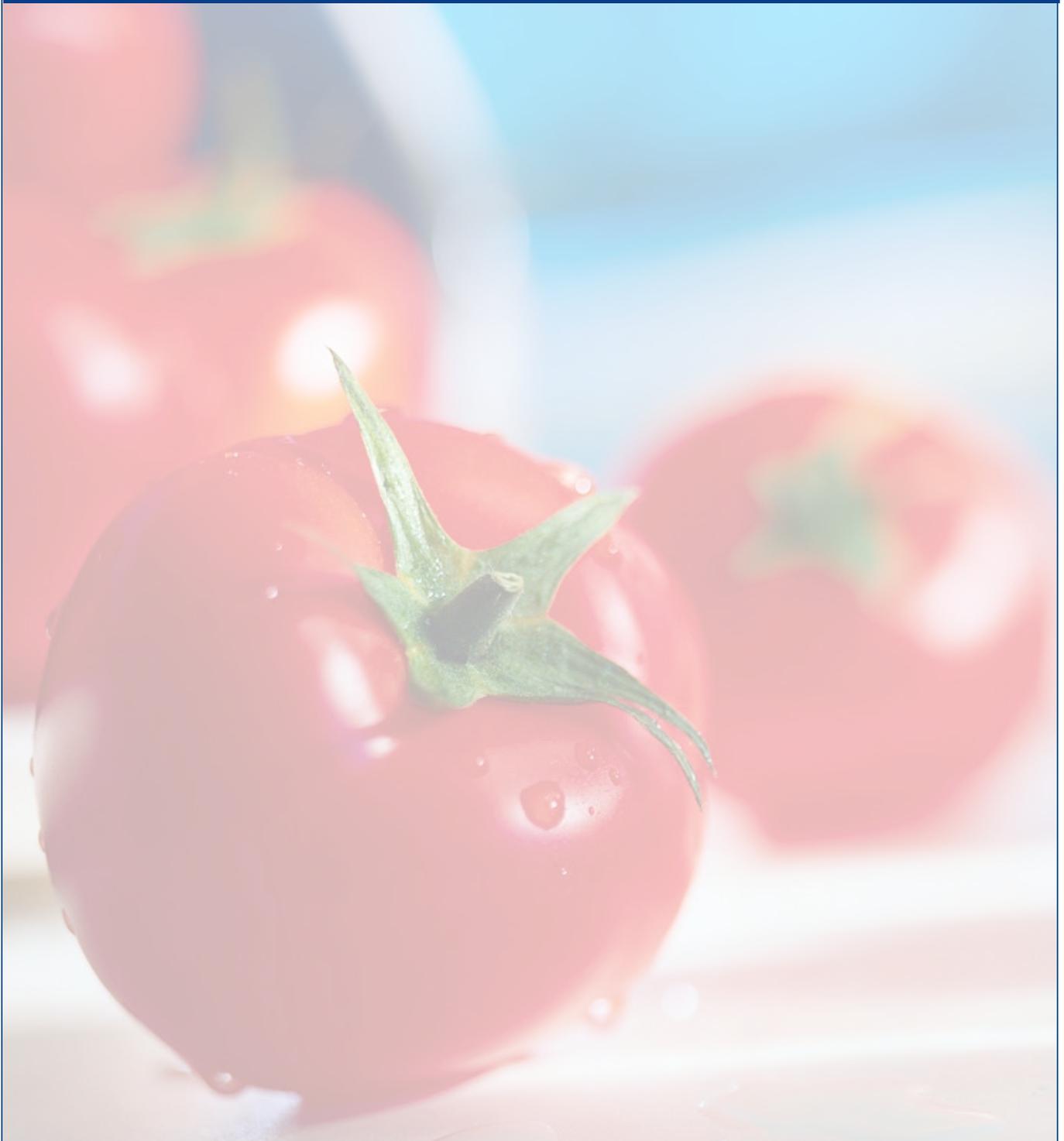
Your food choices are equally influenced by individual and environmental factors.

1. Your favorite food is your favorite because...
  - a. It reminds you of something you ate growing up.
  - b. It is always easy to find.
2. There are certain foods you eat because...
  - a. They are healthy and nutrient-dense.
  - b. You saw an advertisement on TV for them.
3. When figuring out what to eat, the most important thing is...
  - a. The taste of the food.
  - b. How much time you have to eat the food.
4. You buy local produce because...
  - a. It is cheaper and you're on a budget.
  - b. It supports local farms and agriculture.





# Lesson 7: How Smart is Your Lunchroom?





# Lesson 7: How Smart is Your Lunchroom?

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## Background Information

In the 2013-2014 school year, California schools served nearly 560 million lunches to children, and 280 million breakfasts as part of the **National School Lunch** and **School Breakfast Programs**. The breakfasts, lunches, snacks, and suppers served as part of these programs must meet state and federal nutrition requirements and include whole grains, fruits, vegetables, protein, and low-fat dairy. However, it can sometimes be challenging to encourage students to choose and eat the healthier food choices from the lunch lines. Fortunately, there are many things school nutrition personnel can do to help encourage students to select and eat the healthier food options.



A variety of factors influence our food choices (refer to Lesson 6). Though some of the factors that contribute to our decision-making may be very subtle, they have a large impact over time. The **Smarter Lunchrooms Movement** is a method to positively affect children's food choice behaviors by making small changes within the school lunchroom environment. This movement, which began at Cornell University in 2009, uses sustainable, low-cost or no-cost solutions that help to guide student choices. Many of the tactics have been used in restaurants. For example, research has demonstrated that the order of items in a buffet can influence what an individual chooses, with the first item being at a distinct advantage. Restaurants use this information to lower costs, by placing less expensive items first. In school lunch, this placement may be used to encourage students to choose more fruits or vegetables, or to choose plain milk instead of flavored milk.



Research has also demonstrated that when students are able to make a choice, they are far more likely to consume the foods they've chosen. Using research results, the Smarter Lunchrooms Movement subtly guides student selections, which they are in turn more likely to consume because they freely made the choice.

Key components of the Smarter Lunchrooms Movement are designed to target specific areas, such as promoting vegetables and salads, increasing sales of reimbursable meals, and promoting an entrée of the day.

## Concepts and Vocabulary

**Creating School Synergies:** This Smarter Lunchrooms Movement component refers to creating an inviting lunchroom through signage, a pleasant atmosphere, and student involvement.

**Entrée of the Day:** This Smarter Lunchrooms Movement component refers to the promotion of a targeted entrée each day using creative, descriptive names, as well as placement on the line. The targeted entrée is a way to encourage the selection of new menu items, as well as selection of nutrient-dense menu items.

**Focusing on Fruit:** This Smarter Lunchrooms Movement component refers to methods in the placement and serving of fruit to increase exposure and visibility, in order to promote selection and consumption.

**Increasing Sales of Reimbursable Meals:** This Smarter Lunchrooms Movement component encourages students to choose reimbursable meals over competitive foods. Some of the techniques include moving competitive foods behind a counter so that students have to ask for them, and creating reimbursable grab-and-go meals.

**Moving More White Milk:** This Smarter Lunchrooms Movement component encourages students to consider plain milk as a beverage choice by using techniques such as including 1/3 or more plain milk on the serving line, or by placing plain milk in the front of the cooler.

**Promoting Vegetables and Salad:** This Smarter Lunchrooms Movement component refers to methods that are used to make vegetable offerings more appealing to students, through creative names and increased visibility.

**Smarter Lunchrooms Movement:** A method to change children's food choice behaviors through the application of evidence-based, lunchroom-focused principles that promote healthful eating.



# 7.1: Learning Activity

## Getting Ready

### Time Required

40 minutes

### Materials Needed

(\*Materials provided in the curriculum)

- Flip chart paper
- Markers, pens, or pencils
- \**Smarter Lunchrooms Movement* (Appendix 7A)
- \**Food of the Day Cards* (Appendix 7B)
- Craft supplies, such as construction paper, scissors, glue sticks, tape, glue, etc.

### Optional:

- \**Focus on Food Lesson 7* (PowerPoint)
- Computer
- PowerPoint Projector

### Preparation

1. Prepare copies of the *Smarter Lunchrooms Movement* Handout (Appendix 7A), one copy for each group.
2. Prepare copies of the *Food of the Day Cards* (Appendix 7B), so that each group has a different card.

**Facilitator Tip:** If there are more than six groups, it is acceptable for some groups to have the same *Food of the Day Card* (Appendix 7B).

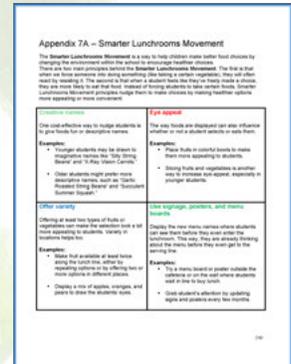
3. Prepare a table with craft supplies that participants may use to create their poster.
4. Organize the class into small groups of 2 to 4 participants.

**Facilitator Tip:** These groups can be the same groups formed in previous lessons.

5. Provide each group with a sheet of flip chart paper and markers, pens, or pencils to answer opening questions/prompts.

### Optional:

6. Before participants arrive, connect laptop to projector. Load *Focus on Food Lesson 7* (PowerPoint).





## Opening Questions/Prompts

1. **Say:** Let's get started with Lesson 7 – How Smart Is Your Lunchroom! To begin, I'd like everyone to discuss some opening questions within your group. Once you've discussed the prompts within your groups, we will come back together as a class and discuss your thoughts and responses as a whole. **(Slide 2)**

The first prompt I'd like you to discuss within your groups is:

- Discuss your understanding of the different ways the lunchroom can influence what a student chooses. **(Slide 3)**

2. **Do:** Allow 2 to 3 minutes for groups to discuss the prompts.
3. **Say:** Now I'd like you to discuss within your groups the next prompt:
  - Explain what you think about when you hear the term "Smarter Lunchrooms Movement". **(Slide 4)**

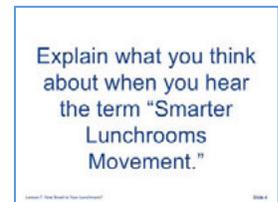
4. **Do:** Allow 2 to 3 minutes for groups to discuss the prompts.
5. **Say:** As a class, let's discuss what you talked about in your groups. What were some of your thoughts on the first prompt, "Discuss your understanding of the different ways the lunchroom can influence what a student chooses"?

6. **Do:** Allow about a minute for participants to share their thoughts on this topic with the class.

**Facilitator Tip:** This sharing phase is a great opportunity to begin to build rapport with participants. Some statements and questions to help engage participants at this phase are: "Tell me more about that"; "What do you mean by..."; "How is that motivating you?"; "Did anyone else write this?"; "That's a very popular opinion." At this stage, it is important that you do not correct misconceptions. Instead, make note of them, and if they are not corrected organically through the lesson, address them briefly at the end of the lesson.

7. **Say:** What were some of your thoughts on the second prompt, "Explain what you think about when you hear the term "Smarter Lunchrooms Movement"?"
8. **Do:** Allow about a minute for participants to share their thoughts on this topic with the class.

**Facilitator Tip:** Continue to make note of misconceptions as they arise. Assure participants that there will be more time to discuss these topics at the end of the lesson.



## Procedure (Experiencing)

1. **Say:** Now that we've completed our opening discussion, we'll start on the activity for this lesson. This activity involves the Smarter Lunchrooms Movement.
  - You will receive a handout that is about methods that are being used in schools to guide student choices in the lunchroom.



- Read through the handout within your groups. It might help to take turns reading aloud. **(Slide 6)**
2. **Do:** Hand out a copy of the *Smarter Lunchrooms Movement* Handout (Appendix 7A), one per group. Allow the groups a few minutes to read through the handout.
  3. **Say:** Now that you've read a little bit about the Smarter Lunchrooms Movement, you're going to put that into action. Your task is to make a plan that will increase sales of a menu item. **(Slide 7)**
    - Each group will receive a card with a type of school (Elementary, High School, or Middle School) and a food you will need to make a plan to promote.
    - This plan should use at least three different Smarter Lunchrooms techniques described in the handout you just read.
    - As part of that plan, you will need to make a poster, using the craft supplies provided, to promote your item.
    - At the end, all the groups will share their plan and poster, and how it incorporates different Smarter Lunchrooms Movement techniques.
  4. **Do:** Provide each group with a *Food of the Day Card* (Appendix 7B).



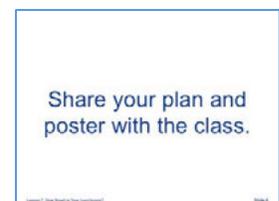
**Facilitator Tip:** Encourage participants to use inspiration from other sources than the handout, such as previous lessons, their own schools, restaurants, or advertisements. Some suggested prompts:

- Describe how you are going about making your plan to increase sales of this food.
- Explain how you're using what you learned in the handout.
- Explain how you're drawing inspiration from past experience.



## Activity Wrap-Up (Sharing, Processing, and Generalizing)

1. **Say:** Let's have each group share their plan and poster with the class, and we'll discuss how your plans use different elements of the Smarter Lunchrooms Movement. **(Slides 8 and 9)**
2. **Do:** Follow the group's line of thinking, and if necessary, ask more targeted questions.
  - Explain how you went about developing your plan and poster to reflect the information you learned about the Smarter Lunchrooms Movement.
  - Discuss the similarities and differences in the plans and posters that were presented.
  - Explain what was similar and different about the plans and posters that were for elementary schools compared to the ones for high schools.



- Explain how you already use some of the Smarter Lunchrooms Movement techniques, and how the students seem to respond.

**Facilitator Tip:** If there are any misconceptions remaining in this phase of the lesson, you should address these now.



## Concept and Term Discovery/Introduction

Over the course of the lesson, participants should be able to identify the following concepts:

- The Smarter Lunchrooms Movement suggests key principles for positively affecting student food choices. School nutrition staff can use Smarter Lunchrooms Movement tactics to encourage healthy behaviors.
- Their lunchrooms may already be using some of these tactics.

## 7.2: Expanding Knowledge

### Getting Ready



#### **Time Required**

10 minutes



#### **Materials Needed**

(\*Materials provided in the curriculum)

- \**Focus on Food Lesson 7* (PowerPoint)
- PowerPoint Projector
- Computer



#### **Preparation**

1. Connect laptop to projector. Load *Focus on Food Lesson 7* PowerPoint.
2. Queue the PowerPoint presentation to Slide 10.



### Procedure

1. Go through the Expanding Knowledge presentation slide by slide. The following script is available for use if you so choose.



Slide 10

Let's review some of the concepts we learned during Lesson 7, How Smart is Your Lunchroom?

## Smarter Lunchrooms Movement

- Started at Cornell University in 2009.
- Uses sustainable, low-cost or no-cost solutions to help guide students.
- Focuses on encouraging healthy choices, increasing participation, and decreasing plate waste.

Lesson 7: How Smart is Your Lunchroom?

Slide 11

Let's start with some basic facts about the Smarter Lunchrooms Movement. Originating at Cornell University in 2009, the Smarter Lunchrooms Movement uses sustainable, low-cost or no-cost solutions to help guide students. It also focuses on encouraging healthy choices, increasing participation, and decreasing plate waste.

### Slide 11

## "Nudging" Food Choices

- The environment can subconsciously nudge our decision.
- Smarter Lunchrooms Movement uses the environment to encourage, or nudge, students into making healthier choices.

Lesson 7: How Smart is Your Lunchroom?

Slide 12

One tactic the Smarter Lunchrooms Movement is "nudging". This tactic is based on the fact that the environment can subconsciously nudge our decision. The Smarter Lunchrooms Movement uses the environment to encourage, or nudge students into making healthier choices.

### Slide 12

## Smarter Lunchrooms Movement Principles

- Increase convenience
- Improve visibility
- Enhance taste expectations
- Use suggestive selling
- Manage portion sizes
- Set smart pricing strategies

Lesson 7: How Smart is Your Lunchroom?

Slide 13

The Smarter Lunchrooms Movement Principles include: Increasing convenience; Improving visibility; Enhancing taste expectations; Using suggestive selling; Managing portion sizes; and Setting smart pricing strategies. Let's go over these in more detail.

### Slide 13

## Increase Convenience

- By making healthy options quicker and easier, students will be more likely to choose them.
- Put healthy choices in easy-to-reach spots.
- Create a healthy foods convenience or grab-and-go line.

Lesson 7: How Smart is Your Lunchroom?

Slide 14

Slide 14

You can increase convenience by making healthy options quicker and easier to access. This way, students will be more likely to choose them. You may also consider putting healthy choices in easy-to-reach spots. Creating a healthy foods convenience or grab-and-go line is another Smarter Lunchrooms Movement tip that can help increase convenience. Can anyone share how you're using this principle in your lunchroom, or how you could in the future?

[Pause to allow responses from the class.]

## Improve Visibility

- Place foods you want students to choose front and center.
- Use attractive bowls or baskets
- Place fruits and vegetables at eye level of students.
- Make fruits and vegetables available at more than one spot on the line.

Lesson 7: How Smart is Your Lunchroom?

Slide 15

Slide 15

Some Smarter Lunchrooms Movement Tips that help improve visibility include placing foods you want students to choose front and center; using attractive bowls or baskets; placing fruits and vegetables at eye level of students; and making fruits and vegetables available at more than one spot on the line. Can anyone share how you're using this principle in your lunchroom, or how you could in the future?

[Pause to allow responses from the class.]

## Enhance Taste Expectations

- If we expect food to taste good, it often will.
- One way to increase taste expectations is through appealing names.
- Which of these sounds tastier?
  - Salad
  - or
  - Zesty Southwest Salad

Lesson 7: How Smart is Your Lunchroom?

Slide 16

Slide 16

Enhancing taste expectations can also help nudge students into making healthier choices. It is well known that if we expect food to taste good, it often will. One way to increase taste expectations is through appealing names. Which of these sounds tastier? Salad or Zesty Southwest Salad?

[Pause to allow responses from the class.]

Can anyone share how you're using this principle in your lunchroom, or how you could in the future?

[Pause to allow responses from the class.]

## Use Suggestive Selling

- Use visual cues and verbal prompts to encourage students to make healthy selections.
- Try verbal prompts, such as “Did you know you get fruit free with your meal?”
- Use colorful, eye-catching signage, menu boards, and name cards.
- Promote the next day’s menu with signs.

Lesson 7: How Smart is Your Lunchroom?

Slide 17

Slide 17

The Smarter Lunchrooms Movement also advises that you use suggestive selling in the lunchroom. For example, you can use visual cues and verbal prompts to encourage students to make healthy selections. Try verbal prompts, such as “Did you know you get fruit free with your meal?” You can also use colorful, eye-catching signage, menu boards, and name cards. Another idea is to promote the next day’s menu with signs. Can anyone share how you’re using this principle in your lunchroom, or how you could in the future?

[Pause to allow responses from the class.]

## Manage Portion Sizes

- The larger the serving utensil, the larger the portion.
- Try using smaller scoops or spoons for foods you want children to select less of.
- For example, on the salad bar use a smaller scoop for croutons than for green peas.

Lesson 7: How Smart is Your Lunchroom?

Slide 18

Slide 18

Another Smarter Lunchrooms tip is to manage portion sizes. The larger the serving utensil, the larger the portion. Try using smaller scoops or spoons for foods you want children to select less of. For example, on the salad bar use a smaller scoop for croutons than for green peas. Can anyone share how you’re using this principle in your lunchroom, or how you could in the future?

[Pause to allow responses from the class.]

## Set Smart Pricing Strategies

- Pricing can be a large influence on choice.
- Make healthier choices cheaper, or offer combo deals.
- For example, offer a two-for-one fruit deal.

Lesson 7: How Smart is Your Lunchroom?

Slide 19

Slide 19

Another Smarter Lunchrooms tip is to set smart pricing strategies. Pricing can be a large influence on choice. Make healthier choices cheaper, or offer combo deals. For example, offer a two-for-one fruit deal. Can anyone share how you’re using this principle in your lunchroom, or how you could in the future?

[Pause to allow responses from the class.]

What are some other strategies we can use to encourage healthy choices and increase participation?

Lesson 7: How Smart is Your Lunchroom?

Slide 20

Slide 20

What are some other strategies we can use to encourage healthy choices and increase participation?

[Pause to allow responses from the class.]



# 7.3: Goal Setting Activity

## Getting Ready



### Time Required

10 minutes



### Materials Needed

(\*Materials provided in the curriculum)

- \*Goal Setting: How Smart is Your Lunchroom (Appendix 7C)
- \*Smarter Lunchrooms Self-Assessment Scorecard (Appendix 7D)

Optional:

- \*Focus on Food Lesson 7 Newsletter (Appendix 7E)
- Computer
- PowerPoint Projector

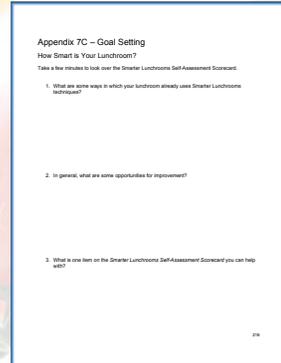


### Preparation

1. Make copies of the *Goal Setting: How Smart is Your Lunchroom* Handout (Appendix 7C), one for each participant.
2. Make copies of the *Smarter Lunchrooms Self-Assessment Scorecard* (Appendix 7D), one for each participant.

Optional:

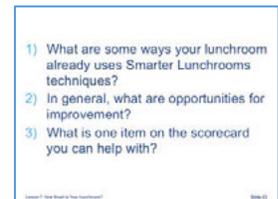
3. Make copies of the *Focus on Food Lesson 7 Newsletter* (Appendix 7E), one for each participant.
4. Connect laptop to projector. Load *Focus on Food Lesson 7* (PowerPoint).
5. Queue the PowerPoint Presentation to Slide 21.





## Procedure (Experiencing)

1. **Say:** Now let's move on to Goal Setting! **(Slide 21)** We've talked about how important consuming a variety of foods is to our health. The next step is to set some goals and make a plan. I am going to distribute a *Smarter Lunchrooms Self-Assessment Scorecard*. **(Slide 22)**
    - This scorecard is a checklist to help assess your lunchroom.
    - Think about your cafeteria, serving areas, and school.
    - If the statement is true, check the box.
  2. Briefly glance over the Scorecard, and then answer the following questions on your Goal Setting Handout: **(Slide 23)**
    - 1) What are some ways your lunchroom already uses Smarter Lunchrooms techniques?
    - 2) In general, what are some opportunities for improvement?
    - 3) What is one item on the *Smarter Lunchrooms Self-Assessment Scorecard* you can help with?
  3. **Do:** Provide a copy of the *Smarter Lunchrooms Self-Assessment Scorecard* (Appendix 7D) and a copy of the *Goal Setting: How Smart is Your Lunchroom* Handout (Appendix 7C) to each participant. Allow participants a few minutes to complete the handout.
  4. **Say:** Would anyone like to share the goals they set for themselves?
- Optional:
5. **Say:** I'm going to distribute one last handout, which is a newsletter with some extra information you might be interested in. Thank you all for participating in Lesson 7! **(Slide 23)**
  6. **Do:** Provide a copy of the *Focus on Food Lesson 7 Newsletter* (Appendix 7E) to each participant.



# Appendix 7A – Smarter Lunchrooms Movement

The **Smarter Lunchrooms Movement** is a way to help children make better food choices by changing the environment within the school to encourage healthier choices.

There are two main principles behind the **Smarter Lunchrooms Movement**. The first is that when we force someone into doing something (like taking a certain vegetable), they will often react by resisting it. The second is that when a student feels like they've freely made a choice, they are more likely to eat that food. Instead of forcing students to take certain foods, Smarter Lunchrooms Movement principles nudge them to make choices by making healthier options more appealing or more convenient.

|  |  |
|--|--|
| <p><b>Creative names</b></p> <p>One cost-effective way to nudge students is to give foods fun or descriptive names.</p> <p><b>Examples:</b></p> <ul style="list-style-type: none"><li>• Younger students may be drawn to imaginative names like “Silly String Beans” and “X-Ray Vision Carrots.”</li><li>• Older students might prefer more descriptive names, such as “Garlic Roasted String Beans” and “Succulent Summer Squash.”</li></ul>  | <p><b>Eye appeal</b></p> <p>The way foods are displayed can also influence whether or not a student selects or eats them.</p> <p><b>Examples:</b></p> <ul style="list-style-type: none"><li>• Place fruits in colorful bowls to make them more appealing to students.</li><li>• Slicing fruits and vegetables is another way to increase eye-appeal, especially in younger students.</li></ul>   |
| <p><b>Offer variety</b></p> <p>Offering at least two types of fruits or vegetables can make the selection look a bit more appealing to students. Variety in locations helps too.</p> <p><b>Examples:</b></p> <ul style="list-style-type: none"><li>• Make fruit available at least twice along the lunch line, either by repeating options or by offering two or more options in different places.</li><li>• Display a mix of apples, oranges, and pears to draw the students’ eyes.</li></ul> | <p><b>Use signage, posters, and menu boards</b></p> <p>Display the new menu names where students can see them before they even enter the lunchroom. This way, they are already thinking about the menu before they even get to the serving line.</p> <p><b>Examples:</b></p> <ul style="list-style-type: none"><li>• Try a menu board or poster outside the cafeteria or on the wall where students wait in line to buy lunch.</li><li>• Grab student’s attention by updating signs and posters every few months</li></ul> |

### Convenience counts!

Making foods easier to choose is a great way to encourage students to eat those foods.

#### Examples:

- Put quick, healthy items in a “grab and go” meal
- Increase eye-appeal by slicing fruits and vegetables. This especially appeals to younger students.

### Be a healthy eating hero!

One of the most important ways to nudge a student to make healthier choices is by modeling healthy behaviors! They look up to you!

#### Examples:

- Do what you do best! Continue to be friendly with your students and point out healthy lunch selections with a smile on your face.
- Label a lunch item as “chef’s choice” and encourage students to give your favorite meal a try!

### Get the whole school involved!

Students spend the majority of their time at school outside of the lunchroom. You can take advantage of this by marketing outside the lunchroom.

#### Examples:

- Keep a daily menu board posted around campus.
- Have student groups organize taste tests or name school foods.

### Make the lunchroom an inviting place to eat!

There are a lot of little things that contribute to a pleasant environment that we may not even realize. Chances are the more inviting the lunchroom is, the more likely a student is to purchase school meals.

#### Examples:

- Keep the lunchroom and serving area free of clutter and clearing supplies.
- Tidy up between lunch periods to keep mess to a minimum.

## Appendix 7B – Food of the Day Cards

### **High School Food of the Day**

#### **Turkey chili**

Make a plan to promote this item, using at least 3 different Smarter Lunchrooms Movement Techniques.

### **Elementary School Food of the Day**

#### **Sweet potato fries**

Make a plan to promote this item, using at least 3 different Smarter Lunchrooms Movement Techniques.

### **Middle School Food of the Day**

#### **Carrot sticks**

Make a plan to promote this item, using at least 3 different Smarter Lunchrooms Movement Techniques.

### **High School Food of the Day**

#### **Three bean salad**

Make a plan to promote this item, using at least 3 different Smarter Lunchrooms Movement Techniques.

### **Elementary School Food of the Day**

#### **Romaine lettuce salad**

Make a plan to promote this item, using at least 3 different Smarter Lunchrooms Movement Techniques.

### **Middle School Food of the Day**

#### **Bean burrito**

Make a plan to promote this item, using at least 3 different Smarter Lunchrooms Movement Techniques.



# Appendix 7D – Smarter Lunchrooms Self-Assessment Scorecard



## Smarter Lunchrooms Self-Assessment

2014  
Scorecard

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Since its founding in 2009 the Smarter Lunchrooms Movement has championed the use of evidence-based, simple low and no-cost changes to lunchrooms which can simultaneously improve participation and profits while decreasing waste. This tool can help you to evaluate your lunchroom, congratulate yourself for things you are doing well and identify areas of opportunity for improvement

### Instructions

Read each of the statements below. Visualize your cafeteria, your service areas and your school building. Indicate whether the statement is true for your school by checking the box to the left. If you believe that your school does not reflect the statement 100% do not check the box on the left. After you have completed the checklist, tally all boxes with check marks and write this number in the designated area on the back of the form. This number represents your school's baseline score. The boxes which are not checked are areas of opportunity for you to consider implementing in the future. We recommend completing this checklist annually to measure your improvements!

It's not nutrition...until it's eaten!



### Important Words

**Service areas:** Any location where students can purchase or are provided with food

**Dining areas:** Any location where students can consume the food purchased or provided

**Grab and Go Meals:** Any meal with components pre-packaged together for ease and convenience – such as a brown bag lunch or “Fun Lunch” etc.

**Designated Line:** Any foodservice line which has been specified for particular food items or concepts – such as a pizza line, deli line, salad line etc.

**Alternative entrée options:** Any meal component which could also be considered an entrée for students - such as the salad bar, yogurt parfait, vegetarian/vegan or meatless options etc.

**Reimbursable “Combo Meal” pairings:** Any reimbursable components available independently on your foodservice lines which you have identified as a part of a promotional complete meal – For example you decided your beef taco, seasoned beans, frozen strawberries and 1% milk are part of a promotional meal called the, “Mi Amigo Meal!” etc.

**Non-functional lunchroom equipment:** Any items which are either broken, awaiting repair or are simply not used during meal service – such as empty or broken steam tables, coolers, registers etc.

**Good Rapport:** Communication is completed in a friendly and polite manner

**All Points of Sale:** Any location where a register/pin-pad is located for example: deli-line, snack window, a la carte line, hot line, kiosks/carts etc.

- Fruit is available at all points of sale (deli-line, snack windows, a la carte lines etc.)
- Daily fruit options are available in at least two different locations on each service line
- At least one daily fruit option is available near all registers (If there are concerns regarding edible peel, fruit can be bagged or wrapped)
- Whole fruit options are displayed in attractive bowls or baskets (instead of chaffing/hotel pans)
- A mixed variety of whole fruits are displayed together
- Daily fruit options are easily seen by students of average height for your school
- Daily fruit options are bundled into all grab and go meals available to students
- Daily fruit options are written legibly on menu boards in all service and dining areas

### Promoting Vegetables & Salad



- At least two types of vegetable are available daily
- Vegetables are not wilted, browning, or otherwise damaged
- At least one vegetable option is available in all foodservice areas
- Individual salads or a salad bar is available to all students
- The salad bar is highly visible and located in a high traffic area
- Self-serve salad bar utensils are at the appropriate portion size or larger for all fruits and vegetable offered
- Self-serve salad bar utensils are smaller for croutons, dressing and other non-produce items
- Daily vegetable options are available in at least two different locations on each service line
- Daily vegetable options are easily seen by students of average height for your school
- A daily vegetable option is bundled into grab and go meals available to students
- A default vegetable choice is established by pre-plating a vegetable on some of the trays

- Available vegetable options have been given creative or descriptive names
- All vegetable names are printed/written on name-cards or product IDs and displayed next to each vegetable option daily
- All vegetable names are written and legible on menu boards
- All vegetable names are included on the published monthly school lunch menu

### Moving More White Milk



- All beverage coolers have white milk available
- White milk is placed in front of other beverages in all coolers
- White milk crates are placed so that they are the first beverage option seen in all designated milk coolers
- White milk is available at all points of sale (deli-line, snack windows, a la carte lines etc.)
- White milk represents at least 1/3 of all visible milk in the lunchroom
- White milk is easily seen by students of average height for your school
- White milk is bundled into all grab and go meals available to students as the default beverage
- White milk is promoted on menu boards legibly
- White milk is replenished so all displays appear “full” continually throughout meal service and after each lunch period

### Entrée of the Day



- A daily entrée option has been identified to promote as a “targeted entrée” in each service area and for each designated line (deli-line, snack windows, a la carte lines etc.)
- Daily targeted entrée options are highlighted on posters or signs
- Daily targeted entrée is easily seen by students of average height for your school
- Daily targeted entrées have been provided creative or descriptive names
- All targeted entrée names are printed/written on name-cards or product IDs and displayed next to each respective entrée daily

### Focusing on Fruit



- At least two types of fruit are available daily
- Sliced or cut fruit is available daily
- Fruit options are not browning, bruised or otherwise damaged
- Daily fruit options are given creative, age-appropriate names

- All targeted entrée names are written and legible on menu boards
- All targeted entrée names are included on the published monthly school lunch menu
- All targeted entrees are replenished so as to appear “full” throughout meal service

### Increasing Sales Reimbursable Meals



- A reimbursable meal can be created in any service area available to students (salad bars, snack windows, speed lines, speed windows, dedicated service lines etc.)
- Reimbursable “Combo Meal” pairings are available and promoted daily
- A reimbursable meal has been bundled into a grab and go meal available to students
- Grab and go reimbursable meals are available at a convenience line/speed window
- The convenience line offers only reimbursable grab and go meals with low-fat non-flavored milk fruit and/or vegetable.
- Grab and go reimbursable meals are easily seen by students of average height for your school
- The School offers universal free lunch
- A reimbursable combo meal pairing is available daily using alternative entrees (salad bar, fruit & yogurt parfait etc.)
- Reimbursable “Combo Meal” pairings have been provided creative or descriptive age-appropriate names (i.e. – The Hungry Kid Meal, The Athlete’s Meal, Bobcat Meal etc.)
- Reimbursable “Combo Meal” pairing names are written/printed on name-cards, labels, or product IDs and displayed next to each respective meal daily
- All reimbursable “Combo Meal” names are written and legible on menu boards
- All reimbursable “Combo Meal” names are included on the published monthly school lunch menu
- Reimbursable “Combo Meal” pairings are promoted on signs or posters
- The named reimbursable “Combo Meal” is promoted during the school’s morning announcements
- Students have the option to pre-order their lunch in the morning or earlier
- The cafeteria accepts cash as a form of payment

### Creating School Synergies

#### Signage, Priming & Communication



- Posters displaying healthful foods are visible and readable within all service and dining areas
- Signage/posters/floor decals are available to direct students toward all service areas

- Signs promoting the lunchroom and featured menu items are placed in other areas of the school such as the main office, library or gymnasium.
- Menu boards featuring today’s meal components are visible and readable within all service and dining areas
- A dedicated space/menu board is visible and readable from 5ft away within the service or dining area where students can see tomorrow’s menu items
- Dining space is branded to reflect student body or school (i.e. – school lunchroom is named for school mascot or local hero/celebrity)
- All promotional signs and posters are rotated, updated or changed at least quarterly
- All creative and descriptive names are rotated, updated or changed at least quarterly
- A monthly menu is available and provided to all student families, teachers and administrators
- A monthly menu is visible and readable within the school building
- A weekly “Nutritional Report Card” is provided to parents detailing what their student has purchased during the previous week.

### Lunchroom Atmosphere

- Trash on floors, in, or near garbage cans is removed between each lunch period
- Cleaning supplies and utensils are returned to a cleaning closet or are not visible during service and dining
- Compost/recycling/tray return and garbage cans are tidied between lunch periods
- Compost/recycling/tray return and garbage cans are at least 5ft away from dining students
- Dining and service areas are clear of any non-functional equipment or tables during service
- Sneeze guards in all service areas are clean
- Obstacles and barriers to enter service and dining areas have been removed (i.e. – garbage cans, mop buckets, cones, lost & found etc.)
- Clutter is removed from service and dining areas promptly (i.e. – empty boxes, supply shipments, empty crates, pans, lost & found etc.)
- Students artwork is displayed in the service and/or dining areas
- All lights in the dining and service areas are currently functional and on
- Trays and cutlery are within arm’s reach to the students of average height for your school
- Lunchroom equipment is decorated with decals/magnets/signage etc. wherever possible

- Teachers and administrators dine in the lunchroom with students
- Cafeteria monitors have good rapport with students and lunchroom staff
- The dining space is used for other learning activities beyond meal service (i.e. – home economics, culinary nutrition education activities, school activities etc.)
- Staff is encouraged to model healthful eating behaviors to students (i.e. – dining in the lunchroom with students, encouraging students to try new foods etc.)
- Staff smiles and greets students upon entering the service line continually throughout meal service
- Students who do not have a full reimbursable meal are politely prompted to select and consume a fruit or vegetable option by staff

### Student Involvement

- Student groups are involved in the development of creative and descriptive names for menu items
- Student groups are involved in creation of artwork promoting menu items
- Student groups are involved in modeling healthful eating behaviors to others (i.e. – mentors, high school students eating in the middle school lunchroom occasionally etc.)
- Student surveys are used to inform menu development, dining space décor and promotional ideas
- Students, teachers and/or administrators announce daily meal deals or targeted items in daily announcements

### Recognition & Support of School Food

- The school participates in other food program promotions such as: Farm to School, Chefs Move to Schools, Fuel Up to Play 60, Share our Strength etc.)
- The school has applied or been selected for the Healthier US School Challenge
- A local celebrity (Mayor, sports hero, media personality) is invited to share lunch with student 3 to 4 time a year

### A la Carte

- Students must ask to purchase a la carte items from staff members
- Students must use cash to purchase a la carte items which are not reimbursable
- Half portions are available for at least two dessert options

|                                   |   |
|-----------------------------------|---|
| <b>Total Checked</b>              |  |
| <b>Scoring Brackets</b>           |  |
| 70-100 – Smarter Lunchrooms Gold  |  |
| 50-70 – Smarter Lunchrooms Silver |   |
| 30-50 – Smarter Lunchrooms Bronze |   |



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## Appendix 7E – Focus on Food Lesson 7 Newsletter

The optional newsletter on the following pages is designed to help reinforce the concepts learned. If offering this course in a single workshop, you may wish to distribute the lesson newsletters weekly in order to help refresh participants' memory and solidify the concepts.

# How Smart is Your Lunchroom?

## In this issue...

|   |        |
|---|--------|
| Moving More White Milk                                | Page 2 |
| Focusing on Fruit                                     | Page 2 |
| What's in a Name?                                     | Page 3 |
| Increasing Sales of Reimbursable Meals                | Page 3 |
| Promoting Vegetables and Salad                        | Page 4 |
| Smarter Lunchrooms Success in Tustin, California!     | Page 4 |
| Entrée of the Day                                     | Page 4 |
| Test your knowledge with the Smarter Lunchrooms quiz! | Page 5 |



## What is a Smarter Lunchroom?

The **Smarter Lunchrooms Movement** is a way to help children make better food choices by changing the environment within the school to encourage healthier choices.

There are two main principles behind the Smarter Lunchrooms Movement. The first is that when we force someone into doing something (like taking a certain vegetable), they will often react by resisting it. The second is that when a student feels like they've freely made a choice, they are more likely to eat that food. Instead of forcing students to take certain foods, Smarter Lunchrooms techniques nudge them to make choices by making healthier options more appealing or more convenient.

Key components of the Smarter Lunchrooms Movement are designed to target specific areas, such as promoting an entrée of the day, promoting vegetables and salads, increasing sales of reimbursable meals, and encouraging student to choose white milk over flavored milk.

*Turn the page to find out what Smarter Lunchrooms is all about!*



Visit the **Smarter Lunchrooms Movement** website for methods to change children's food choice behaviors through the application of lunchroom-focused principles that promote healthful eating.

<http://smarterlunchrooms.org>



## Moving More White Milk

*Encourage students to consider plain milk as a beverage*

Growing kids need plenty of calcium and vitamin D to support growing bones. Milk is a great way for students to get these nutrients, along with protein and potassium.

Like with fruits and vegetables, offering students a choice of milk is a great way to encourage students to select and drink it. Help students get in the habit of thinking of white milk as a great choice. There are some easy ways to increase the chance that students will choose white milk over flavored.

Rearrange coolers so that white milk is at least 1/3 of all drinks displayed.

Place white milk in front of other drinks so that students must reach around the white milk to get to other drinks.

Place milk first in line, before other drinks so that students must walk past the white milk to get to other drinks.

If your students still prefer flavored milk to white milk, don't fret. It still has all the calcium, vitamin D, and protein as white milk.

## Focusing on Fruit Colorful, Tasty, and Nutrient-Rich

Fruit, one of the five components of a reimbursable meal, is a great source of a variety of nutrients children need, including vitamin C and potassium. What are some ways we can encourage students to select fruit and eat it?

Have you ever heard the phrase "We eat with our eyes first?" It means the way food looks or is presented makes a huge difference in whether we want to eat it. This is true for children, as well as adults. Changing the way fruit is displayed can make a big difference in student choices.

Here are some ideas that you can try in your lunchroom!

Always offer a choice of fruit! Just giving students a chance to choose means they'll be more likely to eat what they select.



Display fruit in attractive bowls or baskets!

Make sure students can see all the great fruit you offer by displaying it at their eye level.

Make fruit available at least twice along the lunch line, either by repeating options or by offering two or more options in different places.

Offer a sliced fruit daily. Not only does it increase eye-appeal, it's easier for younger students to eat.

# What's in a Name?

*Turns out, quite a lot!*

The way a food is described can make a big difference in how we expect it to taste, even when it's the exact same food. In fact, research suggests that people rate the very same dish as tasting *better* just with a change in name. Which would you rather eat—Grilled Chicken, or Fiesta Lime Grilled Chicken?

It doesn't just work on adults. One cost-effective way to nudge students to select certain foods, or try new menu items is to give foods fun or

Studies have shown that labeling a food as "healthy" actually decreases sales. Try using "fresh" to convey a similar idea.

descriptive names. When thinking of new names, take the age of students into account.

Younger students may be drawn to imaginative names like "Silly String Beans," and "X-Ray Vision Carrots" but older students might prefer more descriptive names, such as

"Garlic Roasted String Beans," and "Succulent Summer Squash."

One study found that when carrots were called "X-Ray Vision Carrots," elementary

Younger students like imaginative names while older students prefer more descriptive names.

students ate twice as many compared to when they were called "Food of the Day." Keep in mind that using the word "healthy" in your description might not be a good idea. Studies have shown that labeling a food as "healthy" actually decreases sales. Try using "fresh" to convey a similar idea.



## Increasing Sales of Reimbursable Meals



A reimbursable meal is a great way for students to eat a variety of nutrients that support their health and academic success. But how do we encourage students to choose reimbursable meal over competitive foods? Here are some ideas!

### Provide Grab-and-Go Meals

Make it easy and convenient for students to grab a complete reimbursable meal quickly.

### Move Competitive Foods Behind a Counter

This way, students will be less likely to choose competitive foods over a reimbursable meal. Out of sight, out of mind.

### Create a Healthy-Items-Only Convenience Line

Hungry students will jump at the chance to get in a fast-moving line so they can quickly get back to their friends!

# Promoting Vegetables and Salad

*How can we encourage students to not just select vegetables, but to also eat and enjoy them?*

Get students involved! Create a committee of students responsible for the naming of and creating signage for veggies. Chances are, they're more savvy about what appeals to their peers.

Use fun, brightly colored name cards for the vegetables to help draw attention to them.

Advertise your newly renamed veggies before students even enter the cafeteria. A great option is a poster or menu board outside the cafeteria that students will see on their way in.



There are a lot of different ways you can display your fun name cards. You can fold and place them on the counter, or use tape, magnets, or magnetic clips. The important thing is that they're at student eye level.

## Smarter Lunchrooms Success in Tustin, California!

In Tustin, CA, C.E. Utt Middle School set out to transform the lunchroom and enhance healthy eating habits among students.

The team incorporated changes that included increasing the abundance and variety of fresh fruits and vegetables displayed in a pleasant manner multiple times along the lunch line, and making milk cartons more visible while increasing the white- to flavored- milk ratio. This change doubled the sale of white milk!

Other changes included adding colorful tablecloths to create a welcoming environment for students and moving trash cans away from exits to help decrease food waste.

Learn more at:

<http://thrivingschools.kaiserpermanente.org/feeding-the-falcons-how-one-school-is-increasing-healthy-eating-behavior/>

## Entrée of the Day



Why have an entrée of the day? It's a great way to promote new menu items, or nutrient-dense foods you'd like students to select.

Give the entrée of the day a fun, creative, or descriptive name!

Display the new names where students will see them before they even get to the cafeteria. That way, they'll think about the entrée of the day while they're hungry and deciding what they want to eat.

Promote your daily entrée in all service lines.

Highlight it on signs and menus. Attractiveness counts! Write neatly and use bright, easy to see colors.

Don't limit advertising to just the lunchroom. Also consider promoting the entrée of the day in school announcements, or in the front office.



## Test your knowledge with the Smarter Lunchrooms Movement quiz!

True or False: The following are Smarter Lunchrooms Principles.

1. Ask students math problems in the lunch line.  
 True  
 False
2. Use fun, creative, or descriptive names for menu items.  
 True  
 False
3. Give all foods in the lunch line a grade.  
 True  
 False
4. Increase sales of white milk by no longer serving flavored milk.  
 True  
 False
5. Increase convenience of healthy items.  
 True  
 False
6. Use grab-and-go meals as a way to increase reimbursable meal sales.  
 True  
 False

## The Results are In!

*If you got all six right:*

You are a Smarter Lunchrooms Smarty! Keep getting out there and learning more!

*If you got three to five right:*

You're on the right track! Try finding the information you missed in other pages of this newsletter to become a Smarter Lunchrooms Movement master!

*If you got two or less right:*

It just means you have more opportunities to learn. Read through the newsletter again, or take a look at the Smarter Lunchrooms Movement website at

<http://www.smarterlunchrooms.org>

1. False; 2. True; 3. False; 4. False; 5. True; 6. True



# Lesson 8: Working Toward Wellness





# Lesson 8: Working Toward Wellness

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## Background Information

Schools play an important role in improving students' health and social outcomes, as well as promoting academic success. More than 95 percent of our nation's young people have direct contact with schools for about 6 hours a day and up to 13 critical years of their social, psychological, physical, and intellectual development.

The **Local School Wellness Policy** requirement, mandated by the USDA through the **Child Nutrition and WIC Reauthorization Act of 2004**, and further strengthened by the **Healthy, Hunger-Free Kids Act of 2010**, requires the development and implementation of a school wellness policy to establish a school environment that promotes students' health, well-being, and ability to learn by supporting healthy eating and physical activity.



The Local School Wellness Policy regulation mandates that, at a minimum, a local school wellness policy must include: goals for nutrition promotion and education, physical activity, and other school-based activities that promote student wellness; nutrition guidelines for all foods available on the school campus; involvement of parents, students, teachers, school nutrition and health professionals school board members, school administrators, and the general public in the development, implementation, review, and update of the Local School Wellness Policy; and communication to the public about the content and implementation of the policy.

## Concepts and Vocabulary

**Child Nutrition and WIC Reauthorization Act of 2004:** Legislation authorizing continued funding for several programs, including the National School Lunch and School Breakfast Programs. This particular law added a new requirement for each district to have a Local School Wellness Policy.

**Healthy, Hunger-Free Kids Act of 2010:** Legislation authorizing continued funding for several programs, including the National School Lunch and School Breakfast Programs. This particular law mandated changes strengthening the Local School Wellness Policy requirement.

**Local School Wellness Policy:** A written document that guides a school district's efforts to establish a school environment that promotes students' health, well-being, and ability to learn.



# 8.1: Learning Activity

## Getting Ready



### Time Required

45 minutes



### Materials Needed

(\*Materials provided in the curriculum)

- Flip chart paper
- Markers, pens, or pencils
- 1.5" x 2" colored sticky notes (four pads per group)
- \**District Wellness Policy Requirements* (Appendix 8A)

Optional:

- \**Focus on Food Lesson 8* (PowerPoint)
- Computer
- PowerPoint Projector



### Preparation

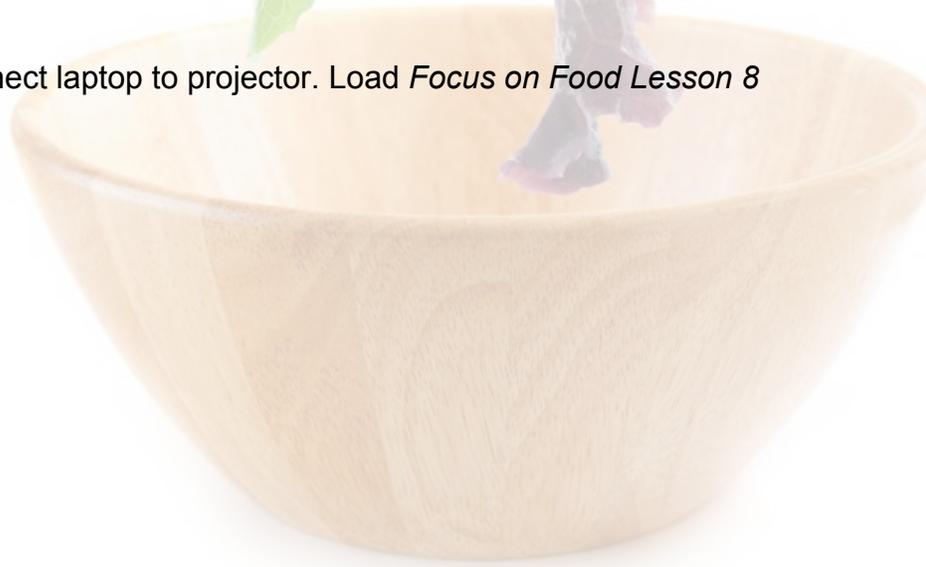
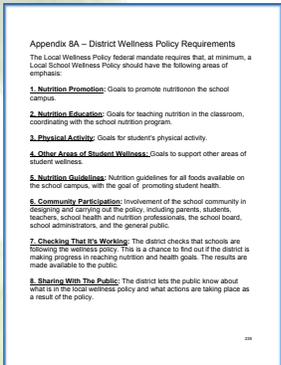
1. Make copies of *District Wellness Policy Requirements* (Appendix 8A), one copy per group.
2. Organize the class into small groups of 2 to 4 participants.

**Facilitator Tip:** These groups can be the same groups formed in previous lessons.

3. Provide each group with a sheet of flip chart paper and markers, pens, or pencils to answer opening questions/prompts.

Optional:

4. Before participants arrive, connect laptop to projector. Load *Focus on Food Lesson 8* (PowerPoint).





## Opening Questions/Prompts

1. **Say:** Let's get started with Lesson 8 – Working Toward Wellness! To begin, I'd like everyone to discuss some opening questions within your group. Once you've discussed the prompts within your groups, we will come back together as a class and discuss your thoughts and responses as a whole. **(Slide 2)**

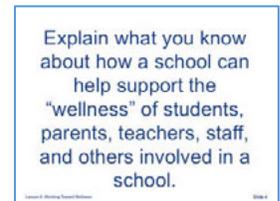
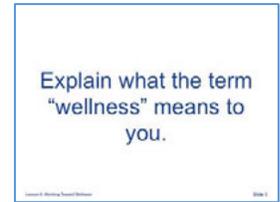
The first prompt I'd like you to discuss within your groups is:

- Explain what the term "wellness" means to you. **(Slide 3)**
2. **Do:** Allow 2 to 3 minutes for groups to discuss the prompts.
  3. **Say:** Now I'd like you to discuss within your groups the next prompt:
    - Explain what you know about how a school can help support the "wellness" of students, parents, teachers, school nutrition service staff, and others involved in a school. **(Slide 4)**
  4. **Do:** Allow 2 to 3 minutes for groups to discuss the prompts.
  5. **Say:** Now I'd like you to discuss within your groups the last prompt:
    - Explain what you know about local school wellness policies. **(Slide 5)**

6. **Do:** Allow 2 to 3 minutes for groups to discuss the prompts.
7. **Say:** As a class, let's discuss what you talked about in your groups. What were some of your thoughts on the first prompt, "Explain what the term "wellness" means to you"?
8. **Do:** Allow about a minute for participants to share their thoughts on this topic with the class.

**Facilitator Tip:** This sharing phase is a great opportunity to begin to build rapport with participants. Some statements and questions to help engage participants at this phase are: "Tell me more about that"; "What do you mean by..."; "How is that motivating you?"; "Did anyone else write this?"; "That's a very popular opinion." At this stage, it is important that you do not correct misconceptions. Instead, make note of them, and if they are not corrected organically through the lesson, address them briefly at the end of the lesson.

9. **Say:** What were some of your thoughts on the second prompt, "Explain what you know about how a school can help support the "wellness" of students, parents, teachers, school nutrition service staff, and others involved in a school"?
10. **Do:** Allow about a minute for participants to share their thoughts on this topic with the class.
- Facilitator Tip:** Continue to make note of misconceptions as they arise. Assure participants that there will be more time to discuss these topics at the end of the lesson.
11. **Say:** What were some of your thoughts on the last prompt, "Explain what you know about local school wellness policies"?
12. **Do:** Allow about a minute for participants to share their thoughts on this topic with the class.



**Facilitator Tip:** Continue to make note of misconceptions as they arise. Assure participants that there will be more time to discuss these topics at the end of the lesson.



## Procedure (Experiencing)

1. **Say:** Now that we've completed our opening discussion, we'll start on the activity for this lesson. This activity involves Local School Wellness Policies.
  - There are a lot of different ways a school can promote wellness. Think about all of the possible resources in a school that help support the "wellness" of students, parents, teachers, staff, and others in the school community.
  - Take all these ideas about schools supporting wellness, and write them on sticky notes. **(Slide 7)**
  - Only write one idea per sticky note. This is important, since you'll be doing something with these sticky notes later on in the activity.

On the sticky notes write all of the ways a school and the people involved in the school can help support wellness.

Write one idea per sticky note.

2. **Do:** Provide each group with 1.5" x 2" colored sticky notes (four pads per group).
3. **Do:** Allow participants several minutes to brainstorm and record ideas.

**Facilitator Tip:** If you observe participants writing very general concepts on each sticky note, encourage them to provide specific examples. For example, if participants write, "more exercise", you may prompt them by saying, "what specific things do you think could help get students and other members of the school community to be more physically active?"

4. **Say:** Now I'm going to distribute a handout about District Wellness Policy Requirements.
  - The federal government has certain requirements for wellness policies, and that's what this handout lists.
  - The next part of this activity is to organize your sticky notes into each component listed on the *District Wellness Policy Requirements* Handout (Appendix 8A). **(Slide 8)**

Organize your sticky notes into each section listed on the *District Wellness Policy Requirements* handout.

5. **Do:** Provide each group with a copy of the *District Wellness Policy Requirements* Handout (Appendix 8A). Allow participants a few minutes to organize their sticky notes.

6. **Say:** I'm going to hand out new blank pieces of flip chart paper. Use this new sheet of flip chart paper to design the kind of wellness policy you would like to see in a school. **(Slide 9)**

Use the new sheet of flip chart paper to design the kind of wellness policy you would like to see in a school.

This policy should meet the requirements on the *District Wellness Policy Requirements* handout.

- They can think of it as their "ideal" wellness policy.
- Your policy should meet the requirements on the *District Wellness Policy Requirements* Handout (Appendix 8A).

7. **Do:** Hand out a new, blank piece of flip chart paper to each group.
8. **Do:** Allow participants several minutes to brainstorm create their ideal wellness policy.

**Facilitator Tip:** Encourage students to think about the earlier discussion regarding what wellness means to them, and how they can use those ideas to create a healthy school. If

necessary, you may provide them with some things to think about when creating their own wellness policy:

- What are some ways to promote healthy food choices at school?
- Think about other areas of the school. Are there opportunities to promote healthy food choices in the classroom? What about after school or before school?
- Describe how you would encourage involvement from people in the school or in the community in promoting healthy food choices.
- How will you tell people in the community what your school is doing to promote wellness?



## Activity Wrap-Up (Sharing, Processing, and Generalizing)

1. **Say:** Let's have each group share their wellness policy with the class. **(Slide 10)**
2. **Do:** Follow the group's line of thinking, and if necessary, ask more targeted questions.
  - What are some common things that were listed under the "Nutrition Promotion" section of each group's wellness policy?
  - What are some common things that were listed under the "Physical Activity" section of each group's wellness policy?
  - What are some common things that were listed under the "Nutrition Guidelines" section of each group's wellness policy?
  - What are some common things that were listed under the "Community Participation" section of each group's wellness policy?
  - What are some common things that were listed under the "Checking That It's Working" section of each group's wellness policy?
  - What are some common things that were listed under the "Sharing With the Public" section of each group's wellness policy?



**Facilitator Tip:** Groups may not have anything listed under "Checking That It's Working" or "Sharing With the Public." If this is the case, brainstorm different ways their policies could be assessed and/or disseminated with the class.

- Describe some ways you already promote wellness at your school site.

**Facilitator Tip:** If there are any misconceptions remaining in this phase of the lesson, you should address these now.



## Concept and Term Discovery/Introduction

Over the course of the lesson, participants should be able to identify the following concepts:

- Schools play an important role in improving students' health and social outcomes, as well as promoting academic success.
- There is a federal mandate that requires school districts participating in the National School Lunch Program and/or School Breakfast Program to develop a Local School Wellness Policy.
- A Local School Wellness Policy ("wellness policy") is a written document that guides a school district's efforts to establish a school environment that promotes students' health, well-being, and ability to learn.
- A wellness policy should include specific goals for nutrition promotion; nutrition education; physical activity; and other school-based activities that promote student wellness

The following key vocabulary terms should be discovered by participants or introduced to them:  
Local School Wellness Policy.



## 8.2: Expanding Knowledge

### Getting Ready



#### **Time Required**

10 minutes



#### **Materials Needed**

(\*Materials provided in the curriculum)

- \**Focus on Food Lesson 8* (PowerPoint)
- PowerPoint Projector
- Computer



#### **Preparation**

1. Connect laptop to projector. Load *Focus on Food Lesson 8* PowerPoint.
2. Queue the PowerPoint presentation to Slide 11.



### Procedure

1. Go through the Expanding Knowledge presentation slide by slide. The following script is available for use if you so choose.



## Expanding Knowledge

Lesson 8: Working Toward Wellness

Slide 11

Slide 11

That was a great discussion! Now it's time to recap some concepts we learned throughout Lesson 8, working toward wellness.

## Local School Wellness Policy

- Schools play an important role in improving student's health, well being, and academic performance.
- Local School Wellness Policies are required by the United States Department of Agriculture.

Lesson 9: Working Toward Wellness

Slide 12

Let's talk some more about Local School Wellness Policies. Schools play an important role in improving student's health, well being, and academic performance, and school wellness policies are a reflection of the impact school can have on many aspects of student health. School districts are required by the United States Department of Agriculture to have a set of Local School Wellness Policies that help support healthy children.

Slide 12

## District Wellness Policy Requirements

- There are specific wellness policy requirements at the district level.
- It is up to each school site to implement the district wellness policies at their school.

Lesson 9: Working Toward Wellness

Slide 13

It is important to note that while there are specific wellness policy requirements at the district level, it is up to each school site to implement the district wellness policies at their school.

Slide 13

## District Wellness Policy Requirements



Nutrition Promotion



Nutrition Education



Physical Activity



Nutrition Guidelines



Other Areas of Student Wellness



Checking That It's Working



Community Participation



Sharing With The Public

Lesson 9: Nutrients of Concern

Slide 14

Now let's recall the general district wellness policy requirements. Wellness policies must include rules that support nutrition promotion; nutrition education; physical activity; other areas of student wellness; and nutrition guidelines. They also need to involve the community; have a way to check that the policies are being implemented and are working; as well as a plan to share policies and progress with the public. Let's go over these categories in more detail.

Slide 14

## District Wellness Policy Requirements



### Nutrition Promotion

- Wellness policies should include goals that promote good nutrition in schools.
- Policy Examples:
  - "School lunchrooms should advertise healthy foods"
  - "Teachers use non-food items to reward students for good behavior"

Lesson 8: Working Toward Wellness

Slide 15

As you may recall, wellness policies should include goals that promote good nutrition in schools. Some policy examples include: "School lunchrooms should advertise healthy foods", or "Teachers use non-food items to reward students for good behavior". Does any one want to share more examples?

[Pause to allow responses from the class.]

Slide 15

## District Wellness Policy Requirements



### Nutrition Education

- Wellness policies should include goals for teaching nutrition in the classroom, coordinating with the school lunchroom.
- Policy Examples:
  - "Students of all grade levels learn about nutrition in the classroom"
  - "School lunchrooms feature foods that students are learning about in class"

Lesson 8: Working Toward Wellness

Slide 16

Wellness policies should also include goals for teaching nutrition in the classroom, coordinating with the school lunchroom. Some policy examples include: "Students of all grade levels learn about nutrition in the classroom." or "School lunchrooms feature foods that students are learning about in class" Any other examples?

[Pause to allow responses from the class.]

Slide 16

## District Wellness Policy Requirements



### Physical Activity

- Wellness policies should include goals for student's physical activity.
- Policy Example:
  - "In addition to recess, students are given the opportunity to be physically active at least 200 minutes a week"

Lesson 8: Working Toward Wellness

Slide 17

Wellness policies should also include goals for student's physical activity. One policy example is: "In addition to recess, students are given the opportunity to be physically active at least 200 minutes a week." Any other examples?

[Pause to allow responses from the class.]

Slide 17

## District Wellness Policy Requirements



### Other Areas of Student Wellness

- Wellness policies should include goals to support other areas of student wellness.
- These might include policies about staff wellness, providing student health clinics, supporting mental health.
- Policy Example:
  - “Schools will provide services that emphasize student support, advocacy, and resiliency building.”

Lesson 8: Working Toward Wellness

Slide 18

Slide 18

Wellness policies should also include goals to support other areas of student wellness. These might include policies about staff wellness, providing student health clinics, supporting mental health, although they don't have to be limited to just these.

One policy example is: “Schools will provide services that emphasize student support, advocacy, and resiliency building.” Any other examples?

[Pause to allow responses from the class.]

## District Wellness Policy Requirements



### Nutrition Guidelines

- Wellness policies should include nutrition guidelines for all foods available on the school campus, with the goal of promoting student health.
- Policy Example:
  - “Schools abide by the USDA meal patterns and food safety guidelines”

Lesson 8: Working Toward Wellness

Slide 19

Slide 19

Wellness policies should also include nutrition guidelines for all foods available on the school campus, with the goal of promoting student health. One policy example is: “Schools abide by the USDA meal pattern and food safety guidelines” Any other examples?

[Pause to allow responses from the class.]

## District Wellness Policy Requirements



### Community Participation

- Involvement of the school community in designing and carrying out the policy, including parents, students, teachers, school health and nutrition professionals, the school board, school administrators, and the general public.
- Policy Example:
  - “All schools have a wellness committee with diverse members to design and carry out policy”

Lesson 8: Working Toward Wellness

Slide 20

Slide 20

Wellness policies should also include Involvement of the school community in designing and carrying out the policy, including parents, students, teachers, school health and nutrition professionals, the school board, school administrators, and the general public. One policy example is: “All schools have a wellness committee with diverse members to design and carry out policy”. Any other examples?

[Pause to allow responses from the class.]

## District Wellness Policy Requirements



### Checking That's It's Working

- The district checks that schools are following the wellness policy. This is a chance to find out if the district is making progress in reaching nutrition and health goals. The results are made available to the public.
- Policy Example:
  - "The wellness committee assesses each school's progress with wellness policy implementation once a year. Results are posted on the district website."

Lesson 5: Working Toward Wellness

Slide 21

Slide 21

Wellness policies should also include guidelines that make sure that the district checks that schools are following the wellness policy. This is a chance to find out if the district is making progress in reaching nutrition and health goals. The results are made available to the public.

One policy example is: "The wellness committee assesses each school's progress with wellness policy implementation once a year. Results are posted on the district website". Any other examples?

[Pause to allow responses from the class.]

## District Wellness Policy Requirements



### Sharing With The Public

- The district lets the public know about what is in the local wellness policy and what actions are taking place as a result of the policy.
- Policy Example:
  - "Each school provides a public newsletter that highlights new wellness policies being implemented in each school"

Lesson 5: Working Toward Wellness

Slide 22

Slide 22

Finally, Wellness policies should also include guidelines that make sure that the district lets the public know about what is in the local wellness policy and what actions are taking place as a result of the policy.

One policy example is: "Each school provides a public newsletter that highlights new wellness policies being implemented in each school." Any other examples?

[Pause to allow responses from the class.]

## District Wellness Policy Requirements



Nutrition Promotion



Nutrition Education



Physical Activity



Nutrition Guidelines



Other Areas of Student Wellness



Checking That It's Working



Community Participation



Sharing With The Public

Lesson 5: Nutrients of Concern

Slide 23

Slide 23

Just to recap, here are the seven District Wellness Policy Requirements one more time.

## The Role of Nutrition Services

- Nutrition services personnel play an important role in helping to implement school wellness policies that support the health, well being, and academic performance of each student.



Lesson 8: Working Toward Wellness

Slide 24

Slide 24

Let's not forget that nutrition services personnel play an important role in helping to implement school wellness policies that support the health, well being, and academic performance of each student.



# 8.3: Goal Setting Activity

## Getting Ready



### Time Required

5 minutes



### Materials Needed

(\*Materials provided in the curriculum)

\*Goal Setting: Working Toward Wellness (Appendix 8B)

Optional:

\*Focus on Food Lesson 8 Newsletter (Appendix 8C)

\*Focus on Food Lesson 8 (PowerPoint)

Computer

PowerPoint Projector



### Preparation

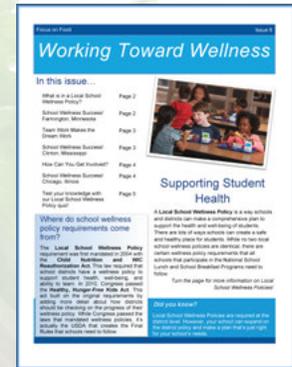
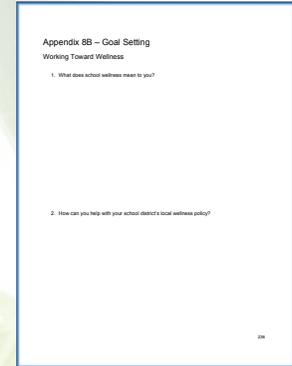
1. Make copies of the *Goal Setting: Working Toward Wellness* Handout (Appendix 8B), one for each participant.

Optional:

2. Make copies of the *Focus on Food Lesson 8 Newsletter* (Appendix 8C), one for each participant.

3. Connect laptop to projector. Load *Focus on Food Lesson 8* (PowerPoint).

4. Queue the PowerPoint Presentation to Slide 25.





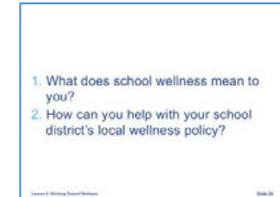
## Procedure (Experiencing)

1. **Say:** Now let's move on to Goal Setting! **(Slide 25)** We've talked about a school can help support the wellness of students. The next step is to set some goals and make a plan. I am going to distribute a Goal Setting Handout that has the following questions: **(Slide 26)**
  - 1) What does school wellness mean to you?
  - 2) How can you help with your school district's local wellness policy?
2. **Do:** Provide a copy of the *Goal Setting Handout: Working Toward Wellness Handout* (Appendix 8B) to each participant. Allow participants a few minutes to complete the handout.
3. **Say:** Would anyone like to share the goals they set for themselves?

**Facilitator Tip:** This is a great opportunity to prompt the participants to discover how important the role of nutrition services is in school wellness.

Optional:

4. **Say:** I'm going to distribute one last handout, which is a newsletter with some extra information you might be interested in. Thank you all for participating in Lesson 8! **(Slide 27)**
5. **Do:** Provide a copy of the *Focus on Food Lesson 8 Newsletter* (Appendix 8C) to each participant.



## Appendix 8A – District Wellness Policy Requirements

The Local Wellness Policy federal mandate requires that, at minimum, a Local School Wellness Policy should have the following areas of emphasis:

**1. Nutrition Promotion:** Goals to promote nutrition on the school campus.

**2. Nutrition Education:** Goals for teaching nutrition in the classroom, coordinating with the school nutrition program.

**3. Physical Activity:** Goals for student's physical activity.

**4. Other Areas of Student Wellness:** Goals to support other areas of student wellness.

**5. Nutrition Guidelines:** Nutrition guidelines for all foods available on the school campus, with the goal of promoting student health.

**6. Community Participation:** Involvement of the school community in designing and carrying out the policy, including parents, students, teachers, school health and nutrition professionals, the school board, school administrators, and the general public.

**7. Checking That It's Working:** The district checks that schools are following the wellness policy. This is a chance to find out if the district is making progress in reaching nutrition and health goals. The results are made available to the public.

**8. Sharing With The Public:** The district lets the public know about what is in the local wellness policy and what actions are taking place as a result of the policy.

# Appendix 8B – Goal Setting

## Working Toward Wellness

1. What does school wellness mean to you?

2. How can you help with your school district's local wellness policy?

## Appendix 8C – Focus on Food Lesson 8 Newsletter

The optional newsletter on the following pages is designed to help reinforce the concepts learned. If offering this course in a single workshop, you may wish to distribute the lesson newsletters weekly in order to help refresh participants' memory and solidify the concepts.



# Working Toward Wellness

## In this issue...

|   |        |
|---|--------|
| What is in a Local School Wellness Policy?                      | Page 2 |
| School Wellness Success! Farmington, Minnesota                  | Page 2 |
| Team Work Makes the Dream Work                                  | Page 3 |
| School Wellness Success! Clinton, Mississippi                   | Page 3 |
| How Can You Get Involved?                                       | Page 4 |
| School Wellness Success! Chicago, Illinois                      | Page 4 |
| Test your knowledge with our Local School Wellness Policy quiz! | Page 5 |



## Supporting Student Health

A **Local School Wellness Policy** is a way schools and districts can make a comprehensive plan to support the health and well-being of students. There are lots of ways schools can create a safe and healthy place for students. While no two local school wellness policies are identical, there are certain wellness policy requirements that all schools that participate in the National School Lunch and School Breakfast Programs need to follow.

*Turn the page for more information on Local School Wellness Policies!*

### Where do school wellness policy requirements come from?

The **Local School Wellness Policy** requirement was first mandated in 2004 with the **Child Nutrition and WIC Reauthorization Act**. This law required that school districts have a wellness policy to support student health, well-being, and ability to learn. In 2010, Congress passed the **Healthy, Hunger-Free Kids Act**. This act built on the original requirements by adding more detail about how districts should be checking on the progress of their wellness policy. While Congress passed the laws that mandated wellness policies, it's actually the USDA that creates the Final Rules that schools need to follow.

### Did you know?

Local School Wellness Policies are required at the district level. However, your school can expand on the district policy and make a plan that's just right for your school's needs.

# What is in a Local School Wellness Policy?

Local School Wellness Policies are required by the United States Department of Agriculture. These policies should help promote student health, well-being, and ability to learn.

## School Wellness Success! Farmington, Minnesota

Farmington Area Public Schools, a district in Minnesota serving 6,773 students, used a different approach to successfully implement their local School Wellness Policy.

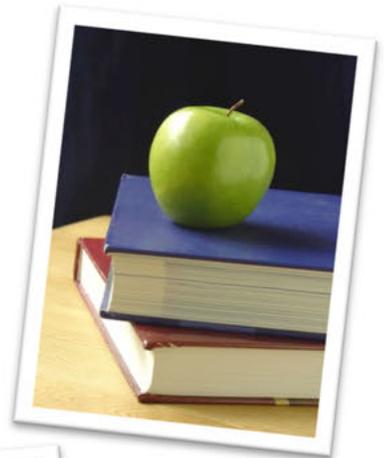
In order to meet nutrition education goals, schools within the district held competitions to encourage students to eat more fruits and vegetables, promoted healthy fundraising options like selling fruit boxes, and presented TV segments on healthy cooking during morning announcements similar to Food Network.

In order to meet school meal and competitive option goals, the district added healthier options to vending machines, cafeterias, and featured snack shops comprised of 100% healthful foods.

### Goal Driven

A local school wellness policy is required to have goals for:

- » Nutrition promotion and education
- » Physical activity
- » Other activities at school to promote student wellness



### Food Guidelines

A local school wellness policy should have guidelines for food available at school.

- » These should help promote student health.

### Sense of Community

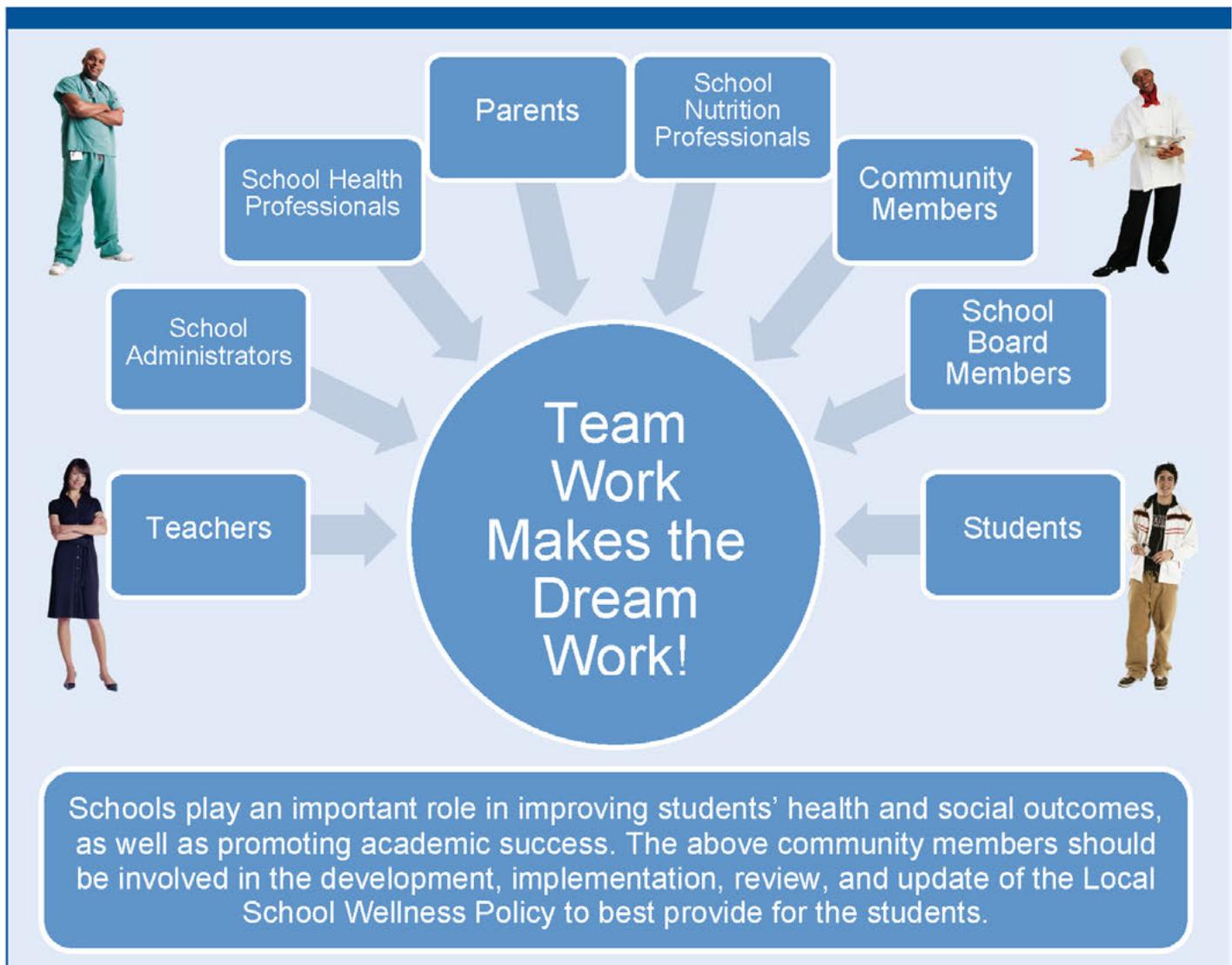
People in the community should help design and carry out the policy.



### Check-Up

The district should check that the policy is working from time to time.





## School Wellness Success! Clinton, Mississippi

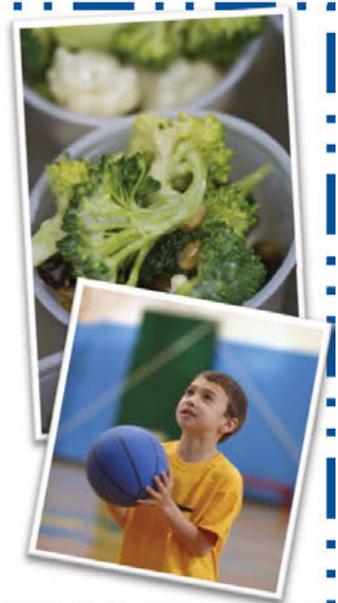
In striving to achieve Local School Wellness Policy goals implemented by the public school district in Clinton, Mississippi, schools took action.

Several training sessions for cafeteria staff were provided to promote the reduction of salt and sugar used in recipes, use of alternative herbs and

spices, and ways to prepare visually appealing foods.

School officials held taste tests with students to involve them in the decision-making process and hosted a student recipe contest.

To improve physical activity, implementation of programs designed to promote health through 60 minutes of activity per day and videos to stimulate physical activity inside the classroom were essential.



# How Can You Get Involved?

## Look at your school district's website.

- » Most school districts will have a link to their Local School Wellness Policy on their website.
- » The policy is often available at the school nutrition services section of the website.
- » See if there is an upcoming district Wellness Committee meeting you can attend.

## Contact a leader at your school site.

- » Try contacting either your school principal or your school district's school nutrition services director and discuss your ideas on how you would be willing to help at your school site, or let them know you are interested.

## Get started!

- » After you talk about your ideas with your school leader, it's time to get started!
- » Have fun with it and remember that all wellness goals, however big or small, can make a positive impact on the health and wellness of the whole school community.

More information about Local School Wellness Policies and how you can get involved is available at <http://www.fns.usda.gov/tn/local-school-wellness-policy>.



## School Wellness Success! Chicago, Illinois

The Academy for Global Citizenship, a Chicago Public Charter School serving 300 students, has had success in implementing its own Wellness Policy.

This policy serves to promote daily recess, meals made from scratch, morning yoga for all students, and extracurricular activities.

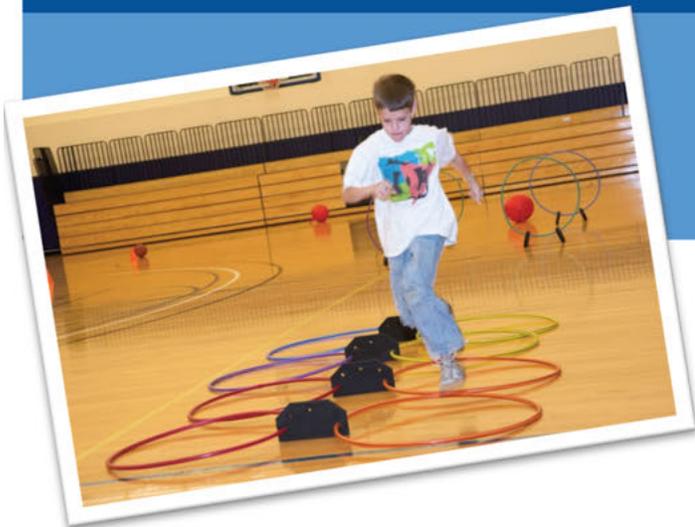
The school encouraged staff members to create meals made from locally grown produce while promoting excitement for the addition of new meals by letting students and parents participate in the sampling and review of new food items.

A teaching garden was established to encourage student involvement with the food production process and is used to enhance academic lessons and homework assignments.



### Did you know?

Some schools create school specific wellness committees to build on the district policy.



## Test your knowledge with our Local School Wellness Policy quiz!

### The Results are In!

*If you got all five right:*

You are well-rounded on your Local School Wellness Policy knowledge! You know the requirements and suggestions for a successful policy and are ready to get involved. Put yourself out there and keep learning more!

*If you got three or four right:*

You're on the right track! Try finding the information you missed in other pages of this newsletter to become a Local School Wellness Policy master!

*If you got one or two right:*

It just means you have more opportunities to learn. Read through the newsletter again, or check out the information and resources available through the Local School Wellness Policy Collaborative at <http://teamcaliforniaforhealthykids.org/school-wellness/>

1. Local School Wellness Policies are required for every school site.
  - a. True
  - b. False
2. Only people who work at the school district or at a school site should be involved in the development, implementation, review, and update of the Local School Wellness Policy.
  - a. True
  - b. False
3. The Child Nutrition and WIC Reauthorization Act of 2004 added a new requirement for each district to have a Local School Wellness Policy.
  - a. True
  - b. False
4. The Healthy, Hunger-Free Kids Act of 2010 eliminated the requirement to have a Local School Wellness Policy for each district.
  - a. True
  - b. False
5. Most school districts will have a link to their Local School Wellness Policy on their website.
  - a. True
  - b. False

1. b; 2. b; 3. a; 4. b; 5. a

*Check your answers at the bottom of the page!*



# Photo, Graphic, and Illustration Credits

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## Cover:

- a. Salad bowl: Microsoft Clip Art

## Repeated in Each Lesson:

- a. Alarm clock: Microsoft Clip Art
- b. Clipboard: Microsoft Clip Art
- c. Gears: Microsoft Clip Art
- d. Question mark (color modified):  
[https://upload.wikimedia.org/wikipedia/commons/f/f6/Lol\\_question\\_mark.png](https://upload.wikimedia.org/wikipedia/commons/f/f6/Lol_question_mark.png)
- e. Running figure (color modified): <https://flic.kr/p/fLbovu>
- f. Two people talking (color modified):  
<https://upload.wikimedia.org/wikipedia/commons/f/ff/Two-people-talking-logo.jpg>
- g. Light bulb (color modified):  
[http://www.cliparts101.com/free\\_clipart/65672/Light\\_Bulb\\_In\\_Circle](http://www.cliparts101.com/free_clipart/65672/Light_Bulb_In_Circle)
- h. Head and brain (color modified): <http://www.pd4pic.com/images/tile-head-brain-blood-pressure-bless-you-hospital.jpg>
- i. Clipboard with checkmark (color modified):  
[https://upload.wikimedia.org/wikipedia/commons/8/84/Check\\_sheet.svg](https://upload.wikimedia.org/wikipedia/commons/8/84/Check_sheet.svg)

## Introduction:

1. Cover
  - a. Sliced peppers in skillet: Microsoft Clip Art

## Lesson 1:

1. Lesson Images
  - a. Blueberries: Microsoft Clip Art
  - b. Variety of food: Microsoft Clip Art
  - c. Grilled chicken: <https://flic.kr/p/aiBZKZ>
  - d. Carbohydrates: <https://flic.kr/p/dT7QdP>
  - e. Walnuts: <https://flic.kr/p/BNcMkB>
  - f. Orange juice: <https://flic.kr/p/dTdnak>
  - g. MyPlate: <http://choosemyplate.gov>
2. PowerPoint Images
  - a. Minerals: [https://commons.wikimedia.org/wiki/File:Different\\_minerals.jpg](https://commons.wikimedia.org/wiki/File:Different_minerals.jpg)
  - b. All other images: Microsoft Clip Art
3. Newsletter Images
  - a. All images in this Newsletter are credited to Microsoft Clip Art
4. Other Appendix Images
  - a. Salad bowl: Microsoft Clip Art
  - b. Flip chart paper: Krista Neary and Ashley Thiede

- c. Completed flip chart paper: Krista Neary and Ashley Thiede

## Lesson 2:

### 1. Lesson Images

- a. Apple: Microsoft Clip Art
- b. Measuring cups <https://www.flickr.com/photos/twobee/8484547237>
- c. Measuring spoons <https://www.flickr.com/photos/usdagov/8424915354/in/photolist-dQtTPh>
- d. Spinach <https://www.flickr.com/photos/waiferx/3016613907>
- e. Measuring cups, spoons, bowls, other utensil: Krista Neary
- f. Bowls of food: Anna Jones

### 2. Newsletter Images

- a. Food scale with strawberries:  
[https://farm5.staticflickr.com/4048/4522268275\\_b3e825837f\\_o\\_d.jpg](https://farm5.staticflickr.com/4048/4522268275_b3e825837f_o_d.jpg)
- b. Cholesterol label: Anna Jones
- c. Nutrition facts for Macaroni and Cheese  
[https://upload.wikimedia.org/wikipedia/commons/thumb/6/64/US\\_Nutritional\\_Fact\\_Label.svg/481px-US\\_Nutritional\\_Fact\\_Label.svg.png](https://upload.wikimedia.org/wikipedia/commons/thumb/6/64/US_Nutritional_Fact_Label.svg/481px-US_Nutritional_Fact_Label.svg.png)
- d. Man reading nutrition facts  
[https://c1.staticflickr.com/9/8724/17098092451\\_0ecb4d2479\\_b.jpg](https://c1.staticflickr.com/9/8724/17098092451_0ecb4d2479_b.jpg)
- e. Hand [https://pixabay.com/static/uploads/photo/2014/02/08/16/08/hand-262091\\_640.jpg](https://pixabay.com/static/uploads/photo/2014/02/08/16/08/hand-262091_640.jpg)
- f. Images of hands as comparisons: <http://www.healthyeating.org/Healthy-Eating/Healthy-Living/Weight-Management/Article-Viewer/347/Correct-Portion-Sizes-How-to-Keep-Portion-Distortion-in-Check.asp>
- g. Baseball [https://upload.wikimedia.org/wikipedia/en/1/1e/Baseball\\_\(crop\).jpg](https://upload.wikimedia.org/wikipedia/en/1/1e/Baseball_(crop).jpg)
- h. Deck of cards <http://res.freestockphotos.biz/pictures/5/5539-a-deck-of-playing-cards-isolated-on-a-white-background-pv.jpg>
- i. Tennis ball <http://res.freestockphotos.biz/pictures/16/16637-illustration-of-a-tennis-ball-pv.png>
- j. Ping pong ball  
[https://upload.wikimedia.org/wikipedia/commons/c/c4/Table\\_tennis\\_ball.png](https://upload.wikimedia.org/wikipedia/commons/c/c4/Table_tennis_ball.png)
- k. Golf ball <https://upload.wikimedia.org/wikipedia/commons/f/f5/Golf-ball.jpg>
- l. Raw spinach red tablecloth  
[https://upload.wikimedia.org/wikipedia/commons/thumb/0/07/1\\_cup\\_of\\_raw\\_salad\\_leaves,\\_for\\_example\\_raw\\_spinach..JPG/1280px-1\\_cup\\_of\\_raw\\_salad\\_leaves,\\_for\\_example\\_raw\\_spinach..JPG](https://upload.wikimedia.org/wikipedia/commons/thumb/0/07/1_cup_of_raw_salad_leaves,_for_example_raw_spinach..JPG/1280px-1_cup_of_raw_salad_leaves,_for_example_raw_spinach..JPG)
- m. Spinach salad [https://pixabay.com/static/uploads/photo/2014/08/19/10/53/salad-421382\\_640.jpg](https://pixabay.com/static/uploads/photo/2014/08/19/10/53/salad-421382_640.jpg)
- n. Spinach and green smoothie  
[https://pixabay.com/static/uploads/photo/2014/08/21/00/19/green-422995\\_640.jpg](https://pixabay.com/static/uploads/photo/2014/08/21/00/19/green-422995_640.jpg)
- o. Cooked spinach yellow bowl  
[https://upload.wikimedia.org/wikipedia/commons/6/6f/5aday\\_spinach.jpg](https://upload.wikimedia.org/wikipedia/commons/6/6f/5aday_spinach.jpg)
- p. MyPlate: <http://choosemyplate.gov>
- q. Salad [https://pixabay.com/static/uploads/photo/2014/06/21/21/00/salad-374173\\_640.jpg](https://pixabay.com/static/uploads/photo/2014/06/21/21/00/salad-374173_640.jpg)
- r. Blueberries in measuring cup:  
[https://farm3.staticflickr.com/2916/14378871070\\_944b12cdd1.jpg](https://farm3.staticflickr.com/2916/14378871070_944b12cdd1.jpg)

### Lesson 3:

1. Lesson Images
  - a. Jump rope: Microsoft Clip Art
  - b. Measuring pulse <http://www.public-domain-image.com/free-images/science/medical-science/seated-male-patient-was-having-his-pulse-rate-determined-by-a-female-clinician/attachment/seated-male-patient-was-having-his-pulse-rate-determined-by-a-female-clinician>
  - c. Runners <https://www.flickr.com/photos/yourdon/6015905915/in/album-72157627343496684/>
2. PowerPoint Images
  - a. Man taking pulse (shading modified, blurred slightly): [https://en.wikipedia.org/wiki/File:Measuring\\_pulse.jpg](https://en.wikipedia.org/wiki/File:Measuring_pulse.jpg)
  - b. Lungs and heart illustration: Anna Jones
3. Newsletter Images
  - a. All images in this Newsletter are credited to Microsoft Clip Art

### Lesson 4:

1. Lesson Images
  - a. All images in this lesson are credited to Microsoft Clip Art
2. PowerPoint Images
  - a. All MyPlate images: <http://choosemyplate.gov>
  - b. Whole grain image: USDA Whole Grain Resource Guide
  - c. All other images: Microsoft Clip Art
3. Newsletter Images
  - a. All MyPlate images: <http://choosemyplate.gov>
  - b. Pile of fruit: [https://pixabay.com/static/uploads/photo/2013/02/17/12/24/fruits-82524\\_640.jpg](https://pixabay.com/static/uploads/photo/2013/02/17/12/24/fruits-82524_640.jpg)
  - c. Pile of vegetables: [https://c2.staticflickr.com/6/5472/9041948559\\_ae975fe9d8\\_b.jpg](https://c2.staticflickr.com/6/5472/9041948559_ae975fe9d8_b.jpg)
  - d. Grain kernel (color modified): <https://commons.wikimedia.org/wiki/File:Grain.gif>
  - e. Brown rice: [https://c2.staticflickr.com/4/3159/2889140143\\_b99fd8dd4c.jpg](https://c2.staticflickr.com/4/3159/2889140143_b99fd8dd4c.jpg)
  - f. Whole grain bread: [https://upload.wikimedia.org/wikipedia/commons/7/79/Vegan\\_Nine\\_Grain\\_Whole\\_Wheat\\_Bread.jpg](https://upload.wikimedia.org/wikipedia/commons/7/79/Vegan_Nine_Grain_Whole_Wheat_Bread.jpg)
  - g. Whole grain breakfast cereal: [https://pixabay.com/static/uploads/photo/2014/11/14/20/20/blueberries-531209\\_640.jpg](https://pixabay.com/static/uploads/photo/2014/11/14/20/20/blueberries-531209_640.jpg)
  - h. Image of salmon: [https://pixabay.com/static/uploads/photo/2014/11/05/15/57/salmon-518032\\_640.jpg](https://pixabay.com/static/uploads/photo/2014/11/05/15/57/salmon-518032_640.jpg)
  - i. Image of eggs: [https://pixabay.com/static/uploads/photo/2014/04/05/11/38/food-316412\\_640.jpg](https://pixabay.com/static/uploads/photo/2014/04/05/11/38/food-316412_640.jpg)
  - j. Image of tofu: [https://upload.wikimedia.org/wikipedia/commons/0/03/Japanese\\_SilkyTofu\\_\(Kinugoshi\\_To\\_fu\).JPG](https://upload.wikimedia.org/wikipedia/commons/0/03/Japanese_SilkyTofu_(Kinugoshi_To_fu).JPG)
  - k. Yogurt: <https://upload.wikimedia.org/wikipedia/commons/7/77/Obstjoghurt01.jpg>
  - l. Cheese: <https://upload.wikimedia.org/wikipedia/commons/f/fe/WFromage.png>
  - m. Soy milk: [https://upload.wikimedia.org/wikipedia/commons/a/af/Soy\\_milk\\_\(2\).jpg](https://upload.wikimedia.org/wikipedia/commons/a/af/Soy_milk_(2).jpg)

- n. Wheat: Microsoft Clip Art

#### Lesson 5:

1. Lesson Images
  - a. Strawberries: Microsoft Clip Art
  - b. Girl with books: Microsoft Clip Art
  - c. Glass of milk: Microsoft Clip Art
2. PowerPoint Images:
  - a. All images in this PowerPoint are credited to Microsoft Clip Art
3. Newsletter Images
  - a. Silhouette of aging figures: <https://upload.wikimedia.org/wikipedia/commons/d/d5/Life-stages.jpg>
  - b. Silhouette of girl: <http://cliparts.co/clipart/2540487>
  - c. Silhouette of man: <https://openclipart.org/detail/24894/men-in-black-1>
  - d. Toddler: Microsoft Clip Art
  - e. Girl with basketball: Microsoft Clip Art
  - f. Softball team Microsoft Clip Art
  - g. Woman jogging with dog: Microsoft Clip Art
  - h. Man on exercise bike: Microsoft Clip Art
  - i. Broccoli: <http://www.jphotostyle.com/pictures/broccoli02-md.jpg>
  - j. Bananas: <https://upload.wikimedia.org/wikipedia/commons/6/69/Banana.png>
  - k. Vegetables: Microsoft Clip Art
  - l. Woman eating soup with girl: Microsoft Clip Art
  - m. Yogurt and granola: <https://flic.kr/p/7JTDXs>
  - n. White bean hummus: <https://flic.kr/p/6wAznq>
  - o. Caprese salad: <https://flic.kr/p/b9HpBx>

#### Lesson 6:

1. Lesson Images
  - a. Man with grocery cart and baby: Microsoft Clip Art
  - b. Girl eating strawberry: Microsoft Clip Art
  - c. Woman writing on flip chart: Krista Neary
2. PowerPoint Images
  - a. Man and daughter: Microsoft Clip Art
3. Newsletter Images
  - a. Grocery store produce: Microsoft Clip Art
  - b. Salad: Microsoft Clip Art
  - c. Man smiling: <https://pixabay.com/en/man-boy-person-portrait-face-324103/>
  - d. Apples: Microsoft Clip Art
  - e. Sunny beach: <http://www.pd4pic.com/haeundae-beach-sunshine-sandy-sea-sunset-busan.html>
  - f. Salad bar:  
[https://upload.wikimedia.org/wikipedia/commons/2/2e/Johns\\_Inc\\_Salad\\_Bar\\_Buffet.jpg](https://upload.wikimedia.org/wikipedia/commons/2/2e/Johns_Inc_Salad_Bar_Buffet.jpg)
  - g. Restaurant: <https://flic.kr/p/a1ZSwU>

- h. Capitol: [https://upload.wikimedia.org/wikipedia/commons/b/b2/United\\_States\\_Capitol\\_-\\_west\\_front.jpg](https://upload.wikimedia.org/wikipedia/commons/b/b2/United_States_Capitol_-_west_front.jpg)
- i. Kids eating lunch: Microsoft Clip Art
- j. Salad being served: <https://flic.kr/p/8AH8X5>
- k. Salad: Microsoft Clip Art
- l. Kids playing:  
[https://upload.wikimedia.org/wikipedia/commons/1/18/Children\\_playing\\_road\\_hockey\\_in\\_Vancouver.jpg](https://upload.wikimedia.org/wikipedia/commons/1/18/Children_playing_road_hockey_in_Vancouver.jpg)
- m. Salad: Microsoft clip art
- n. Vegetables: Microsoft clip art

#### Lesson 7:

##### 1. Lesson Images

- a. Tomatoes: Microsoft Clip Art
- b. Salad bar: <https://flic.kr/p/aveK2g>
- c. Children eating lunch: <http://blogs.usda.gov/tag/school-breakfast-week/>
- d. Craft supplies: Krista Neary and Ashley Thiede

##### 2. PowerPoint Images

- a. None

##### 3. Newsletter Images

- a. Smiling children eating lunch: <https://flic.kr/p/psT21X>
- b. Smarter Lunchrooms Movement Logo: <http://www.smarterlunchrooms.org>
- c. Boy drinking milk: Microsoft Clip Art
- d. Fruit: Microsoft Clip Art
- e. Children with fruit kabobs:
- f. Fruit and vegetable bar: <https://flic.kr/p/aveK2g>
- g. Child with plate and silverware: Microsoft Clip Art