



Focus on Food

Nutrition and Health for
School Nutrition Programs

Facilitator Guide

UCDAVIS
CENTER for
NUTRITION in SCHOOLS

CONNECTING
Food, Health, and Learning



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Welcome to Focus on Food

Introduction

School nutrition programs can play a pivotal role in the health of children. Last year, over 5 billion lunches were served as part of the National School Lunch Program (NSLP); in California alone, this number was over 500 million. Recognizing the important role that schools have in student health, the Healthy, Hunger-Free Kids Act of 2010 resulted in the most significant changes to the NSLP and School Breakfast Program (SBP) in decades. Many of the changes were focused on improving the healthfulness of the meals served, by requiring whole grains and increased amounts and variety of fruits and vegetables.

Focus on Food is a nutrition curriculum designed for school nutrition program staff (such as servers, cooks, and nutrition assistants) to learn more about how the school nutrition meal pattern requirements are connected to health and nutrition. Our goal with this curriculum is for school nutrition staff to understand that they have the ability to improve student health and empower staff to encourage students to choose and consume healthier options in the lunchroom. 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.

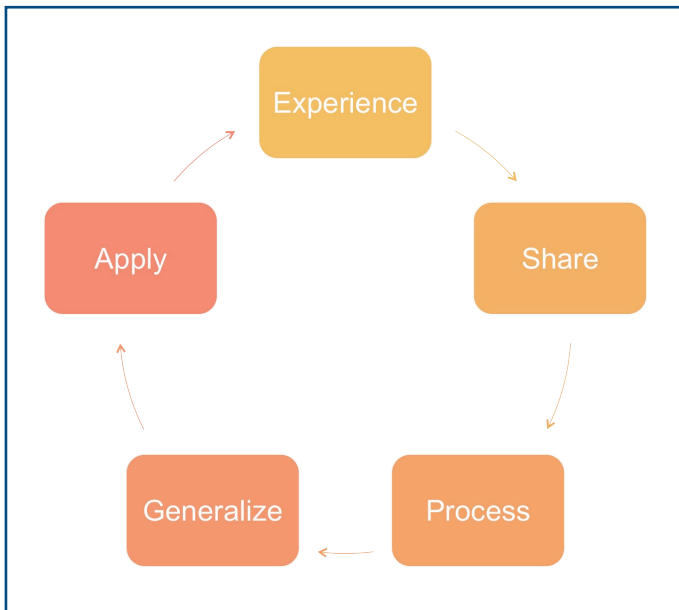


Getting Acquainted with Focus on Food

Teaching and Learning Strategies

The activities in the *Focus on Food* curriculum were designed using learner-centered methods, in particular, the 5-step Experiential Learning Cycle by Pfeiffer and Jones (1983): Experience, Sharing, Processing, Generalizing, and Application. 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 (“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 promote learner inquiry and are considered more effective than closed-ended questions or prompts.

Experiential and inquiry-based learning may be uncomfortable for your learners, but this is actually a good thing because we learn more when we are outside of our comfort zones. It may be tempting to try to explain to your learners step-by-step how to solve a problem, but by allowing them to struggle and try different methods provides more opportunity to learn.

Overview of Lessons

This curriculum consists of ten lessons that emphasize different concepts. 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.

Lesson 1: Nutrients in Action

In Lesson 1, participants are introduced to the concepts that different foods provide different nutrients and different nutrients perform different functions in the diet. The importance of variety is emphasized as well. In the learning activity, participants analyze a week of lunch choices for three students. The student lunch choices are compared and contrasted and participants discuss how the choices impact the nutrient intake of students and what this might mean for their growth and health.

Lesson 2: How Does Your Food Measure Up?

In Lesson 2, participants explore the differences between portion and serving sizes, and how the Nutrition Facts Label can be used to compare foods. In the learning activity, participants are given a variety of food items and are asked to serve themselves a portion of that food. Using Nutrition Facts Labels, they compare that amount with serving size for that food and make observations.

Lesson 3: Get Your Move On

In Lesson 3, participants learn about the many benefits of physical activity and that breathing rate and heart rate will differ depending on activity intensity. Participants are given a set of cards with different physical activities and are asked to organize them based on different criteria. Then participants engage in light, moderate, and vigorous activity, calculating heart rate and breathing rate for each level of activity.

Lesson 4: MyPlate – Foods for Life

Once participants gain an understanding of nutrient needs and physical activity in the previous lessons, Lesson 4 explores how MyPlate recommendations differ depending on gender, age, and activity level. Participants are given cards that describe hobbies, activity level, and age for a character. They identify the recommendations for their character and design a day's meals and snacks for their character.

Continued on following page

Lesson 5: Increasing Plant-based Foods in School Nutrition Programs

In Lesson 5 participants learn about the benefits of increasing plant-based foods in the diet. The activity asks them to modify a recipe by either swapping out animal foods for plant-based foods or by adding plant-based foods. They then observe the resulting changes in the nutrient profile.

Lesson 6: Nutrients of Concern

In Lesson 6, participants dive deeper into the differences in nutrient recommendations between males and females and children and adults by exploring nutrients of concern. Participants use clues to identify different nutrients and then recommend changes to a character's diet to help them meet his or her nutrient needs. The activity closes with a discussion in which each group shares their character's food choices and the changes they've decided to make.

Lesson 7: Understanding Influences on Food Choices

Lesson 7 shifts gears a little bit to focus on how an individual's food choices are influenced by a variety of factors. Participants review food choices characters have made under a variety of circumstances and then brainstorm on flip chart paper environmental and individual factors that might have influenced the character's choices.

Lesson 8: How Smart is Your Lunchroom?

Lesson 8 builds on the previous lesson with an exposure to how school nutrition staff can use Smarter Lunchrooms Movement principles to encourage healthy behaviors. Participants create a plan using Smarter Lunchrooms Movement techniques to increase sales of a menu item in a school. As part of the plan, they create a poster to promote the menu item using art supplies.

Lesson 9: Nutrition and Academic Success

In Lesson 9, participants explore the connection between good nutrition and academic success. In the activity, participants create a skit to address a school community member's concerns about school lunch using information about how school meals contribute to a student's nutrient intake and various aspects of academic success.

Lesson 10: Working Toward Wellness

Lesson 10 ties together everything they've learned in the previous lessons through the lens of School Wellness Policies. Participants learn about creating a school environment that promotes student health, well-being, and ability to learn by designing their ideal wellness policy.

Using Focus on Food

Each lesson consists of a 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. Here's what you'll find in each lesson.

Background Information

This section provides facilitators with a brief overview of the subject matter and provides examples to help explain the importance of the topic. This information is for the facilitator's use, and is not intended to be shared with participants.

Concepts and Vocabulary

Facilitators are provided with a list of defined concepts and vocabulary 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 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. More detail on what you will find in each learning activity can be found on page 8.

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.

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.

Newsletter

Each lesson has an accompanying newsletter designed to reinforce the concepts learned in the activity in a fun, user-friendly format.

Activity Format

1.1: Learning Activity

Overview

In this activity, participants will explore how different foods provide different nutrients, the importance of variety in the diet, and how different nutrients perform different functions in the body. To discover these concepts, each group receives a handout with a list of student meal choices for a week. Next, using a sheet with information on three nutrients, participants are asked to analyze the student meal choices. The groups then share which of these nutrients the students did or didn't obtain using flip chart papers displayed around the room. This is followed by a class discussion of participant observations and patterns they noticed when analyzing the student's nutrient intake using the menus provided.

Getting Ready

Time Required
65 minutes

If using all lesson components (Learning Activity, Expanding Knowledge, and Goal Setting), the entire lesson requires approximately 1 hour and 15 minutes.

Materials Needed

Materials provided to the participants

- For Each Group of 2-4 Participants
 - Flip chart paper
 - Markers, pens, or pencils
 - Student Lunch Choices (Activity Sheet 1-B)
 - Las Llamas Middle School Lunch Menu (Handout 1-C)

For the Facilitator

- Student Lunch Choices KEY (Handout 1-E)
- Optional:
 - Lesson 1 (PowerPoint)
 - Computer
 - PowerPoint Projector

For the Class

- Nutrient Labels (Lesson Material 1-D) (Printed on sheets of adhesive mailing labels, 1" x 2 1/8", such as Avery 5160)
- Prepared flip chart paper with student names and days of week. (See Facilitator Resource 1-F for instructions)

For Each Participant

- Nutrients in Action (Handout 1-A), one per student at the end of the lesson.
- Optional:
 - Student Lunch Choices KEY (Handout 1-E)

Lesson 1 - Nutrients in Action

Overview: This section provides a brief description of the concepts to be learned and the 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. Many of the materials are provided in the appendix of each lesson, indicated with ***bold italics***. These are identified as either a ***Handout*** (provides information), ***Activity Sheet*** (to be completed over the course of the activity), ***Lesson Material*** (material included in the curriculum that requires additional preparation) and ***Facilitator Resource*** (information or instructions for the facilitator).

Preparation

Handouts

- Make copies of the following handouts:

- Nutrients in Action (Handout 1-A), one copy per participant.

Facilitator Tip: To encourage group work, it is recommended that you provide one copy per group to complete the activity. It may be helpful 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.

- Student Lunch Choices (Activity Sheet 1-B), one per student per group.
- Las Llamas Middle School Lunch Menu (Handout 1-C), one copy per group.
- Optional: Student Lunch Choices KEY (Handout 1-E), one copy per participant.

Other Materials

- Print one or more copies of Nutrient Labels (Lesson Material 1-D), enough for each group has a set. This should be printed either on adhesive mailing labels or on paper (refer to Lesson Material 1-D for additional instructions).
- Prepare one flip chart for each of the students in Student Lunch Choices (Handout 1-B). 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 (Facilitator Resource 1-F).

Activity Set-up

- Hang the prepared flip chart papers around the room. Spread them apart to reduce congestion during the activity.

Classroom Set-up

- Organize the class into small groups of 2 to 4 participants.

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

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

Optional

- Before participants arrive, connect laptop to projector. Load Focus on Food Lesson 1 (PowerPoint).

Lesson 1 - Nutrients in Action

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. These are broken down by Handouts, Other Materials, Classroom Set-Up, and Optional.

Opening Questions/Prompts

Small Group Discussion

- Say: Let's get started with Lesson 2 - How Does Your Food Measure Up? (Slide 1) 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)
Facilitator Tip: Explain to participants 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 learn more about these topics throughout the lesson.

- Do: Allow 2 to 3 minutes for groups to discuss the prompt. Repeat with the remaining prompt:
 - Explain what you know about Nutrition Facts Labels. (Slide 4)

Class Discussion

- Say: As a class, let's discuss what you talked about in your groups. What were some of your thoughts on this phase? Explain what you know about serving sizes? (Slide 4)
- Do: Allow about a minute for participants to share their thoughts on this topic with the class. Repeat with the remaining prompt:
 - Explain what you know about Nutrition Facts Labels. (Slide 4)

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..."; "Did anyone else write this?". At this stage, don't 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.

Lesson 2 - How Does Your Food Measure Up?

Opening Questions: 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. 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.

Procedure (Experiencing)

Introducing the Activity

5. Say: Now that we've completed our opening discussion, we'll start on the activity for this lesson. (Slide 5) 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)

6. Do: Provide each group with:

- One copy of the *How Does Your Food Measure Up?* (Activity Sheet 2-A)
- One paper plate
- One paper bowl
- One paper cup

Facilitator Tip: If it is a large class, asking for volunteers to help distribute materials.

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

Visiting Food Stations and Completing the Worksheet

7. 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.

8. Do: Allow a few minutes for all groups to portion out their foods. While they are doing this, distribute to each group:

- One set of measuring cups
- One set of measuring spoons
- One set of Nutrition Facts Labels (Handout 2-B)

9. 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)

10. Do: Allow several minutes for participants to portion their foods and complete the worksheet.

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

86 Lesson 2 – How Does Your Food Measure Up?

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 to be used for participant reference while completing the activity. These slides 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)

11. Say: As a class, let's discuss your observations. (Slide 8)

12. 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.

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

- A portion is a subjective amount of food that someone chooses.
- 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.

87 Lesson 2 – How Does Your Food Measure Up?

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.

Concept and Term Discovery: At this point of the activity, most of the concepts will have most likely already been discovered or defined by the participants. 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.

Making the Curriculum Work For You

Activity Fidelity

It is strongly encouraged that you follow the procedures closely the first time you use the lessons in this curriculum to get a feel for the flow and how each of the components of the learning activities contribute to the experiential learning process. In particular it is recommended that adequate time be allotted for participants to proceed through each step in order for learning to be maximized, including Sharing, Processing, and Generalizing.

Using Lesson Modules

The full curriculum is intended to take approximately ten hours to deliver, however not every program has the time or the interest in delivering the full curriculum. For those programs, we suggest choosing a selection of lessons that focus on a subset of concepts to meet the needs of you and your staff. The following are suggestions for different lesson modules.

Focus on Nutrition: Lessons 1, 2, 4, and 6

Encouraging Healthy Choices: Lessons 7, 8, and 10

Living a Healthy Life: Lessons 1, 2, 3, 4, 5

Promoting Wellness: Lessons 1, 3, 9, and 10

Reflection for Facilitators

Reflection isn't only important for learners, it's also important for facilitators. In particular, reflection-in-action and reflection-on-action. While they may sound similar, they serve different purposes. Reflection-in-action involves drawing on one's experiences and knowledge to think critically and make decisions on your teaching while you are teaching. Reflection-on-action on the other hand, takes places after the lesson has concluded. Teaching is an experiential learning process, and reflection-on-action involves reflecting on the experience of teaching and in order to continuously improve. One way to do is this through recording what worked well, and what could be improved. Included in the appendix for this chapter is a "Plus/Delta" example you can use to reflect on what worked (plus) and what could be improved or changed (delta) (*Facilitator Resource W-3*).

Frequently Asked Questions

Q. Who was this curriculum designed for?

A. This curriculum is intended for school nutrition program staff, such as nutrition assistants, servers, cooks, et cetera.

Q. Why “facilitator” and not “instructor”?

A. We refer to the person leading the class as a facilitator because they are facilitating learning, rather than instructing participants on what they should know. The facilitators are there to guide participants and help them learn using the resources provided.

Why aren't there learning objectives at the beginning of each lesson?

A. Instead of learning objectives at the beginning of the lesson, this curriculum has concept and term discovery at the end of the lesson. The reason for this is to allow for a more natural discovery of the terms and concepts over the course of the lesson, with facilitators guiding the participants towards these if they aren't discovered by the end of the lesson.

Q. Can I summarize what they should have learned at the end of the lesson?

A. The Sharing, Processing, Generalizing phase of each lesson serves this purpose. The learners should be describing the concept, with the facilitator affirming it.

Q. What is an ideal size for the class?

A. A smaller class between 12 and 24 participants is ideal. While it is possible to use this curriculum with a larger class, more time will be needed for each lesson, and it starts to become difficult to facilitate learning for everyone the larger the class gets. Past experience has shown that with larger classes, some groups start to fall behind, while others race ahead and start to become bored waiting for other groups to catch up. It can also mean that the facilitator(s) are unable to spend the necessary amount of time with each group to foster learning.

Q. Why is group size important?

A. It is recommended to have small groups of three to four participants to maximize teamwork. When groups start to get larger than that, it can result in small groups within a group, or one person becoming more isolated within the group.

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USDA Professional Standards Suggested Crediting

The following table provides suggested crediting for each lesson in the *Focus on Food* curriculum.

| 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: Increasing Plant-based Foods in School Nutrition Programs | 1 hour | Nutrition | General Nutrition – 1300 | 1320 – Understand general nutrition concepts that relate to school meals, such as whole grains, sodium, etc. |
| 6: 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. |
| 7: 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. |
| 8: 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. |
| 9: Nutrition and Academic Success | 1 hour | Communications and Marketing | Communications and Marketing – 4100 | 4150 - School and Community Communication |
| 10: 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. |

*Estimated time includes total time needed to complete all components of the lesson.

Open-Ended Questions

Use the cards below as handy reference for sample open-ended questions and prompts.

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?

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...
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- 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?

Plus/Delta Reflections

Lesson #: _____

| + Things that worked well | Δ Things to be improved |
|--|--|
| | |

Things to consider

- Questioning: Open-ended or closed?
- Learner-centeredness: Who is doing the bulk of the work?
- Constructivism: Are the students figuring it out?
- Materials: are they appropriate?
- Room set-up
- Time management
- Other



Lesson 1 – Nutrients in Action

Background Information

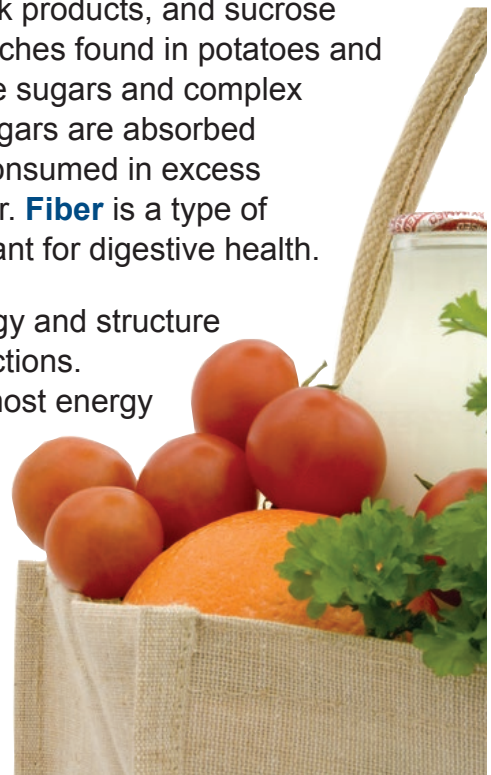
Nutrients are substances that provide energy and structure to the body and also support regulatory systems. There are six classes of nutrients: **protein**, **carbohydrates**, **fat**, **vitamins**, **minerals**, and **water**. **Essential nutrients** are nutrients that the body needs, but cannot make (or cannot make enough of) and 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 the 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 into its components called amino acids, which are then used for a variety of functions in the body. The primary role of protein in the body is to provide structure by forming muscles, tendons, and collagen. Additionally, 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. Our bodies can also use protein as an energy source; it provides approximately 4 calories per gram. Protein consumed in excess is converted into 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 called 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. Complex carbohydrates include starches found in potatoes and grains, and **fiber** found in most plant-based foods. Simple sugars and complex carbohydrates provide 4 calories per gram, but simple sugars are absorbed more quickly than starches in the body. Carbohydrates consumed in excess 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. Our bodies get the most energy from fat which provides approximately 9 calories per gram, and is also the primary fuel used by the body. The structure that fat provides is from being an integral part of every cell in the human body. Hormonal and immune system regulation are also heavily influenced by fat. There are two main types of fats: **solid fats**, which are solid at room temperature, and **oils**, which are liquid at room temperature. **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 polyunsaturated fats that are considered healthier than saturated 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). As mentioned previously, when the other macronutrients are consumed in excess they are converted to fat. This is because 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. 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 Activity Handout 1A for more detail on individual vitamins.)

Minerals are inorganic elements that come from water or soil and are absorbed by plants or eaten by animals. Our bodies need many 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 Activity Handout 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:

Dietary recommendations for Americans produced jointly by the USDA and the US Department of Health and Human Services.

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

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

Calories: A measure of how much energy a food has. These are a unit of heat energy.

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.

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: 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

Overview

In this activity, participants will explore how different foods provide different nutrients, the importance of variety in the diet, and how different nutrients perform different functions in the body. To discover these concepts, each group receives a handout with a list of student meal choices for a week. Next, using a sheet with information on three nutrients, participants are asked to analyze the student meal choices. The groups then share which of these nutrients the students did or didn't obtain using flip chart papers displayed around the room. This is followed by a class discussion of participant observations and patterns they noticed when analyzing the student's nutrient intake using the menus provided.

Getting Ready

Time Required

55 minutes

If using all lesson components (Learning Activity, Expanding Knowledge, and Goal Setting), the entire lesson requires approximately 1 hour and 15 minutes.

Materials Needed

(Materials provided in the curriculum)

| | |
|--|---|
| For Each Group of 2-4 Participants <ul style="list-style-type: none"><input type="checkbox"/> Flip chart paper<input type="checkbox"/> Markers, pens, or pencils<input type="checkbox"/> Student Lunch Choices (Activity Sheet 1-B)<input type="checkbox"/> Las Llamas Middle School Lunch Menu (Handout 1-C) | For the Facilitator <ul style="list-style-type: none"><input type="checkbox"/> Student Lunch Choices KEY (Handout 1-E) Optional: <ul style="list-style-type: none"><input type="checkbox"/> Lesson 1 (PowerPoint)<input type="checkbox"/> Computer<input type="checkbox"/> PowerPoint Projector |
| For the Class <ul style="list-style-type: none"><input type="checkbox"/> Nutrient Labels (Lesson Material 1-D) (Printed on sheets of adhesive mailing labels, 1" x 2 5/8", such as Avery 5160)<input type="checkbox"/> Prepared flip chart paper with student name and days of week. (See Facilitator Resource 1-F for instructions) | For Each Participant <ul style="list-style-type: none"><input type="checkbox"/> Nutrients in Action (Handout 1-A), to be handed out at the end of the lesson. Optional: <ul style="list-style-type: none"><input type="checkbox"/> Student Lunch Choices KEY (Handout 1-E) |

Preparation

Handouts

1. Make copies of the following handouts:

- **Nutrients in Action (Handout 1-A)**, one copy per participant.

Facilitator Tip: To encourage group work, it is recommended that you provide one copy per group to use during the activity. 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.

- **Student Lunch Choices (Activity Sheet 1-B)**, one set of students per group.
- **Las Llamas Middle School Lunch Menu (Handout 1-C)**, one copy per group.
- Optional: **Student Lunch Choices KEY (Handout 1-E)**, one copy per participant.

Other Materials

2. Print one or more copies of **Nutrient Labels (Lesson Material 1-D)**, enough that each group has a set. This should be printed either on adhesive mailing labels or on plain paper (refer to **Lesson Material 1-D** for additional instructions).
3. Prepare one flip chart for each of the students in **Student Lunch Choices (Handout 1-B)**. 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 (Facilitator Resource 1-F)**.

Activity Set-up

4. Hang the prepared flip chart papers around the room. Spread them apart to reduce congestion during the activity.

Classroom Set-up

5. Organize the class into small groups of 2 to 4 participants.

Facilitator Tip: These groups can also be used in future 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 1** (PowerPoint).

Opening Questions/Prompts

Small Group Discussion

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.

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 participants 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 learn more about these topics throughout the lesson.

2. **Do:** Allow 2 to 3 minutes for groups to discuss the prompt. Repeat with the remaining two prompts:
 - Explain what you know about how different nutrients benefit your body. **(Slide 4)**
 - Explain what you know about the NSLP and SBP meal patterns. **(Slide 5)**

Class Discussion

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 nutrients"?
4. **Do:** Allow about a minute for participants to share their thoughts on this topic with the class. Repeat with the remaining two prompts:
 - Explain what you know about how different nutrients benefit your body. **(Slide 4)**
 - Explain what you know about the NSLP and SBP meal patterns. **(Slide 5)**

Facilitator Tip: This sharing phase is a great opportunity to begin to build rapport with participants. Engage participants at this phase with phrases such as: "Tell me more about that";

Explain what you know about nutrients.

Lesson 1 - Nutrients in Action

Slide 3

Slide 3

Explain what you know about how different nutrients benefit your body.

Lesson 1 - Nutrients in Action

Slide 4

Slide 4

Explain what you know about the NSLP and SBP meal patterns.

Lesson 1 - Nutrients in Action

Slide 5

Slide 5

“What do you mean by...”; “Did anyone else write this?” 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)

Define “Nutrients”

Nutrients

Substances found in food and beverages that provide energy and structure to the body. They are used for growth, maintenance, and repair.

Lesson 1: Nutrients in Action Slide 7

Slide 7

5. **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)**

Small Group Work

6. **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, 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)**

Using the information found in your ***Nutrients in Action*** handout, determine whether or not the student on your ***Student Lunch Choices*** handout chose foods that contain your assigned nutrients.

Lesson 1: Nutrients in Action Slide 8

Slide 8

7. **Do:** Provide each group with:
 - One copy of ***Nutrients in Action (Handout 1-A)***.
 - One set of ***Student Lunch Choices (Activity Sheet 1-B)***.
 - One copy of ***Las Llamas Middle School Lunch Menu (Handout 1-C)***
8. **Do:** Allow several minutes for participants to complete the handout.

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.

Completing Student Flip Charts

9. **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.
 - 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.

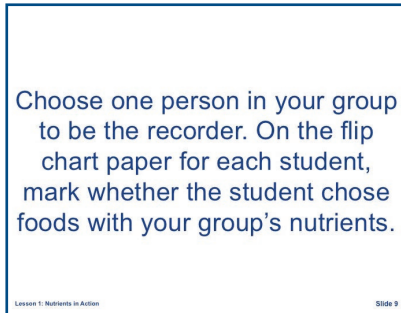
Facilitator Tip: Refer to Facilitator Resource 1-F for a reference photo of a completed flip chart.

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

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

Class Discussion

11. **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?
12. **Do:** Allow a minute or two for the volunteer(s) to review the nutrients consumed and not consumed for each student. **(Slide 10)**

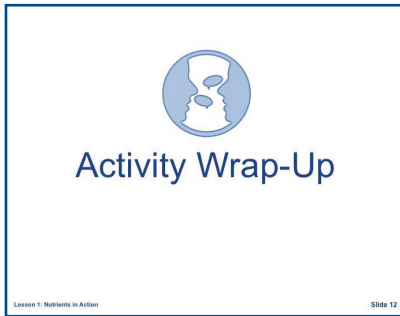


Slide 9



Slide 10

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



Slide 12

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

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

- Explain the differences and similarities between the food sources of different nutrients.
- 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.

15. **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 (Handout 1-E) to each participant at this stage as well.

16. **Do:** Distribute copies of *Nutrients in Action (Handout 1-A)* 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
- Variety is a key factor when planning a nutritious diet.
- Eating a variety of foods helps prevent nutrient deficiencies.
- Different nutrients perform different functions in our bodies.
- 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

Overview

In this mini-lecture, participants will learn more about how different foods provide different nutrients, the importance of variety in the diet, and how different nutrients perform different functions in the body.

Getting Ready

Time Required

15 minutes

Materials Needed

(Materials provided in the curriculum)

| | |
|--|---|
| For the Facilitator <ul style="list-style-type: none"><input type="checkbox"/> Lesson 1 (PowerPoint)<input type="checkbox"/> Computer<input type="checkbox"/> PowerPoint Projector | For Each Group of 2-4 Participants <ul style="list-style-type: none"><input type="checkbox"/> None |
| For the Class <ul style="list-style-type: none"><input type="checkbox"/> None | For Each Participant <ul style="list-style-type: none"><input type="checkbox"/> None |

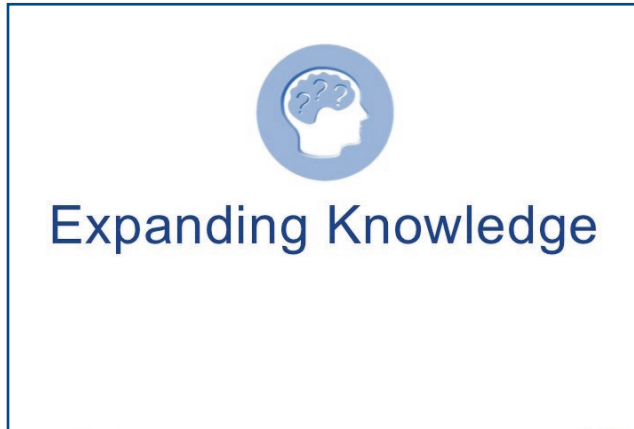
Preparation

Projector Set-up

1. Connect laptop to projector. Load **Focus on Food Lesson 1** (PowerPoint).
2. Queue the PowerPoint presentation to Slide 13.

Procedure

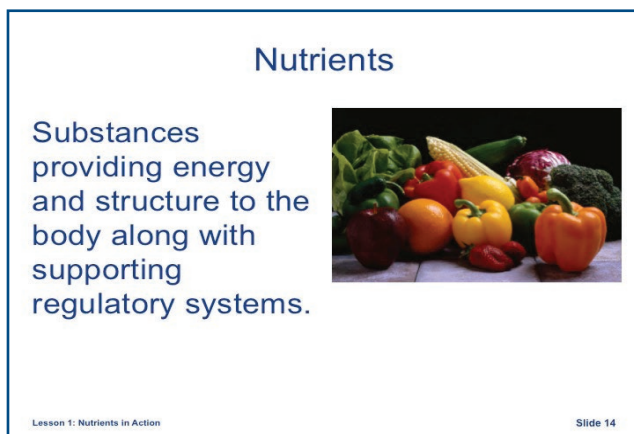
1. **Do:** Go through the Expanding Knowledge presentation slide by slide. The following script is available for use if you so choose.



Slide 13

Slide 13

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

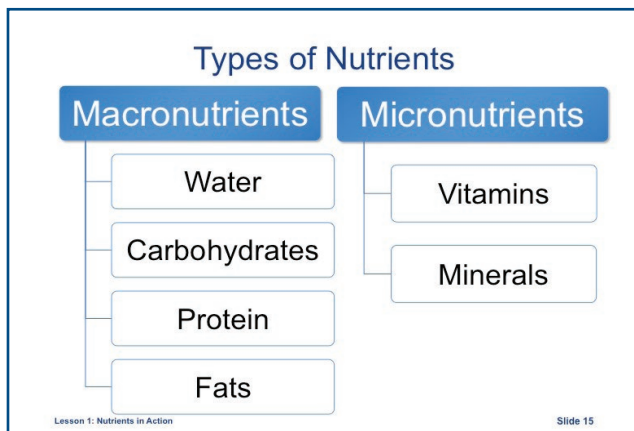


Slide 14

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 15


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.

Macronutrients

Macronutrients are nutrients we need a lot of.



Carbohydrates

Protein

Fats

Water

Lesson 1: Nutrients in Action Slide 16

Slide 16

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.

Calories

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

Lesson 1: Nutrients in Action Slide 17

Slide 17

Slide 17


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

[Pause to allow responses from the class.]

Calories

The measure of how much energy a food has.

The body uses calories to do physical work and maintain internal health.



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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

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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

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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?

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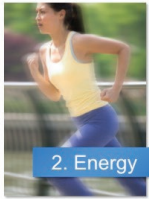
What do carbohydrates do for us?

[Pause to allow responses from the class.]

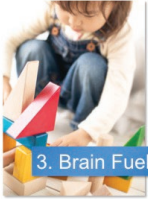
Carbohydrates



1. Fiber



2. Energy



3. Brain Fuel

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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



- Meat
- Poultry
- Fish
- Eggs
- Dairy

Plant Sources



- Beans
- Peas
- Lentils
- Nuts
- Seeds

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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.

Protein

What does protein do for us?

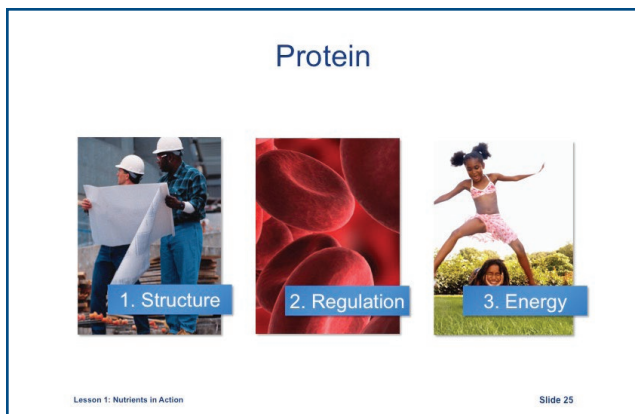
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Slide 24

Slide 24

What does protein do for us?

[Pause to allow responses from the class.]



Slide 25

Slide 25

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

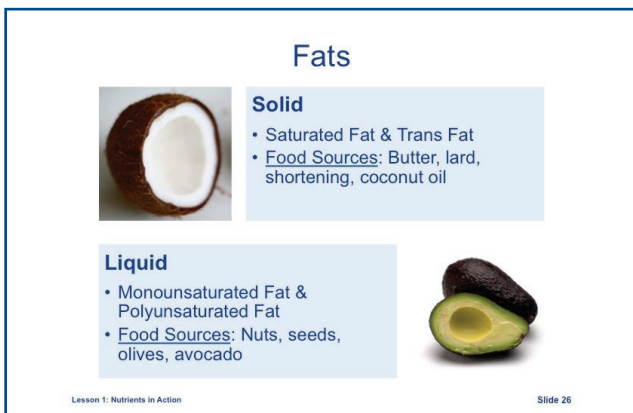
- Muscles
- Tendons
- And connective tissues, like collagen

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 26

Slide 26

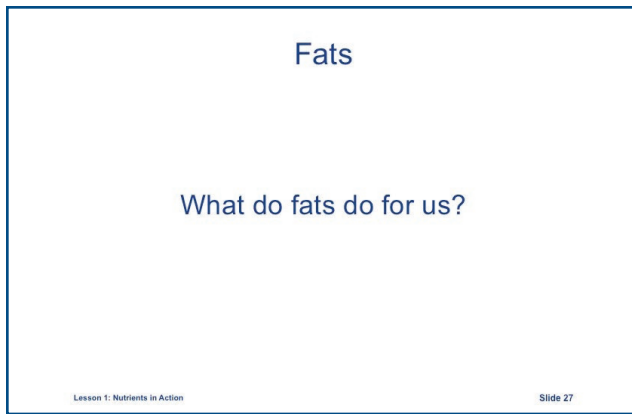
We can break down fats as either solid or liquid.

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 kinds: monounsaturated and polyunsaturated. Sources of liquid fats include oils, nuts, seeds, olives, and avocado.



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What do fats do for us?

[Pause to allow responses from the class.]

Slide 27



Slide 28

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.

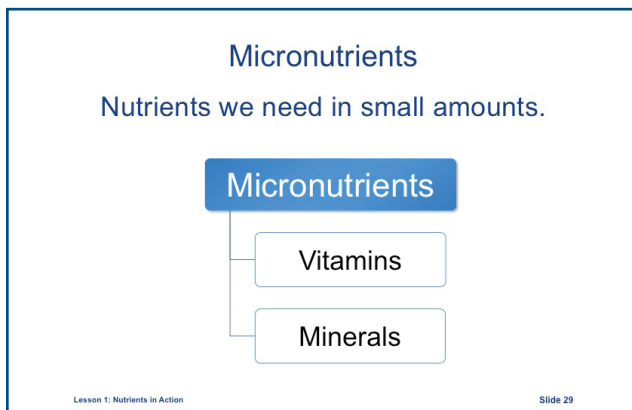
Second, They're involved in regulation. They are needed for

- 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

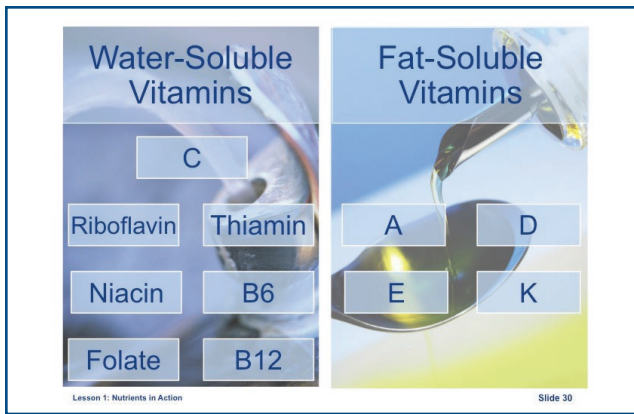
Slide 28



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 29

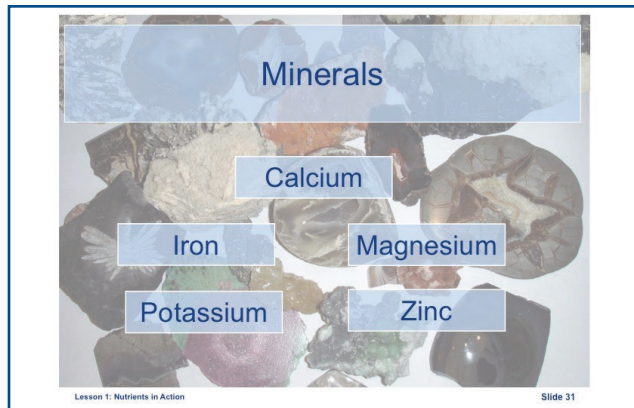


Slide 30

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.

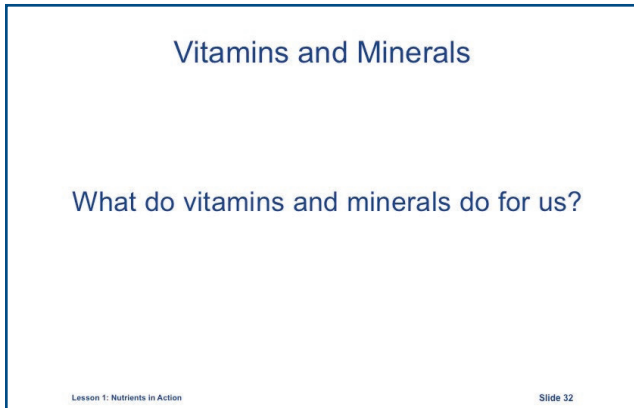


Slide 31

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

Slide 32

What do vitamins and minerals do for us?
 [Pause to allow responses from the class.]

Vitamins and Minerals

| | |
|--|--|
|  <p>Strong bones: Vitamins D and K, Calcium, Magnesium, and Zinc</p> |  <p>Help turn food into energy: B Vitamins</p> |
|  <p>Healthy cells: Vitamins C and E</p> |  <p>Help absorb other nutrients: Vitamins C (helps absorb Iron) and Vitamin D (helps absorb Calcium)</p> |
|  <p>Healthy vision: Vitamin A</p> |  <p>Healthy red blood cells: Vitamin B12, Folate, Iron</p> |
|  <p>Healthy muscles: Calcium, Magnesium, and Potassium</p> |  <p>Healthy blood clotting: Vitamin K</p> |
|  <p>Healthy immune system: Vitamins C and D, Zinc</p> |  <p>Healthy blood pressure: Potassium</p> |

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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.

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

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

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Slide 34

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

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Slide 35

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

Different foods provide different nutrients.



A variety of different foods helps ensure you meet your nutrient needs.

Lesson 1: Nutrients in Action

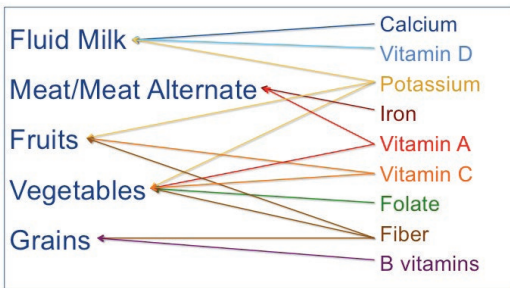
Slide 36

Slide 36

Slide 36

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

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Slide 37

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

Overview

In this activity, participants will use what they've learned to set a goal of consuming more of a nutrient of their choice.

Getting Ready

Time Required

5 minutes

Materials Needed

(Materials provided in the curriculum)

| | |
|--|---|
| For the Facilitator Optional: <input type="checkbox"/> Lesson 1 (PowerPoint) <input type="checkbox"/> Computer <input type="checkbox"/> PowerPoint Projector | For Each Group of 2-4 Participants <input type="checkbox"/> None |
| For the Class <input type="checkbox"/> None | For Each Participant <input type="checkbox"/> Goal Setting – Nutrients in Action (Activity Sheet 1-G) Optional: <input type="checkbox"/> Focus on Food Lesson 1 Newsletter (Handout 1-H) |

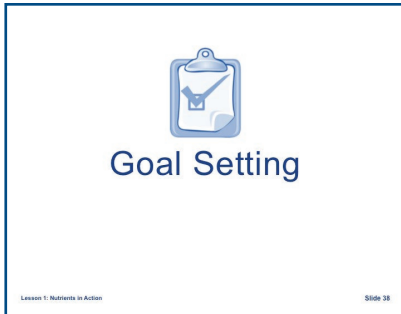
Preparation

Handouts

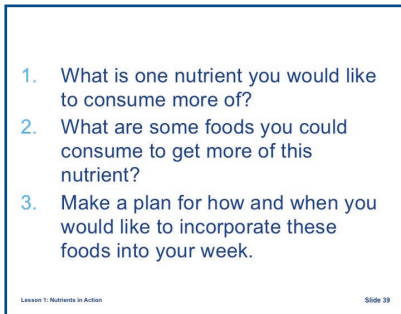
1. Make copies of the following handouts:
2. **Goal Setting – Nutrients in Action Handout (Activity Sheet 1-G), one for each participant.**
3. Optional: **Focus on Food Lesson 1 Newsletter (Handout 1-H)**, one for each participant.

Optional

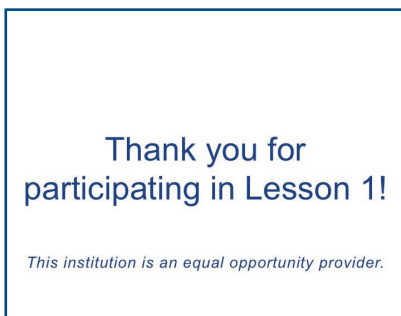
4. Connect laptop to projector. Load Focus on Food Lesson 1 (PowerPoint).
5. Queue the PowerPoint presentation to Slide 38.



Slide 38



Slide 39



Slide 40

Procedure

1. **Say:** Now let's move on to Goal Setting! **(Slide 38)** 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 39)**
 - What is one nutrient you would like to consume more of?
 - What are some foods you could consume to get more of this nutrient?
 - 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 (Activity Sheet 1-G)*** 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 40)**
5. **Do:** Provide a copy of the ***Focus on Food Lesson 1 Newsletter (Handout 1-H)*** to each participant.

Nutrients in Action

Thiamin

What does it do?

Thiamin (also called vitamin B1) is important in helping our bodies turn food into energy.

Where can I find it?

Whole grains and fortified grains
Beans and Peas
Nuts and seeds
Pork

Riboflavin

What does it do?

Riboflavin (also called vitamin B2) is important in helping our bodies turn food into energy.

Where can I find it?

Green leafy vegetables
(Romaine lettuce, spinach,
broccoli, kale, etc.)
Fortified grains,
Dairy
Meat and poultry

Vitamin B6

What does it do?

Vitamin B6 (also called pyridoxine) is important in helping our bodies turn food into energy.

Where can I find it?

Meat and poultry
Whole grains
Vegetables
Nuts and seeds

Folate

What does it do?

Folate (also called vitamin B9) 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.

Where can I find it?

Dark green leafy vegetables
(Romaine lettuce, spinach,
broccoli, kale, etc.)
Fortified and enriched grains
Beans and Peas

Vitamin B12

What does it do?

Vitamin B12 (also called cobalamine) helps the body form red blood cells and is important in helping our bodies turn food into energy. It is also needed for growth and repair.

Where can I find it?

Meat, poultry, and seafood,
eggs
Dairy
Fermented foods like Kimchi

Vitamin C

What does it do?

Vitamin C is needed for growth and repair and a healthy immune system. It's also important because it helps our bodies absorb iron.

Where can I find it?

Citrus fruits
Peppers
Berries
Green leafy vegetables
(Romaine lettuce, spinach,
broccoli, kale, etc.)
Potatoes
Tomatoes

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 grain

Student Lunch Choices - Group 1

| Leticia's Choices | Which of your assigned nutrients (Vitamin D, Iron, and Protein) were in her choices? |
|---|---|
| Monday <ul style="list-style-type: none"> • Corn and Cheese Enchilada • Black Beans • Grapes • Fat-Free Chocolate Milk | |
| Tuesday <ul style="list-style-type: none"> • Caesar Veggie Wrap • Baked Sweet Potato Fries • Orange Slices • Fat-Free Chocolate Milk | |
| Wednesday <ul style="list-style-type: none"> • Chicken Teriyaki Stir Fry • Banana • Plain Low-Fat Milk | |
| Thursday <ul style="list-style-type: none"> • Southwest Salad • Strawberries • Fat-Free Chocolate Milk | |
| Friday <ul style="list-style-type: none"> • Strawberry Spinach Salad • Red Bell Pepper Strips with Hummus • Banana • Fat-Free Chocolate Milk | |

Over the entire week, did Leticia choose foods with your assigned nutrients at least once?

If not, what nutrients was she missing?

Student Lunch Choices - Group 1

| Deon's Choices | Which of your assigned nutrients (Vitamin D, Iron, and Protein) were in his choices? |
|---|---|
| Monday <ul style="list-style-type: none"> • Pepperoni Pizza • Banana • Fat-Free Chocolate Milk | |
| Tuesday <ul style="list-style-type: none"> • Pepperoni Pizza • Banana • Fat-Free Chocolate Milk | |
| Wednesday <ul style="list-style-type: none"> • Pepperoni Pizza • Banana • Fat-Free Chocolate Milk | |
| Thursday <ul style="list-style-type: none"> • Pepperoni Pizza • Banana • Fat-Free Chocolate Milk | |
| Friday <ul style="list-style-type: none"> • Pepperoni Pizza • Banana • Fat-Free Chocolate Milk | |

Over the entire week, did Deon choose foods with your assigned nutrients at least once?

If not, what nutrients was he missing?

Student Lunch Choices - Group 1

| Nikeah's Choices | Which of your assigned nutrients (Vitamin D, Iron, and Protein) were in her choices? |
|---|---|
| Monday <ul style="list-style-type: none"> • Thai Noodle Salad • Baby Carrots • Banana | |
| Tuesday <ul style="list-style-type: none"> • Chicken Sandwich • Corn Niblets • Orange Slices | |
| Wednesday <ul style="list-style-type: none"> • Chicken Teriyaki Stir Fry • Baby Carrots • Banana | |
| Thursday <ul style="list-style-type: none"> • Spaghetti with Meat Sauce • Mashed Potatoes • Orange Slices | |
| Friday <ul style="list-style-type: none"> • Peanut Butter and Jelly Sandwich • Baby Carrots • Banana | |

Over the entire week, did Nikeah choose foods with your assigned nutrients at least once?

If not, what nutrients was she missing?

Student Lunch Choices - Group 2

| Leticia's Choices | Which of your assigned nutrients (Vitamin K, Magnesium, Fats and Oils) were in her choices? |
|---|--|
| Monday <ul style="list-style-type: none"> • Corn and Cheese Enchilada • Black Beans • Grapes • Fat-Free Chocolate Milk | |
| Tuesday <ul style="list-style-type: none"> • Caesar Veggie Wrap • Baked Sweet Potato Fries • Orange Slices • Fat-Free Chocolate Milk | |
| Wednesday <ul style="list-style-type: none"> • Chicken Teriyaki Stir Fry • Banana • Plain Low-Fat Milk | |
| Thursday <ul style="list-style-type: none"> • Southwest Salad • Strawberries • Fat-Free Chocolate Milk | |
| Friday <ul style="list-style-type: none"> • Strawberry Spinach Salad • Red Bell Pepper Strips with Hummus • Banana • Fat-Free Chocolate Milk | |

Over the entire week, did Leticia choose foods with your assigned nutrients at least once?

If not, what nutrients was she missing?

Student Lunch Choices - Group 2

| Deon's Choices | Which of your assigned nutrients (Vitamin K, Magnesium, Fats and Oils) were in his choices? |
|---|--|
| Monday <ul style="list-style-type: none"> • Pepperoni Pizza • Banana • Fat-Free Chocolate Milk | |
| Tuesday <ul style="list-style-type: none"> • Pepperoni Pizza • Banana • Fat-Free Chocolate Milk | |
| Wednesday <ul style="list-style-type: none"> • Pepperoni Pizza • Banana • Fat-Free Chocolate Milk | |
| Thursday <ul style="list-style-type: none"> • Pepperoni Pizza • Banana • Fat-Free Chocolate Milk | |
| Friday <ul style="list-style-type: none"> • Pepperoni Pizza • Banana • Fat-Free Chocolate Milk | |

Over the entire week, did Deon choose foods with your assigned nutrients at least once?

If not, what nutrients was he missing?

Student Lunch Choices - Group 2

| Nikeah's Choices | Which of your assigned nutrients (Vitamin K, Magnesium, Fats and Oils) were in her choices? |
|---|--|
| Monday <ul style="list-style-type: none"> • Thai Noodle Salad • Baby Carrots • Banana | |
| Tuesday <ul style="list-style-type: none"> • Chicken Sandwich • Corn Niblets • Orange Slices | |
| Wednesday <ul style="list-style-type: none"> • Chicken Teriyaki Stir Fry • Baby Carrots • Banana | |
| Thursday <ul style="list-style-type: none"> • Spaghetti with Meat Sauce • Mashed Potatoes • Orange Slices | |
| Friday <ul style="list-style-type: none"> • Peanut Butter and Jelly Sandwich • Baby Carrots • Banana | |

Over the entire week, did Nikeah choose foods with your assigned nutrients at least once?

If not, what nutrients was she missing?

Student Lunch Choices - Group 3

| Leticia's Choices | Which of your assigned nutrients (Vitamin E, Potassium, Carbohydrates) were in her choices? |
|---|--|
| Monday <ul style="list-style-type: none"> • Corn and Cheese Enchilada • Black Beans • Grapes • Fat-Free Chocolate Milk | |
| Tuesday <ul style="list-style-type: none"> • Caesar Veggie Wrap • Baked Sweet Potato Fries • Orange Slices • Fat-Free Chocolate Milk | |
| Wednesday <ul style="list-style-type: none"> • Chicken Teriyaki Stir Fry • Banana • Plain Low-Fat Milk | |
| Thursday <ul style="list-style-type: none"> • Southwest Salad • Strawberries • Fat-Free Chocolate Milk | |
| Friday <ul style="list-style-type: none"> • Strawberry Spinach Salad • Red Bell Pepper Strips with Hummus • Banana • Fat-Free Chocolate Milk | |

Over the entire week, did Leticia choose foods with your assigned nutrients at least once?

If not, what nutrients was she missing?

Student Lunch Choices - Group 3

| Deon's Choices | Which of your assigned nutrients (Vitamin E, Potassium, Carbohydrates) were in his choices? |
|---|--|
| Monday <ul style="list-style-type: none"> • Pepperoni Pizza • Banana • Fat-Free Chocolate Milk | |
| Tuesday <ul style="list-style-type: none"> • Pepperoni Pizza • Banana • Fat-Free Chocolate Milk | |
| Wednesday <ul style="list-style-type: none"> • Pepperoni Pizza • Banana • Fat-Free Chocolate Milk | |
| Thursday <ul style="list-style-type: none"> • Pepperoni Pizza • Banana • Fat-Free Chocolate Milk | |
| Friday <ul style="list-style-type: none"> • Pepperoni Pizza • Banana • Fat-Free Chocolate Milk | |

Over the entire week, did Deon choose foods with your assigned nutrients at least once?

If not, what nutrients was he missing?

Student Lunch Choices - Group 3

| Nikeah's Choices | Which of your assigned nutrients (Vitamin E, Potassium, Carbohydrates) were in her choices? |
|---|--|
| Monday <ul style="list-style-type: none"> • Thai Noodle Salad • Baby Carrots • Banana | |
| Tuesday <ul style="list-style-type: none"> • Chicken Sandwich • Corn Niblets • Orange Slices | |
| Wednesday <ul style="list-style-type: none"> • Chicken Teriyaki Stir Fry • Baby Carrots • Banana | |
| Thursday <ul style="list-style-type: none"> • Spaghetti with Meat Sauce • Mashed Potatoes • Orange Slices | |
| Friday <ul style="list-style-type: none"> • Peanut Butter and Jelly Sandwich • Baby Carrots • Banana | |

Over the entire week, did Nikeah choose foods with your assigned nutrients at least once?

If not, what nutrients was she missing?

Student Lunch Choices - Group 4

| Leticia's Choices | Which of your assigned nutrients (Calcium, Vitamin A, Vitamin B12) were in her choices? |
|---|--|
| Monday <ul style="list-style-type: none"> • Corn and Cheese Enchilada • Black Beans • Grapes • Fat-Free Chocolate Milk | |
| Tuesday <ul style="list-style-type: none"> • Caesar Veggie Wrap • Baked Sweet Potato Fries • Orange Slices • Fat-Free Chocolate Milk | |
| Wednesday <ul style="list-style-type: none"> • Chicken Teriyaki Stir Fry • Banana • Plain Low-Fat Milk | |
| Thursday <ul style="list-style-type: none"> • Southwest Salad • Strawberries • Fat-Free Chocolate Milk | |
| Friday <ul style="list-style-type: none"> • Strawberry Spinach Salad • Red Bell Pepper Strips with Hummus • Banana • Fat-Free Chocolate Milk | |

Over the entire week, did Leticia choose foods with your assigned nutrients at least once?

If not, what nutrients was she missing?

Student Lunch Choices - Group 4

| Deon's Choices | Which of your assigned nutrients (Calcium, Vitamin A, Vitamin B12) were in his choices? |
|---|--|
| Monday <ul style="list-style-type: none"> • Pepperoni Pizza • Banana • Fat-Free Chocolate Milk | |
| Tuesday <ul style="list-style-type: none"> • Pepperoni Pizza • Banana • Fat-Free Chocolate Milk | |
| Wednesday <ul style="list-style-type: none"> • Pepperoni Pizza • Banana • Fat-Free Chocolate Milk | |
| Thursday <ul style="list-style-type: none"> • Pepperoni Pizza • Banana • Fat-Free Chocolate Milk | |
| Friday <ul style="list-style-type: none"> • Pepperoni Pizza • Banana • Fat-Free Chocolate Milk | |

Over the entire week, did Deon choose foods with your assigned nutrients at least once?

If not, what nutrients was he missing?

Student Lunch Choices - Group 4

| Nikeah's Choices | Which of your assigned nutrients (Calcium, Vitamin A, Vitamin B12) were in her choices? |
|---|--|
| Monday <ul style="list-style-type: none"> • Thai Noodle Salad • Baby Carrots • Banana | |
| Tuesday <ul style="list-style-type: none"> • Chicken Sandwich • Corn Niblets • Orange Slices | |
| Wednesday <ul style="list-style-type: none"> • Chicken Teriyaki Stir Fry • Baby Carrots • Banana | |
| Thursday <ul style="list-style-type: none"> • Spaghetti with Meat Sauce • Mashed Potatoes • Orange Slices | |
| Friday <ul style="list-style-type: none"> • Peanut Butter and Jelly Sandwich • Baby Carrots • Banana | |

Over the entire week, did Nikeah choose foods with your assigned nutrients at least once?

If not, what nutrients was she missing?

Student Lunch Choices - Group 5

| Leticia's Choices | Which of your assigned nutrients (Vitamin B6, Vitamin C, Zinc) were in her choices? |
|---|--|
| Monday <ul style="list-style-type: none"> • Corn and Cheese Enchilada • Black Beans • Grapes • Fat-Free Chocolate Milk | |
| Tuesday <ul style="list-style-type: none"> • Caesar Veggie Wrap • Baked Sweet Potato Fries • Orange Slices • Fat-Free Chocolate Milk | |
| Wednesday <ul style="list-style-type: none"> • Chicken Teriyaki Stir Fry • Banana • Plain Low-Fat Milk | |
| Thursday <ul style="list-style-type: none"> • Southwest Salad • Strawberries • Fat-Free Chocolate Milk | |
| Friday <ul style="list-style-type: none"> • Strawberry Spinach Salad • Red Bell Pepper Strips with Hummus • Banana • Fat-Free Chocolate Milk | |

Over the entire week, did Leticia choose foods with your assigned nutrients at least once?

If not, what nutrients was she missing?

Student Lunch Choices - Group 5

| Deon's Choices | Which of your assigned nutrients (Vitamin B6, Vitamin C, Zinc) were in his choices? |
|---|--|
| Monday <ul style="list-style-type: none"> • Pepperoni Pizza • Banana • Fat-Free Chocolate Milk | |
| Tuesday <ul style="list-style-type: none"> • Pepperoni Pizza • Banana • Fat-Free Chocolate Milk | |
| Wednesday <ul style="list-style-type: none"> • Pepperoni Pizza • Banana • Fat-Free Chocolate Milk | |
| Thursday <ul style="list-style-type: none"> • Pepperoni Pizza • Banana • Fat-Free Chocolate Milk | |
| Friday <ul style="list-style-type: none"> • Pepperoni Pizza • Banana • Fat-Free Chocolate Milk | |

Over the entire week, did Deon choose foods with your assigned nutrients at least once?

If not, what nutrients was he missing?

Student Lunch Choices - Group 5

| Nikeah's Choices | Which of your assigned nutrients (Vitamin B6, Vitamin C, Zinc) were in her choices? |
|---|--|
| Monday <ul style="list-style-type: none"> • Thai Noodle Salad • Baby Carrots • Banana | |
| Tuesday <ul style="list-style-type: none"> • Chicken Sandwich • Corn Niblets • Orange Slices | |
| Wednesday <ul style="list-style-type: none"> • Chicken Teriyaki Stir Fry • Baby Carrots • Banana | |
| Thursday <ul style="list-style-type: none"> • Spaghetti with Meat Sauce • Mashed Potatoes • Orange Slices | |
| Friday <ul style="list-style-type: none"> • Peanut Butter and Jelly Sandwich • Baby Carrots • Banana | |

Over the entire week, did Nikeah choose foods with your assigned nutrients at least once?

If not, what nutrients was she missing?

Las Llamas Middle School Lunch Menu

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

Nutrient Labels

Instructions:

The nutrient labels are designed to be printed on standard mailing labels (1" x 2 5/8"), such as Avery 5160. For ease of use and printing, the nutrient label file is provided as a separate Word document.

First, download the Word document from the following weblink:

<http://cns.ucdavis.edu/content/training/fof/lessonmaterials/foflabels.docx>

Once downloaded, print the file on the mailing labels of your choice.

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.

Student Lunch Choices - KEY

| Leticia's Choices | Which of your assigned nutrients (Vitamin D, Iron, and Protein) were in her choices? |
|---|---|
| Monday <ul style="list-style-type: none"> • Corn and Cheese Enchilada • Black Beans • Grapes • Fat-Free Chocolate Milk | 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 <ul style="list-style-type: none"> • Caesar Veggie Wrap • Baked Sweet Potato Fries • Orange Slices • Fat-Free Chocolate Milk | 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 <ul style="list-style-type: none"> • Chicken Teriyaki Stir Fry • Banana • Plain Low-Fat Milk | 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 <ul style="list-style-type: none"> • Southwest Salad • Strawberries • Fat-Free Chocolate Milk | 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 <ul style="list-style-type: none"> • Strawberry Spinach Salad • Red Bell Pepper Strips with Hummus • Banana • Fat-Free Chocolate Milk | 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 |

Over the entire week, did Leticia choose foods with your assigned nutrients at least once?

Leticia chose foods with all assigned nutrients at least once.

If not, what nutrients was she missing?

She is not missing any nutrients.

Student Lunch Choices - KEY

| Deon's Choices | Which of your assigned nutrients (Vitamin D, Iron, and Protein) were in his choices? |
|---|---|
| Monday <ul style="list-style-type: none"> • Pepperoni Pizza • Banana • Fat-Free Chocolate Milk | Thiamin, Riboflavin, Vitamin B6, Folate, Vitamin B12, Vitamin C, Vitamin A, Vitamin D, Carbohydrates, Fats and Oils, Protein, Calcium, Iron, Magnesium, Potassium, Zinc |
| Tuesday <ul style="list-style-type: none"> • Pepperoni Pizza • Banana • Fat-Free Chocolate Milk | Thiamin, Riboflavin, Vitamin B6, Folate, Vitamin B12, Vitamin C, Vitamin A, Vitamin D, Carbohydrates, Fats and Oils, Protein, Calcium, Iron, Magnesium, Potassium, Zinc |
| Wednesday <ul style="list-style-type: none"> • Pepperoni Pizza • Banana • Fat-Free Chocolate Milk | Thiamin, Riboflavin, Vitamin B6, Folate, Vitamin B12, Vitamin C, Vitamin A, Vitamin D, Carbohydrates, Fats and Oils, Protein, Calcium, Iron, Magnesium, Potassium, Zinc |
| Thursday <ul style="list-style-type: none"> • Pepperoni Pizza • Banana • Fat-Free Chocolate Milk | Thiamin, Riboflavin, Vitamin B6, Folate, Vitamin B12, Vitamin C, Vitamin A, Vitamin D, Carbohydrates, Fats and Oils, Protein, Calcium, Iron, Magnesium, Potassium, Zinc |
| Friday <ul style="list-style-type: none"> • Pepperoni Pizza • Banana • Fat-Free Chocolate Milk | Thiamin, Riboflavin, Vitamin B6, Folate, Vitamin B12, Vitamin C, Vitamin A, Vitamin D, Carbohydrates, Fats and Oils, Protein, Calcium, Iron, Magnesium, Potassium, Zinc |

Over the entire week, did Deon choose foods with your assigned nutrients at least once?

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

If not, what nutrients was he missing?

No, Deon is missing Vitamin E and Vitamin K.

Student Lunch Choices - Group 1

| Nikeah's Choices | Which of your assigned nutrients (Vitamin D, Iron, and Protein) were in her choices? |
|---|--|
| Monday <ul style="list-style-type: none"> • Thai Noodle Salad • Baby Carrots • Banana | Thiamin, Riboflavin, Vitamin B6, Folate, Vitamin B12, Vitamin C, Vitamin A, Vitamin E, Carbohydrates, Fats and Oils, Protein, Iron, Magnesium, Potassium, and Zinc |
| Tuesday <ul style="list-style-type: none"> • Chicken Sandwich • Corn Niblets • Orange Slices | Thiamin, Riboflavin, Vitamin B6, Folate, Vitamin B12, Vitamin C, Vitamin A, Carbohydrates, Fats and Oils, Protein, Iron, Magnesium, Potassium, and Zinc |
| Wednesday <ul style="list-style-type: none"> • Chicken Teriyaki Stir Fry • Baby Carrots • Banana | Thiamin, Riboflavin, Vitamin B6, Folate, Vitamin B12, Vitamin C, Vitamin A, Carbohydrates, Fats and Oils, Protein, Iron, Magnesium, Potassium, and Zinc |
| Thursday <ul style="list-style-type: none"> • Spaghetti with Meat Sauce • Mashed Potatoes • Orange Slices | Thiamin, Riboflavin, Vitamin B6, Folate, Vitamin B12, Vitamin C, Vitamin A, Carbohydrates, Fats and Oils, Protein, Iron, Magnesium, Potassium, and Zinc |
| Friday <ul style="list-style-type: none"> • Peanut Butter and Jelly Sandwich • Baby Carrots • Banana | Thiamin, Riboflavin, Vitamin B6, Folate, Vitamin A, Vitamin E, Carbohydrates, Fats and Oils, Protein, Iron, Magnesium, Potassium, and Zinc |

Over the entire week, did Nikeah choose foods with your assigned nutrients at least once?

No.

If not, what nutrients was she missing?

Nikeah is missing Vitamin D, Vitamin K, and Calcium.

Suggested Flip Chart Layout

Student Name (e.g. Deon)

Monday

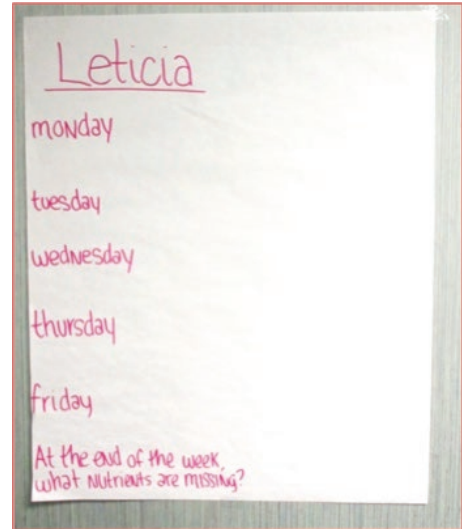
Tuesday

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.

Goal Setting – Nutrients in Action

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.)

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

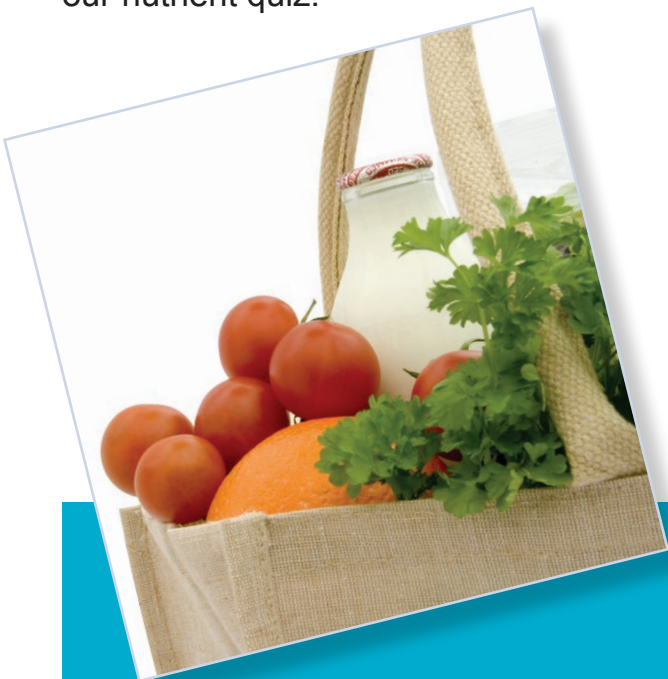


Let's talk about nutrients.

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
3. 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!

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.



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/

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?

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 an 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 adding up how many serving sizes are in a package. 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. In May 2016, the FDA announced new changes to the Nutrition Facts Label. The new label is required starting in July 2017.

Portion size is a term used in food service that indicates a weight or volume measurement of offered or served food.

This lesson does not directly address USDA meal pattern serving size terminology. However, since this is the terminology most participants will be familiar with, the 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 ½ 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

NEW LABEL / WHAT'S DIFFERENT

Servings: larger, bolder type

New: added sugars

Change in nutrients required

| Nutrition Facts | |
|-------------------------------|----------------------|
| 8 servings per container | |
| Serving size | 2/3 cup (55g) |
| Amount per serving | |
| Calories | 230 |
| % Daily Value* | |
| Total Fat 8g | 10% |
| Saturated Fat 1g | 5% |
| <i>Trans Fat</i> 0g | |
| Cholesterol 0mg | 0% |
| Sodium 160mg | 7% |
| Total Carbohydrate 37g | 13% |
| Dietary Fiber 4g | 14% |
| Total Sugars 12g | |
| Includes 10g Added Sugars | 20% |
| Protein 3g | |
| Vitamin D 2mcg | 10% |
| Calcium 260mg | 20% |
| Iron 8mg | 45% |
| Potassium 235mg | 6% |

*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.


Serving sizes updated

Calories: larger type

Updated daily values

Actual amounts declared

New footnote



on a student's tray to see whether it qualifies as a reimbursable meal. This is particularly true to determine if the required $\frac{1}{2}$ cup of fruit or vegetable 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.

Food and Drug Administration (FDA): The government agency tasked with regulating food labeling (among other responsibilities).

Measurement (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 FDA 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.

2.1: Learning Activity

Overview

In this activity, participants will learn about portion sizes, serving sizes, and density of food. First, they will visit food stations set up around the room. At each station, groups will measure out a portion of two foods (six foods in total). After they've portioned the foods, they will complete a worksheet that asks them to compare what they've portioned with the serving size on the Nutrition Facts Label for each food and make observations about how this impacts the nutrient content.

Getting Ready

Time Required

45 minutes

Materials Needed

(Materials provided in the curriculum)

| For Each Group of 2-4 Participants | For the Facilitator |
|---|---|
| <ul style="list-style-type: none"><input type="checkbox"/> Flip chart paper<input type="checkbox"/> Markers, pens, or pencils<input type="checkbox"/> <i>Nutrition Facts Labels (Handout 2-B)</i><input type="checkbox"/> <i>How Does Your Food Measure Up? Worksheet (Activity Sheet 2-A)</i><input type="checkbox"/> Paper plate<input type="checkbox"/> Paper bowl<input type="checkbox"/> Paper cup<input type="checkbox"/> 1 set of measuring cups (1 cup, 1/2 cup, 1/3 cup, 1/4 cup)<input type="checkbox"/> 1 set of measuring spoons (1 teaspoon, 1 tablespoon) | <p>Optional:</p> <ul style="list-style-type: none"><input type="checkbox"/> <i>Lesson 2 (PowerPoint)</i><input type="checkbox"/> Computer<input type="checkbox"/> PowerPoint Projector |

| For the Class | For Each Participant |
|--|---|
| <ul style="list-style-type: none"> <input type="checkbox"/> Spinach, raw (at least 4 cups for each group) <input type="checkbox"/> Spinach, cooked (at least 2 cups for each group) <p style="text-align: center;">Facilitator Tip: Thawed frozen spinach works well.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Grapes (at least 2 cups for each group) <input type="checkbox"/> Raisins (at least 1 cup for each group) <input type="checkbox"/> Low-fat or fat-free milk (at least 1 cup for each group) <p style="text-align: center;">Facilitator Tip: Avoid using single serving cartons of milk in this lesson, as they may influence participants during the activity.</p> <ul style="list-style-type: none"> <input type="checkbox"/> Grated cheese (at least 1/2 cup for each group) <input type="checkbox"/> Serving spoons, scoops, tongs <input type="checkbox"/> Bowls or containers, one per food <input type="checkbox"/> Paper towels, wet wipes, and plastic bags for clean up | <ul style="list-style-type: none"> <input type="checkbox"/> None |

Preparation

Handouts

1. Make copies of the following handouts:
 - **How Does Your Food Measure Up? (Activity Sheet 2-A)**, one per group.
 - **Nutrition Facts Labels (Handout 2-B)**, one set per group.

Activity Set-up

2. 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

Classroom Set-up

3. Organize the class into small groups of 2 to 4 participants.

Facilitator Tip: These groups can also be used in future lessons.
4. Provide each group with a sheet of flip chart paper and markers, pens, or pencils to answer opening questions/prompts.

Optional

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

Lesson 2: How Does Your Food Measure Up?

Lesson 2: How Does Your Food Measure Up?

Slide 1

Slide 1



Opening Questions

Lesson 2: How Does Your Food Measure Up?

Slide 2

Slide 2

Explain what you know
about serving sizes.

Lesson 2: How Does Your Food Measure Up?

Slide 3

Slide 3

Explain what you know
about Nutrition Facts
Labels.

Lesson 2: How Does Your Food Measure Up?

Slide 4

Slide 4

Opening Questions/Prompts

Small Group Discussion

1. **Say:** Let's get started with Lesson 2 – How Does Your Food Measure Up! **(Slide 1)** 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)**
Facilitator Tip: Explain to participants 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 learn more about these topics throughout the lesson.

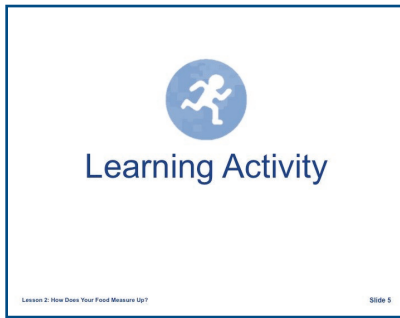
2. **Do:** Allow 2 to 3 minutes for groups to discuss the prompt. Repeat with the remaining prompt:
 - Explain what you know about Nutrition Facts Labels. **(Slide 4)**

Class Discussion

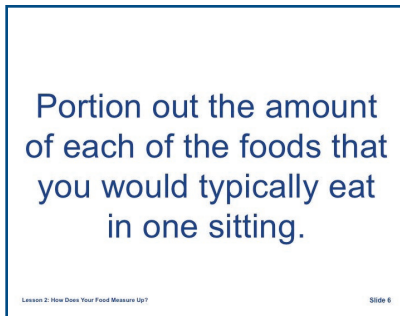
3. **Say:** As a class, let's discuss what you talked about in your groups. What were some of your thoughts on the first prompt, "Explain what you know about serving sizes?"
4. **Do:** Allow about a minute for participants to share their thoughts on this topic with the class. Repeat with the remaining prompt:
 - Explain what you know about Nutrition Facts Labels. **(Slide 4)**

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..."; "Did anyone else write this?". At this stage, don't 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)



Slide 5



Slide 6

Introducing the Activity

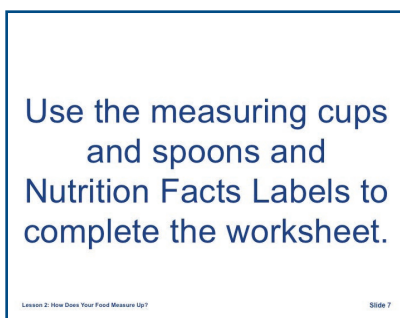
5. **Say:** Now that we've completed our opening discussion, we'll start on the activity for this lesson. **(Slide 5)** This activity involves portion sizes.
 - You will receive a worksheet to fill out with your group as part of this lesson.
 - Each group will walk around the room to each food station. Choose one member of your group to portion out the amount of each food that you would typically eat in one sitting. **(Slide 6)**
6. **Do:** Provide each group with:
 - One copy of the ***How Does Your Food Measure Up? (Activity Sheet 2-A)***
 - One paper plate
 - One paper bowl
 - One paper cup

Facilitator Tips: If it is a large class, asking for volunteers to help distribute materials.

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

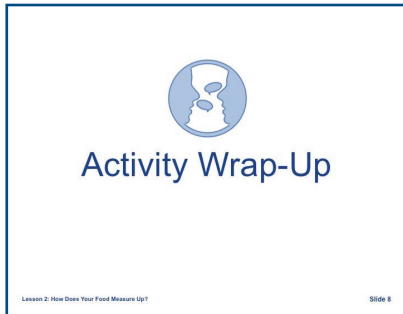
Visiting Food Stations and Completing the Worksheet

7. **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.
8. **Do:** Allow a few minutes for all groups to portion out their foods. While they are doing this, distribute to each group:
 - One set of measuring cups
 - One set of measuring spoons
 - One set of ***Nutrition Facts Labels (Handout 2-B)***
9. **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)**
10. **Do:** Allow several minutes for participants to portion their foods and complete the worksheet.



Slide 7

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



Slide 8

11. **Say:** As a class, let's discuss your observations. **(Slide 8)**

12. **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.

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

- A portion is a subjective amount of food that someone chooses.
- 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

Overview

In this mini-lecture, participants will learn more about portion and serving sizes, how Nutrition Facts Labels can be used to compare foods, and density of foods and how this impacts the school meal pattern requirements.

Getting Ready

Time Required

10 minutes

Materials Needed

(Materials provided in the curriculum)

| | |
|--|---|
| For the Facilitator <ul style="list-style-type: none"><input type="checkbox"/> Lesson 2 (PowerPoint)<input type="checkbox"/> Computer<input type="checkbox"/> PowerPoint Projector | For Each Group of 2-4 Participants <ul style="list-style-type: none"><input type="checkbox"/> None |
| For the Class <ul style="list-style-type: none"><input type="checkbox"/> None | For Each Participant <ul style="list-style-type: none"><input type="checkbox"/> None |

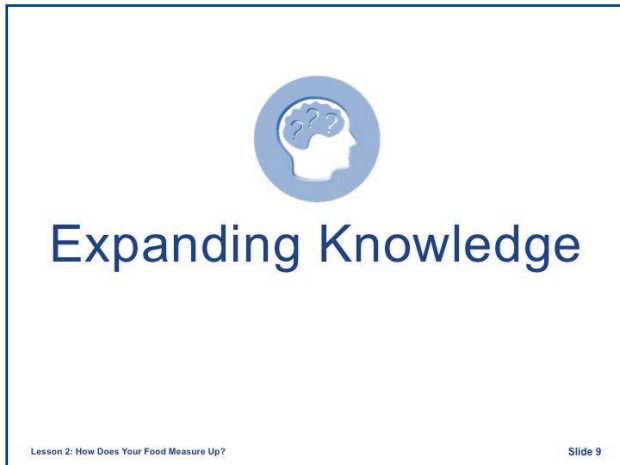
Preparation

Projector Set-up

1. Connect laptop to projector. Load **Focus on Food Lesson 2** (PowerPoint).
2. Queue the PowerPoint presentation to Slide 9.

Procedure

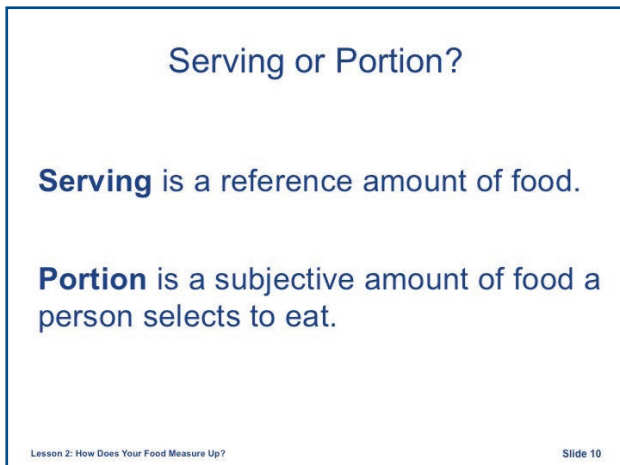
3. **Do:** Go through the Expanding Knowledge presentation slide by slide. The following script is available for use if you so choose.



Slide 9

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

Slide 9



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.

Slide 10



Slide 11

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 11

Nutrition Facts Labels

Reference amount of food.

Regulated by the FDA.

| Baby Carrots | |
|-------------------------------|-----------|
| Nutrition Facts | |
| Serving Size 1 cup | |
| Amount per serving | |
| Calories | 53 |
| % 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% |
| Total Sugars 6g | |
| Includes 0g of Added Sugars | 0% |
| Protein 1g | 2% |
| Vitamin D 0mcg | 0% |
| Calcium 52mg | 4% |
| Iron <1mg | 2% |
| Potassium 365mg | 7% |

*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

Lesson 2: How Does Your Food Measure Up?

Slide 12

Slide 12

Slide 12

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.

Nutrition Facts Labels

Jan consumed ½ cup of carrots.

How much fiber and calcium did she consume?

| Baby Carrots | |
|-------------------------------|-----------|
| Nutrition Facts | |
| Serving Size 1 cup | |
| Amount per serving | |
| Calories | 53 |
| % 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% |
| Total Sugars 6g | |
| Includes 0g of Added Sugars | 0% |
| Protein 1g | 2% |
| Vitamin D 0mcg | 0% |
| Calcium 52mg | 4% |
| Iron <1mg | 2% |
| Potassium 365mg | 7% |

*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

Lesson 2: How Does Your Food Measure Up?

Slide 13

Slide 13

Slide 13

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.]

Nutrition Facts

½ cup of carrots is ½ serving:

Dietary Fiber = 2 g

Calcium = 26 mg

| Baby Carrots | |
|-------------------------------|-----------|
| Nutrition Facts | |
| Serving Size 1 cup | |
| Amount per serving | |
| Calories | 53 |
| % 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% |
| Total Sugars 6g | |
| Includes 0g of Added Sugars | 0% |
| Protein 1g | 2% |
| Vitamin D 0mcg | 0% |
| Calcium 52mg | 4% |
| Iron <1mg | 2% |
| Potassium 365mg | 7% |

*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

Lesson 2: How Does Your Food Measure Up?

Slide 14

Slide 14

Slide 14

The label states carrots have four grams of dietary fiber and 52 milligrams of calcium. This means Jan consumed 2 grams of fiber, and 26 mg of calcium, or about 2% of the daily recommendation.

Nutrition Facts Labels

| Food A | | Food B | |
|-------------------------------|------------|-------------------------------|------------|
| Nutrition Facts | | Nutrition Facts | |
| 3.5 serving per container | | 3.5 serving per container | |
| Serving Size 1 cup | | Serving Size 1 cup | |
| Amount per serving | | Amount per serving | |
| Calories | 179 | Calories | 110 |
| % Daily Value* | | % Daily Value* | |
| Total Fat 1g | 0% | Total Fat 1g | 0% |
| Saturated Fat 0g | 0% | Saturated Fat 0g | 0% |
| Trans Fat 0g | | Trans Fat 0g | |
| Cholesterol 0mg | 0% | Cholesterol 0mg | 0% |
| Sodium 25mg | 1% | Sodium 280mg | 12% |
| Total Carbohydrate 43g | 14% | Total Carbohydrate 25g | 8% |
| Dietary Fiber 6g | 23% | Dietary Fiber 3g | 11% |
| Total Sugars 11g | | Total Sugars 3g | |
| Includes 0g of Added Sugars | 0% | Includes 0g of Added Sugars | 0% |
| Protein 1g | 2% | Protein 1g | 2% |
| Vitamin D 0mcg | 0% | Vitamin D 0mcg | 0% |
| Calcium 52mg | 4% | Calcium 400mg | 30% |
| Iron 5mg | 50% | Iron 4.5mg | 25% |
| Potassium 470mg | 10% | Potassium 260mg | 7% |

Lesson 2: How Does Your Food Measure Up?

Slide 15

Slide 15

Slide 15

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.

Nutrition Facts Labels



Lesson 2: How Does Your Food Measure Up?

Slide 16

Slide 16

Slide 16

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.

Density

...is how compact a food is.



Lesson 2: How Does Your Food Measure Up?

Slide 17

Slide 17

Slide 17

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

How do the lunch and breakfast meal patterns take density into account for certain fruits and vegetables?



Lesson 2: How Does Your Food Measure Up?

Slide 18

Slide 18

Slide 18

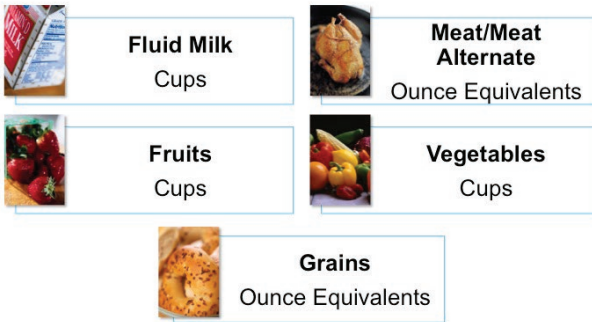
In the school meal patterns, density is something that is factored in with dried fruit, and raw leafy greens. When you compared raisins and grapes, and raw spinach to cooked spinach, how were the nutrients different?

[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



Lesson 2: How Does Your Food Measure Up?

Slide 19

Slide 19

Slide 19

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

Overview

In this activity, participants will use what they've learned to set a goal to use resources such as the Nutrition Facts Label when choosing foods.

Getting Ready

Time Required

5 minutes

Materials Needed

(Materials provided in the curriculum)

| | |
|--|---|
| For the Facilitator Optional: <input type="checkbox"/> Lesson 2 (PowerPoint) <input type="checkbox"/> Computer <input type="checkbox"/> PowerPoint Projector | For Each Group of 2-4 Participants <input type="checkbox"/> None |
| For the Class <input type="checkbox"/> None | For Each Participant <input type="checkbox"/> Goal Setting – How Does Your Food Measure Up? (Activity Sheet 2-C) Optional: <input type="checkbox"/> Focus on Food Lesson 2 Newsletter (Handout 2-D) |

Preparation

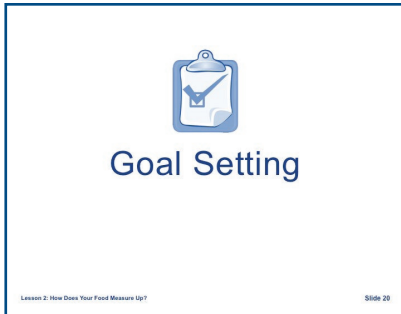
Handouts

1. Make copies of the following handouts:
 - **Goal Setting – How Does Your Food Measure Up? (Activity Sheet 2-C)**, one for each participant.
 - Optional: **Focus on Food Lesson 2 Newsletter (Handout 2-D)**, one for each participant.

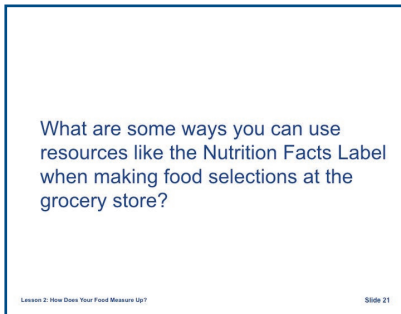
Optional

2. Connect laptop to projector. Load **Focus on Food Lesson 2** (PowerPoint).
3. Queue the PowerPoint presentation to **Slide 20**.

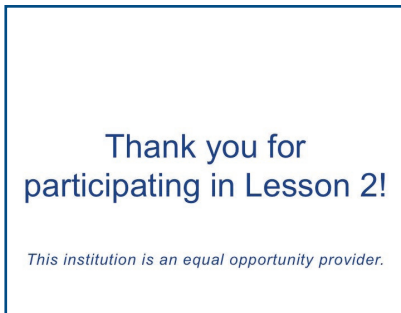
Procedure



Slide 20



Slide 21



Slide 22

4. **Say:** Now let's move on to goal setting! (**Slide 20**) We've talked about how Nutrition Facts Labels are a resource to use with choosing foods. 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 question: (**Slide 21**)
 - What are some ways you can use resources like the Nutrition Facts Label when making food selections at the grocery store?
5. **Do:** Provide a copy of the **Goal Setting – How Does Your Food Measure Up? (Activity Sheet 2-C)** to each participant. Allow participants a few minutes to complete the handout.
6. **Say:** Would anyone like to share the goals they set for themselves?

Optional:

7. **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 22**)
8. **Do:** Provide a copy of the **Focus on Food Lesson 2 Newsletter (Handout 2-D)** to each participant.

How Does Your Food Measure Up?

| | Carrots (Example) | Raw Spinach | Cooked Spinach | Grapes | Raisins | Milk | Cheese |
|--|---|----------------|-------------------|--------|---------|---------|---------|
| What is amount of food, or portion , you served yourself? Hint: use cups or tablespoons. | ½ cup | | | | | | |
| What is the serving size of each food according to the Nutrition Facts Label? | 1 cup | | | | | | |
| What amount of this nutrient is in one serving ? | Fiber: 4g | Iron: | Iron: | Sugar: | Sugar: | Carbs*: | Carbs*: |
| What amount of this nutrient is in the portion you served yourself? | Fiber: $4g/2 = 2g$ | Iron: | Iron: | Sugar: | Sugar: | Carbs*: | Carbs*: |
| What is the difference in this nutrient between your portion and the serving size ? | 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 | | | | | | |

Nutrient Labels

Baby Carrots

| Nutrition Facts | |
|-------------------------------|------------|
| Serving Size 1 cup | |
| Amount per serving | |
| Calories | 53 |
| % Daily Value* | |
| Total Fat 0g | 0% |
| Saturated Fat 0g | 0% |
| <i>Trans</i> Fat 0g | |
| Cholesterol 0mg | 0% |
| Sodium 88mg | 3% |
| Total Carbohydrate 12g | 4% |
| Dietary Fiber 4g | 14% |
| Total Sugars 6g | |
| Includes 0g of Added Sugars | 0% |
| Protein 1g | 2% |
| Vitamin D 0mcg | 0% |
| Calcium 52mg | 4% |
| Iron <1mg | 2% |
| Potassium 365mg | 7% |

Spinach (raw)

| Nutrition Facts | |
|------------------------------|-----------|
| Serving Size 1 cup | |
| Amount per serving | |
| Calories | 7 |
| % Daily Value* | |
| Total Fat 0g | 0% |
| Saturated Fat 0g | 0% |
| <i>Trans</i> Fat 0g | |
| Cholesterol 0mg | 0% |
| Sodium 24mg | 1% |
| Total Carbohydrate 1g | 0% |
| Dietary Fiber 1g | 3% |
| Total Sugars 0g | |
| Includes 0g of Added Sugars | 0% |
| Protein 1g | 2% |
| Vitamin D 0mcg | 0% |
| Calcium 39mg | 3% |
| Iron 1mg | 5% |
| Potassium 167mg | 4% |

Spinach (cooked)

| Nutrition Facts | |
|------------------------------|------------|
| Serving Size 1 cup | |
| Amount per serving | |
| Calories | 41 |
| % Daily Value* | |
| Total Fat 0g | 0% |
| Saturated Fat 0g | 0% |
| <i>Trans</i> Fat 0g | |
| Cholesterol 0mg | 0% |
| Sodium 126mg | 5% |
| Total Carbohydrate 7g | 2% |
| Dietary Fiber 4g | 14% |
| Total Sugars 1g | |
| Includes 0g of Added Sugars | 0% |
| Protein 5g | 10% |
| Vitamin D 0mcg | 0% |
| Calcium 245mg | 20% |
| Iron 6mg | 16% |
| Potassium 839mg | 18% |

Grapes (raw)

| Nutrition Facts | |
|-------------------------------|-----------|
| Serving Size 1 cup | |
| Amount per serving | |
| Calories | 62 |
| % Daily Value* | |
| Total Fat 0g | 0% |
| Saturated Fat 0g | 0% |
| <i>Trans</i> Fat 0g | |
| Cholesterol 0mg | 0% |
| Sodium 2mg | 0% |
| Total Carbohydrate 16g | 5% |
| Dietary Fiber 1g | 3% |
| Total Sugars 15g | |
| Includes 0g of Added Sugars | 0% |
| Protein <1g | 2% |
| Vitamin D 0mcg | 0% |
| Calcium 13mg | 0% |
| Iron <1mg | 0% |
| Potassium 176mg | 4% |

Raisins

| Nutrition Facts | |
|-------------------------------|------------|
| Serving Size 1/4 cup | |
| Amount per serving | |
| Calories | 120 |
| % Daily Value* | |
| Total Fat 0g | 0% |
| Saturated Fat 0g | 0% |
| <i>Trans</i> Fat 0g | |
| Cholesterol 0mg | 0% |
| Sodium 10mg | 0% |
| Total Carbohydrate 32g | 10% |
| Dietary Fiber 2g | 6% |
| Total Sugars 24g | |
| Includes 0g of Added Sugars | 0% |
| Protein 1g | 2% |
| Vitamin D 0mcg | 0% |
| Calcium 20mg | 2% |
| Iron 1mg | 6% |
| Potassium 300mg | 6% |

Low-Fat Shredded Cheese

| Nutrition Facts | |
|------------------------------|------------|
| Serving Size 1 cup | |
| Amount per serving | |
| Calories | 90 |
| % Daily Value* | |
| Total Fat 6g | 8% |
| Saturated Fat 3g | 15% |
| <i>Trans</i> Fat 0g | |
| Cholesterol 20mg | 7% |
| Sodium 180mg | 8% |
| Total Carbohydrate 2g | 1% |
| Dietary Fiber 0g | 3% |
| Total Sugars 0g | |
| Includes 0g of Added Sugars | 0% |
| Protein 8g | 16% |
| Vitamin D 0mcg | 0% |
| Calcium 250mg | 19% |
| Iron 0mg | 0% |
| Potassium 25mg | 0% |

Low-Fat Milk (1%)

| Nutrition Facts | |
|-------------------------------|------------|
| Serving Size 1 cup | |
| Amount per serving | |
| Calories | 115 |
| % Daily Value* | |
| Total Fat 2.5g | 4% |
| Saturated Fat 1.5g | 8% |
| <i>Trans</i> Fat 0g | |
| Cholesterol 10mg | 4% |
| Sodium 115mg | 5% |
| Total Carbohydrate 12g | 4% |
| Dietary Fiber 0g | 0% |
| Total Sugars 12g | |
| Includes 0g of Added Sugars | 0% |
| Protein 8g | 16% |
| Vitamin D 2.5mcg | 13% |
| Calcium 314mg | 30% |
| Iron 0mg | 0% |
| Potassium 397mg | 9% |

Goal Setting

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

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...

| | |
|---|--------|
| Coming Soon! The New Nutrition Facts Label | Page 2 |
| Don't Be Confused: Density vs. Nutrient Density | Page 2 |
| Spinach, You're So Dense | Page 2 |
| What's up with those labels on the front of packages? | Page 3 |
| Now Serving... Nutrition Facts Label | Page 3 |
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| 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 = 4 quarts 8 pints 16 cups 128 fluid ounces 3.8 liters | 1 Quart = 2 pints 4 cups 32 fluid ounces .95 liters | 1 Pint = 2 cups 16 fluid ounces .48 liters |
| 1 Cup = 8 fluid ounces 240 milliliters | 1/4 Cup = 4 tablespoons 12 teaspoons 2 fluid ounces 60 milliliters | 1 Tablespoon = 3 teaspoons 1/2 fluid ounce 15 milliliters |

Did you know?

The Nutrition Facts Label is changing!
Check out page 3 to learn more!

Coming Soon! The New Nutrition Facts Label

Coming soon to a product near you is a brand new Nutrition Facts Label. Starting in July 2017, these new labels began popping up everywhere. Here's what to expect.



NEW LABEL / WHAT'S DIFFERENT

Servings: larger, bolder type

| Nutrition Facts | |
|-----------------------------------|------------|
| 8 servings per container | |
| Serving size 2/3 cup (55g) | |
| Amount per serving | |
| Calories | 230 |
| % Daily Value* | |
| Total Fat 8g | 10% |
| Saturated Fat 1g | 5% |
| Trans Fat 0g | |
| Cholesterol 0mg | 0% |
| Sodium 160mg | 7% |
| Total Carbohydrate 37g | 13% |
| Dietary Fiber 4g | 14% |
| Total Sugars 12g | |
| Includes 10g Added Sugars | 20% |
| Protein 3g | |
| Vitamin D 2mcg | 10% |
| Calcium 260mg | 20% |
| Iron 8mg | 45% |
| Potassium 235mg | 6% |

Serving sizes updated

Calories: larger type

Updated daily values

New: added sugars

Change in nutrients required

Actual amounts declared

New footnote

*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.



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

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.



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 use terms like free, high, and low to describe the amount of a nutrient in a food and if the food has less when compared to similar food.

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"

Now Serving...Nutrition Facts Label

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

| Nutrition Facts | |
|-------------------------------|------------|
| 2 serving per container | |
| Serving Size 1 cup | |
| Amount per serving | |
| Calories | 250 |
| % Daily Value* | |
| Total Fat 12g | 18% |
| Saturated Fat 3g | 15% |
| <i>Trans</i> Fat 3g | |
| Cholesterol 30mg | 10% |
| Sodium 470mg | 20% |
| Total Carbohydrate 31g | 10% |
| Dietary Fiber 0g | 0% |
| Total Sugars 5g | |
| Includes 0g of Added Sugars | 0% |
| Protein 5g | 2% |
| Vitamin D 0mcg | 0% |
| Calcium 272mg | 20% |
| Iron 1mg | 4% |
| Potassium 100mg | 2% |

*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice

There are two servings per container.

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 nutrients by 2 to determine your total.



Did you know?

Containers can be misleading.

This is especially true of 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.



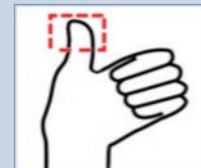
One palm is about the same size as 3 ounces of meat.

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.



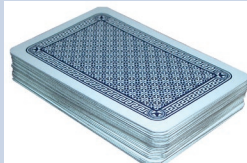
One baseball is about the same volume as 1 cup.

Food examples include dry cereal, fruit, and vegetables



One tennis ball is about the same volume as ½ 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 ¼ cup.

Food examples include dried fruit and nuts.

Adapted from Dairy Council of California (<http://www.healthyeating.org/Healthy-Eating/Healthy-Living/Weight-Management/Article-Viewer/Article/348/Correct-Portion-Sizes-How-to-Keep-Portion-Distortion-in-Check.aspx>) and Medline Plus (<https://www.nlm.nih.gov/medlineplus/ency/patientinstructions/000337.htm>).

Test your knowledge! Take our Nutrition Facts Label quiz!

- 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

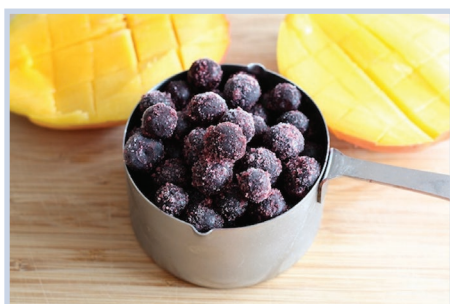
Food A

| Nutrition Facts | |
|---|-----------|
| 3.5 serving per container | |
| Serving Size 1/2 cup | |
| Amount per serving | |
| Calories | 35 |
| % Daily Value* | |
| Total Fat 0g | 0% |
| Saturated Fat 0g | 0% |
| Trans Fat 0g | |
| Cholesterol 0mg | 0% |
| Sodium 25mg | 1% |
| Total Carbohydrate 7g | 2% |
| Dietary Fiber 2g | 8% |
| Total Sugars 3g | |
| Includes 0g of Added Sugars | 0% |
| Protein 1g | 2% |
| Vitamin D 0mcg | 0% |
| Calcium 52mg | 4% |
| Iron 1mg | 4% |
| Potassium 230mg | 7% |
| *The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice | |

Food B

| Nutrition Facts | |
|---|------------|
| 3.5 serving per container | |
| Serving Size 1/2 cup | |
| Amount per serving | |
| Calories | 30 |
| % Daily Value* | |
| Total Fat 0g | 0% |
| Saturated Fat 0g | 0% |
| Trans Fat 0g | |
| Cholesterol 0mg | 0% |
| Sodium 280mg | 12% |
| Total Carbohydrate 6g | 8% |
| Dietary Fiber 2g | 0% |
| Total Sugars 3g | |
| Includes 0g of Added Sugars | 0% |
| Protein 1g | 2% |
| Vitamin D 0mcg | 0% |
| Calcium 52mg | 4% |
| Iron 1mg | 4% |
| Potassium 260mg | 7% |
| *The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice | |

Check your answers at the bottom of the page!



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.

1. a; 2. d; 3. c; 4. d



Lesson 3 – Get Your Move On

Background Information

Physical activity involves using energy to move the body. Your **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. A category of physical activity called aerobic activity causes you to breathe harder and your heart to beat faster. Aerobic activities can be low, moderate, or vigorous in intensity. Moderate physical activities may include walking, gardening, dancing, and golf. Vigorous physical activities may include running, swimming, and playing basketball. Stretching activities are low intensity, and help prevent injuries and improve **flexibility**.

The body needs oxygen to function and be active. **Inhaling oxygen** into your **lungs** enables the **heart** to pump oxygenated blood through **arteries** to the rest of the body. As the body uses its 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

Overview

In this activity, participants will learn about physical activity intensity and the benefits of physical activity.

To do this, the learning activity asks participants to first review a set of cards with descriptions of different activities. In small groups, they organize these cards based on similarities and differences. Then they are provided with a handout describing the different intensities of physical activities, and are asked to reorganize their cards based on intensity of the activities.

After learning about intensity, participants are asked to engage in activities of different intensities and measure their heart rate and breathing rate. The lesson closes with a class discussion to explore their observations about the different intensities and some of the benefits of physical activity.

Getting Ready

Time Required

30 minutes

Materials Needed

(Materials provided in the curriculum)

| | |
|--|--|
| For Each Group of 2-4 Participants <ul style="list-style-type: none"><input type="checkbox"/> Flip chart paper<input type="checkbox"/> Markers, pens, or pencils<input type="checkbox"/> <i>Physical Activity Cards Lesson Material 3-A</i><input type="checkbox"/> <i>Physical Activity Intensities (Handout 2-B)</i> | For the Facilitator <ul style="list-style-type: none"><input type="checkbox"/> Stopwatch or watch with a second hand Optional: <ul style="list-style-type: none"><input type="checkbox"/> <i>Lesson 3 (PowerPoint)</i><input type="checkbox"/> Computer<input type="checkbox"/> PowerPoint Projector |
| For the Class <ul style="list-style-type: none"><input type="checkbox"/> None | For Each Participant <ul style="list-style-type: none"><input type="checkbox"/> <i>Activity Chart (Activity Sheet 3-C)</i> |

Preparation

Handouts

1. Make copies of the following handouts:
 - **Physical Activity Intensities (Handout 3-B)**, one copy per group.
 - **Activity Chart (Activity Sheet 3-C)**, one copy per participant.

Other Materials

2. Print and cut out copies of the **Physical Activity Cards (Handout 3-A)**, one set per group.

Classroom Set-up

3. Organize the class into small groups of 2 to 4 participants.

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

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

Optional

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

Opening Questions/Prompts

Lesson 3: Get Your Move On

Lesson 3: Get Your Move On Slide 1

Slide 1



Opening Questions

Lesson 3: Get Your Move On Slide 2

Slide 2

Explain what you know
about exercise.

Lesson 3: Get Your Move On Slide 3

Slide 3

Explain why you think
exercise might be
important.

Lesson 3: Get Your Move On Slide 4

Slide 4

Small Group Discussion

1. **Say:** Let's get started with Lesson 3 – Get Your Move On! (**Slide 1**) 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**)
Facilitator Tip: Explain to participants 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 learn more about these topics throughout the lesson.

2. **Do:** Allow 2 to 3 minutes for groups to discuss the prompt. Repeat with the remaining two prompts:
 - Explain why you think exercise might be important. (**Slide 4**)

Class Discussion

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 exercise."
4. **Do:** Allow about a minute for participants to share their thoughts on this topic with the class. Repeat with the remaining prompt:
 - Explain why you think exercise might be important. (**Slide 4**)

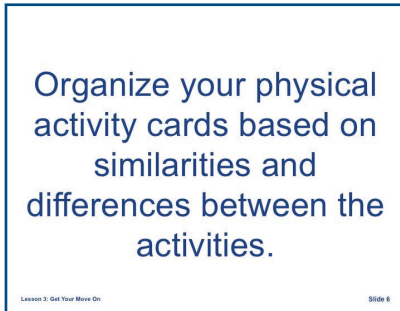
Facilitator Tip: This sharing phase is a great opportunity to begin to build rapport with participants. Engage participants at this phase with phrases such as: "Tell me more about that"; "What do you mean by..."; "Did anyone else write this?" At this stage, it is important that you do not correct misconceptions. 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)

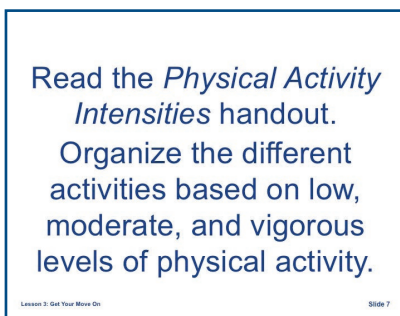
Small Group Work



Slide 5



Slide 6



Slide 7

5. **Say:** Now that we've completed our opening discussion, we'll start on the activity for this lesson. **(Slide 5)** 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 (Handout 3-A)***
- 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.

6. **Do:** Provide each group with a copy of the ***Physical Activity Cards (Handout 3-A)***.

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.

7. **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.

8. **Do:** Provide each group with a copy of the ***Physical Activity Intensities (Handout 3-B)***.

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.

Class Discussion

9. **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). 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:*

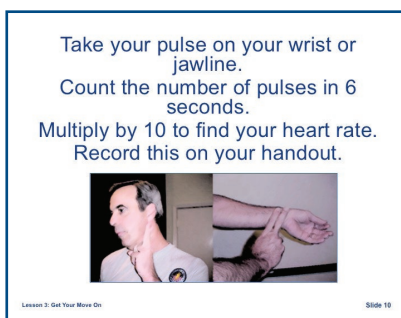
- *The lungs take in oxygen and expel carbon dioxide, and more vigorous activity means more carbon dioxide is produced, and more oxygen is needed.*
- *The heart pumps faster to move more oxygen-rich blood from the lungs to the muscles, and to move carbon dioxide from muscles to the lungs where it can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



Slide 8



Slide 9



Slide 10

Resting Heart and Breathing Rate

10. **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)**
11. **Do:** Provide each participant with a copy of the **Activity Chart handout (Activity Sheet 3-C)**. Allow one minute for participants to record how they currently feel.
12. **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
 - Multiply by 10 to find your resting heart rate in 1 minute. **(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.

Slide 11

13. **Do:** Using a watch or stopwatch, time 6 seconds and announce when time is up.
14. **Say:** Next, we'll measure our resting breathing rate. One breath equals one inhale and one exhale.
- I'll measure 6 seconds.
 - Count the number of breaths in 6 seconds
 - Multiply by 10 to find your resting breathing rate in 1 minute. **(Slide 11)**
15. **Do:** Using a watch or stopwatch, time 6 seconds and announce when time is up.

Facilitator Tip: For the next part of the activity, participants will engage in physical activity. There are few things you can do to help them feel more comfortable. Dim lights in the room and join them in the physical activity (walking, jumping jacks). 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 heart rate and breathing rate.

Walk in place for 30 seconds.

Slide 12

Moderate Exercise

16. **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)**
17. **Do:** Repeat the steps for measuring pulse and breathing rate. Using a watch or stopwatch, time 30 seconds and announce when time is up. Have participants record these numbers on their handout. **(Slides 13)**
18. **Say:** On this handout, record how you currently feel after moderate activity, using descriptive words. **(Slide 13)**

Take your pulse and breathing rate.

Record on your handout how you feel.

Slide 13

Vigorous Exercise

19. **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 14)**
20. **Do:** Repeat the steps for measuring pulse and breathing rate. Using a watch or stopwatch, time 30 seconds and

Do jumping jacks for 30 seconds.

Slide 14



Slide 15

announce when time is up. Have participants record these numbers on their handout. **(Slides 17-18)**

21. **Say:** On the handout, record how you currently feel after vigorous activity, using descriptive words. **(Slide 19)**

Small Group Discussion

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

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

23. **Say:** As a class, let's discuss your observations about resting, moderate, and vigorous levels of activity. **(Slide 21)**

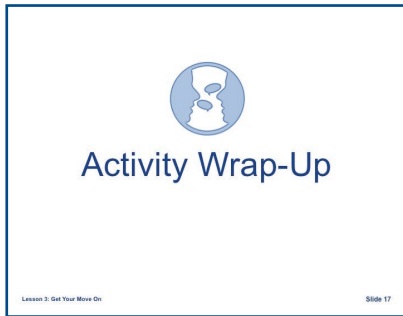
24. **Do:** Follow the group's line of thinking, and if necessary, ask more targeted questions.

- 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.
- Share some of the benefits of physical activity you've heard about.

If not mentioned earlier in the lesson, 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.



Slide 17



Slide 16

Concept and Term Discovery/Introduction

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

- Breathing rate and heart rate will differ depending upon the level of intensity of the activity they are doing.
- Physical activity has many benefits, including heart health, bone strength, sleep and mood improvement, muscle strength, flexibility, and reduced risk of chronic disease.
- Any type and length of time being physically active is better than none, and they can exercise any time that works for them.

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

Overview

In this mini-lecture, participants will learn more about physical activity, and how the heart and lungs work together to provide oxygen to the body. They will also learn about maximum and target heart rate and the current recommendations for physical activity for adults and children.

Getting Ready

Time Required

10 minutes

Materials Needed

(Materials provided in the curriculum)

| | |
|--|---|
| For the Facilitator <ul style="list-style-type: none"><input type="checkbox"/> Lesson 3 (PowerPoint)<input type="checkbox"/> Computer<input type="checkbox"/> PowerPoint Projector | For Each Group of 2-4 Participants <ul style="list-style-type: none"><input type="checkbox"/> None |
| For the Class <ul style="list-style-type: none"><input type="checkbox"/> None | For Each Participant <ul style="list-style-type: none"><input type="checkbox"/> None |

Preparation

Projector Set-up

1. Connect laptop to projector. Load **Focus on Food Lesson 3** (PowerPoint).
2. Queue the PowerPoint presentation to Slide 18.

Procedure

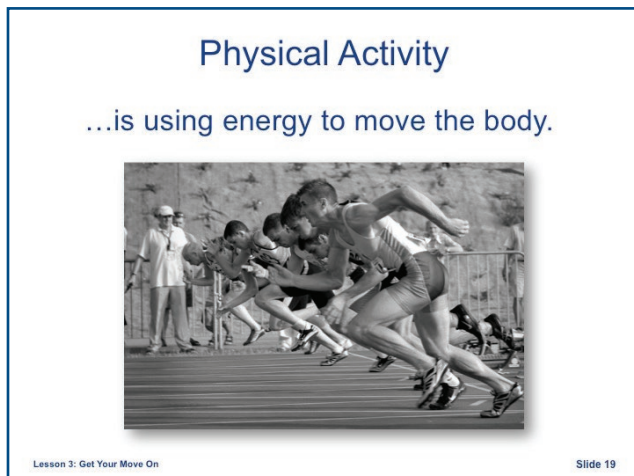
1. **Do:** Go through the Expanding Knowledge presentation slide by slide. The following script is available for use if you so choose.



Slide 18

Slide 18

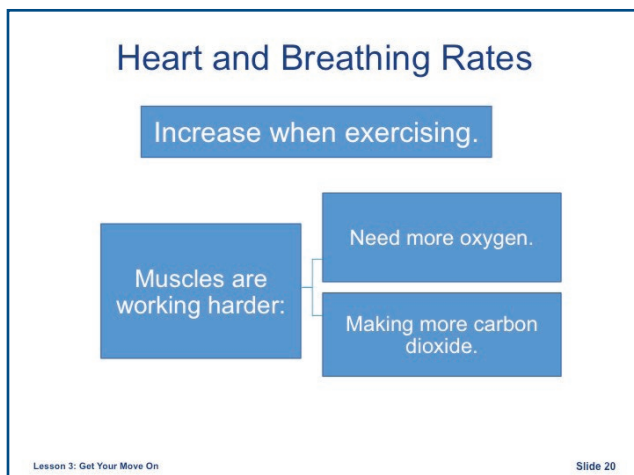
Let's review some of the concepts we learned during Lesson 3, Get Your Move On.



Slide 19

Slide 19

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.



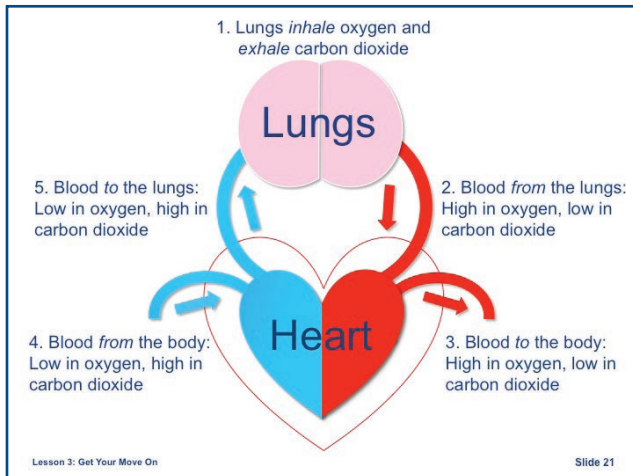
Slide 20

Slide 20

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 21

Slide 21

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.

Heart Rate

To calculate maximum: subtract your age from 220.

Example: 50 years old
 $220 - 50 = 170$ beats per minute.

Lesson 3: Get Your Move On

Slide 22

Slide 22

Slide 22


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.

Heart Rate

Target: 50 - 70% of maximum.



Example: 50 years old
50% to 70% of 170 = 85 to 119 beats per minute.

Lesson 3: Get Your Move On Slide 23

Slide 23

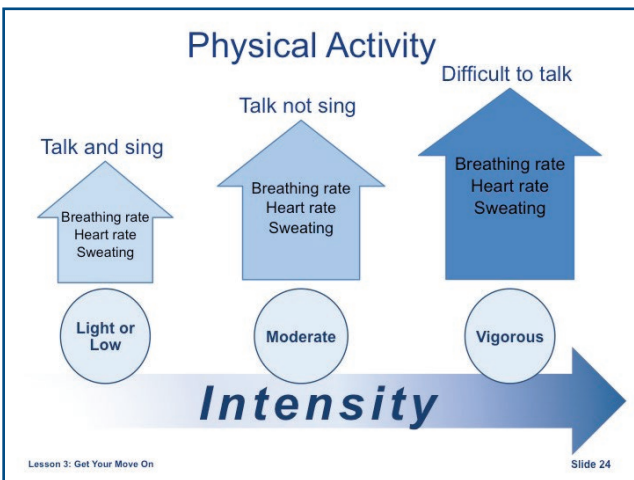
Slide 23

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.



Slide 24

Slide 24

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 heart rate and breathing rate increase even more. 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?

Physical Activity

Weight-Bearing:
Working against gravity to move a weight



Non Weight-Bearing:
Not working against gravity to move a weight

Lesson 3: Get Your Move On Slide 25

Slide 25

Slide 25

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

[Pause to allow responses from class.]

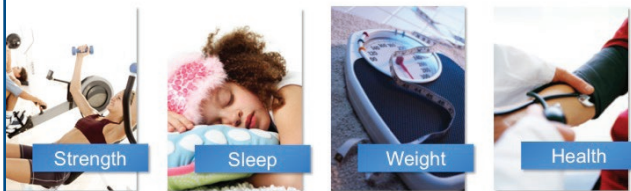
Weight-bearing exercise is important because it helps build and maintain strong bones.

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.

Physical Activity



Lesson 3: Get Your Move On Slide 26

Slide 26

Slide 26

We've learned that weight-bearing physical activity helps build and maintain strong bones as well as increase muscle strength. It can also 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?

[Pause to allow responses from class.]

Physical Activity



Adults

2 ½ hours moderate
physical activity
or
1 ¼ hours vigorous
activity each week.

Lesson 3: Get Your Move On Slide 27

Slide 27

Slide 27

The Dietary Guidelines for Americans 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

Children

1 hour each day
&
vigorous activity 3
days per week.



Lesson 3: Get Your Move On Slide 28

Slide 28

Slide 28

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

Overview

In this activity, participants will use what they've learned to record some steps they could take to increase their physical activity.

Getting Ready

Time Required

5 minutes

Materials Needed

(Materials provided in the curriculum)

| | |
|--|--|
| For the Facilitator Optional: <input type="checkbox"/> Lesson 3 (PowerPoint) <input type="checkbox"/> Computer <input type="checkbox"/> PowerPoint Projector | For Each Group of 2-4 Participants <input type="checkbox"/> None |
| For the Class <input type="checkbox"/> None | For Each Participant <input type="checkbox"/> Goal Setting – Get Your Move On (Activity Sheet 3-D) Optional: <input type="checkbox"/> Focus on Food Lesson 3 Newsletter (Handout 3-E) |

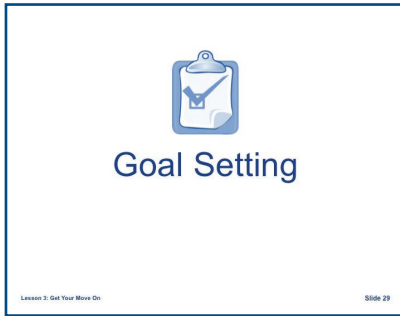
Preparation

Handouts

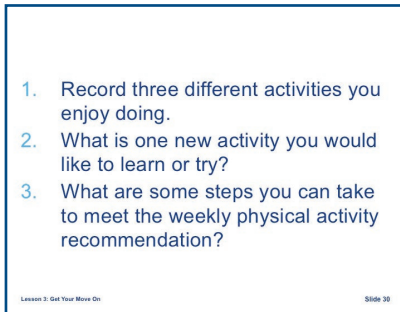
1. Make copies of the following handouts:
 - **Goal Setting – Get Your Move On (Activity Sheet 3-D)**, one for each participant.
 - Optional: **Focus on Food Lesson 3 Newsletter (Handout 3-E)**, one for each participant.

Optional

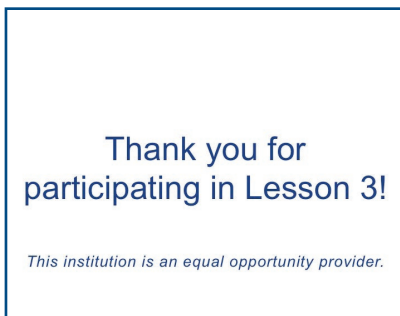
2. Connect laptop to projector. Load Focus on Food Lesson 3 (PowerPoint).
3. Queue the PowerPoint presentation to Slide 29.



Slide 29



Slide 30



Slide 31

Procedure

1. **Say:** Now let's move on to goal setting! **(Slide 29)** We've talked about how important physical activity 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 question: **(Slide 30)**

- Record three different activities you enjoy doing.
- What is one new activity you would like to learn or try?
- 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 – Get Your Move On (Activity Sheet 3-D)*** 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 31)**
5. **Do:** Provide a copy of the ***Focus on Food Lesson 3 Newsletter (Handout 3-E)*** to each participant.

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

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.

Activity Chart

| | Level of Intensity | | |
|--|--------------------|----------|----------|
| | Resting | Moderate | Vigorous |
| Heart Rate | | | |
| Breathing Rate | | | |
| Describe how you felt during this level of intensity. | | | |

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.



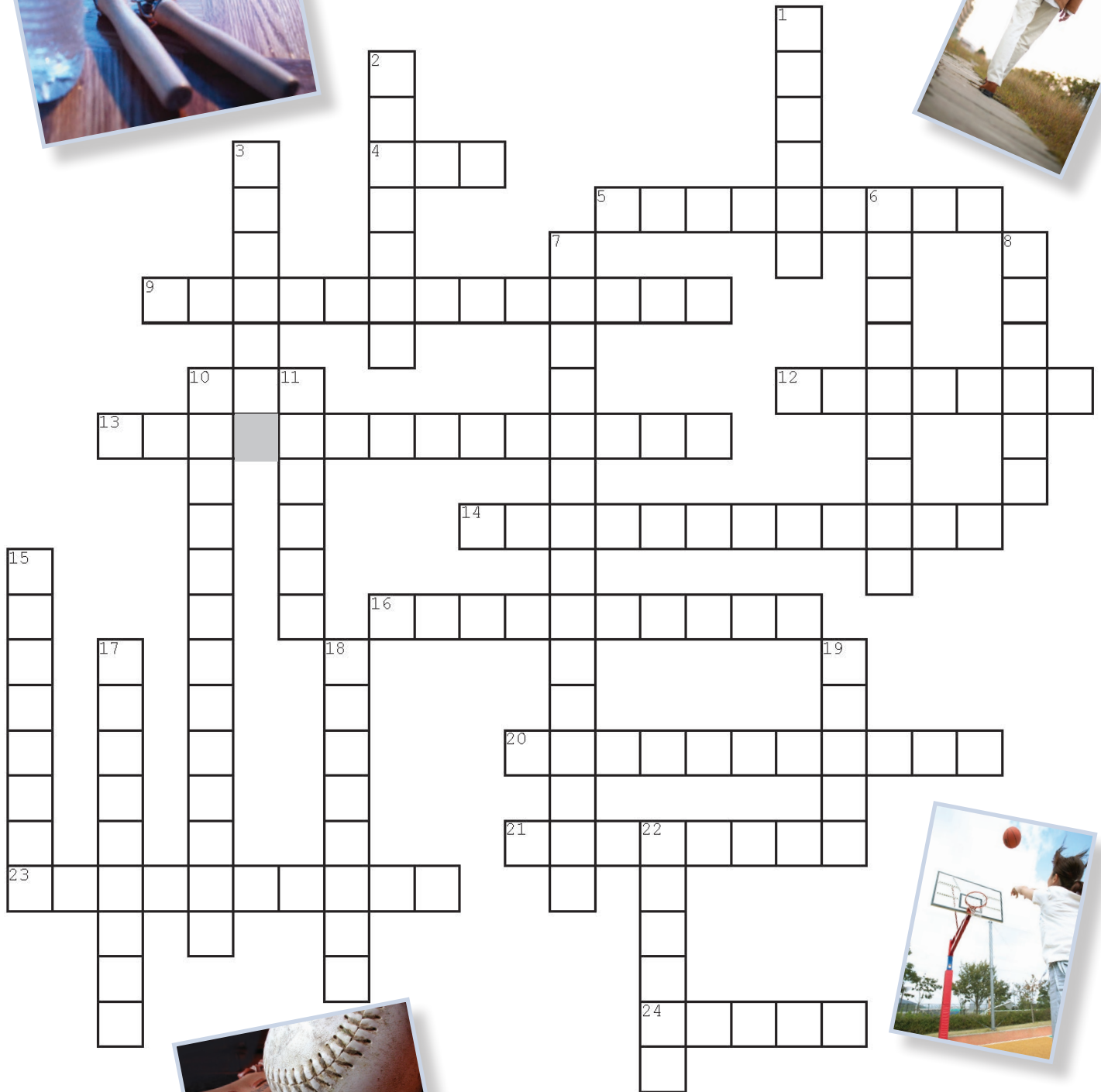
Using a clock or stopwatch, count how many beats you feel for 6 seconds.



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



This crossword was created using the Crossword Maker on TheTeachersCorner.net.

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

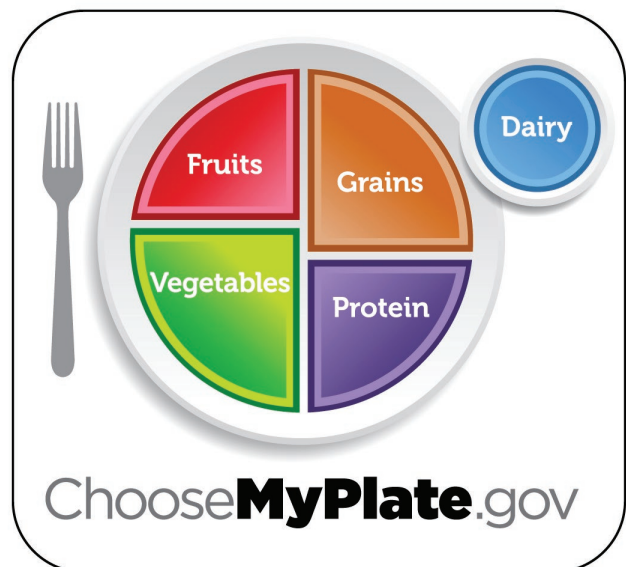
Background Information

MyPlate is an illustration developed by the USDA to represent suggested food groupings for a healthy diet. The five suggested food groups are: fruits, vegetables, grains, protein, and dairy. Oils are not considered a food group, but 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 serious 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 micronutrient 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 doesn't provide calories, but is needed for nearly every body process.

Whole grains: Grains that contain all parts of the grain kernel, including the bran, germ, and endosperm.

4.1: Learning Activity

Overview

In this activity, participants will learn about MyPlate recommendations for different food groups. First they will read about a character their group has been assigned and determine the character's activity level and MyPlate recommendations. Next, participants will use food cards (or food models) to plan a day's worth of meals and snacks and meet MyPlate recommendations. Then, participants will be provided with a card detailing what their character selected for lunch, discuss whether or not it was a reimbursable meal, and how it fits overall into the character's recommendation for the day. The activity closes with a discussion about how and why MyPlate recommendations differ for different ages, activity levels, and gender.

Getting Ready

Time Required

45 minutes

Materials Needed

(Materials provided in the curriculum)

| | |
|---|---|
| For Each Group of 2-4 Participants <ul style="list-style-type: none"><input type="checkbox"/> Flip chart paper<input type="checkbox"/> Markers, pens, or pencils<input type="checkbox"/> MyPlate (Handout 4-A)<input type="checkbox"/> Food Cards (Lesson Material 4-D) or food models<input type="checkbox"/> Eating from MyPlate (Activity Sheet 4-E)<input type="checkbox"/> MyPlate Serving Equivalents (Handout 4-F) | For the Facilitator <p>Optional:</p> <ul style="list-style-type: none"><input type="checkbox"/> Lesson 4 (PowerPoint)<input type="checkbox"/> Computer<input type="checkbox"/> PowerPoint Projector |
| For the Class <ul style="list-style-type: none"><input type="checkbox"/> Character Descriptions (Lesson Material 4-B)<input type="checkbox"/> Character Lunches (Appendix 4-G) | For Each Participant <ul style="list-style-type: none"><input type="checkbox"/> None |

Preparation

Handouts

1. **Make copies of the following handouts:**

- **MyPlate (Handout 4-A)**, one copy per group.
- **Eating from MyPlate (Activity Sheet 4-E)**, one copy per group.
- **MyPlate Serving Equivalents (Handout 4-F)**

Other Materials

2. Print and cut out copies of the **Food Cards (Handout 4-D)**, one set per group.
3. Print and cut out copies of the **Character Descriptions (Handout 4-B)**, one character for each group.
4. Print and cut out copies of the **Character Lunches (Appendix 4G)**, one character for each group.

Facilitator Tip: Printing the Character Cards and Character Lunches in color will make it easier to match character lunches to the character when distributing to groups.

Classroom Set-up

5. Organize the class into small groups of 2 to 4 participants.

Facilitator Tip: These groups can also be used in future 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 4** (PowerPoint).

Opening Questions/Prompts

Lesson 4: MyPlate – Foods for Life

Lesson 4: MyPlate – Foods for Life

Slide 1

Slide 1



Opening Questions

Lesson 4: MyPlate – Foods for Life

Slide 2

Slide 2

Explain what you know
about this image:



Lesson 4: MyPlate – Foods for Life

Slide 3

Slide 3

Explain what you know
about the nutrients
found in each food
group represented in
MyPlate.

Lesson 4: MyPlate – Foods for Life

Slide 4

Slide 4

Small Group Discussion

1. **Say:** Let's get started with Lesson 4 – MyPlate: Foods for Life! **(Slide 1)** 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)**

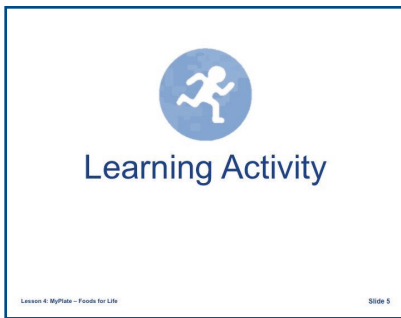
On your table is an image for you to refer to for this first prompt. The first prompt I'd like you to discuss within your groups is:

- Explain what you know about this image. **(Slide 3)**
Facilitator Tip: Explain to participants 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 learn more about these topics throughout the lesson.

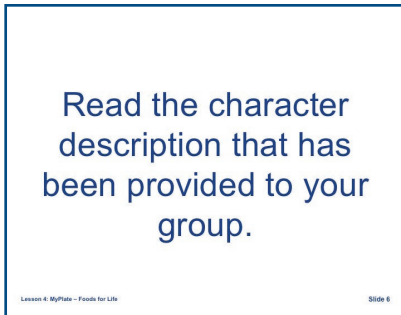
2. **Do:** Allow 2 to 3 minutes for groups to discuss the prompt. Repeat with the remaining prompt:
 - Explain what you know about the nutrients found in each food group represented in MyPlate. **(Slide 4)**

Class Discussion

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 this image." **(Slide 3)**
4. **Do:** Allow about a minute for participants to share their thoughts on this topic with the class. Repeat with the remaining prompt:
 - Explain what you know about the nutrients found in each food group represented in MyPlate. **(Slide 4)**



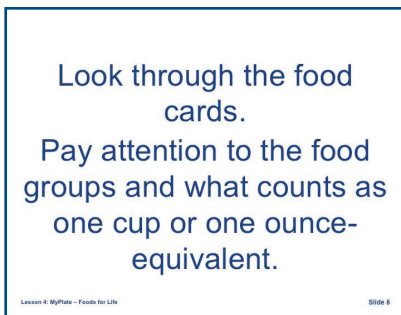
Slide 5



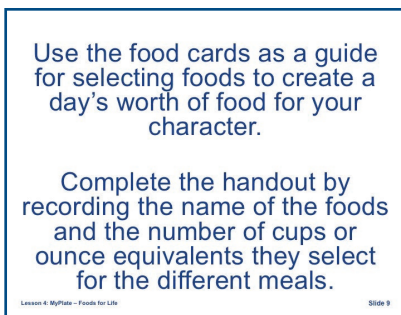
Slide 6



Slide 7



Slide 8



Slide 9

Procedure (Experiencing)

Small Group Work

- Say:** Now that we've completed our opening discussion, we'll start on the activity for this lesson. **(Slide 6)** 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.
- Do:** Provide each group with one of the **Character Descriptions (Handout 4-B)**. Allow one to two minutes for groups to read their description.
- 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)**
- Do:** Provide each group with the **MyPlate Recommendations Handout (Handout 4-C)**.

Planning a Character's Meals and Snacks

- Say:** Now that you've identified your character's recommendations, I'm going to hand out a set of **Food Cards** and a worksheet to complete as part of the next task. **(Slide 8)**
 - 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)**
- Do:** Provide each group with:
 - A set of **Food Cards (Lesson Material 4-D)** or food models. If using food models, provide each participant with the **MyPlate Serving Equivalents Handout (Handout 4-F)** to use as a reference.
 - Eating from MyPlate Handout (Activity Sheet 4-E)**.

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 their foods.*

Facilitator Tip: Participants may need to be reminded that not every food group needs to be present in each meal as long as the total for each food group at the end of the day meets the MyPlate recommendations.

Character's School Lunch Selections

10. **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 chose 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.

11. **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?*

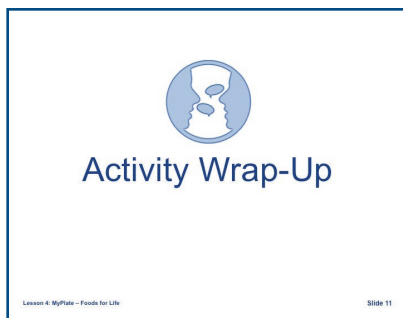
Determine if the student selected a reimbursable meal.

Discuss within your group how the students' lunch selections compare to their daily food recommendations according to MyPlate.

Lesson 4 - MyPlate - Foods for Life

Slide 10

Slide 10



Slide 11

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

12. **Say:** As a class, let's discuss your observations about the students and their choices. First, have each group present their character description along with the meals and serving sizes chosen for him or her. **(Slide 11)**

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

- Explain what you noticed about the recommendations 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 recommendations 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 activity, participants should be able to identify the following concepts:

- The key messages of MyPlate include:
 - Make half your plate fruits and vegetables
 - Make half your grains whole
 - Go lean with protein
 - Switch to fat-free or low-fat milk
- 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.)
- A reimbursable lunch helps contribute to a child's overall intake.

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

Overview

In this mini-lecture, participants will learn more about MyPlate recommendations and key messages, as well as the difference between whole and refined grains.

Getting Ready

Time Required

10 minutes

Materials Needed

(Materials provided in the curriculum)

| | |
|--|---|
| For the Facilitator <ul style="list-style-type: none"><input type="checkbox"/> Lesson 4 (PowerPoint)<input type="checkbox"/> Computer<input type="checkbox"/> PowerPoint Projector | For Each Group of 2-4 Participants <ul style="list-style-type: none"><input type="checkbox"/> None |
| For the Class <ul style="list-style-type: none"><input type="checkbox"/> None | For Each Participant <ul style="list-style-type: none"><input type="checkbox"/> None |

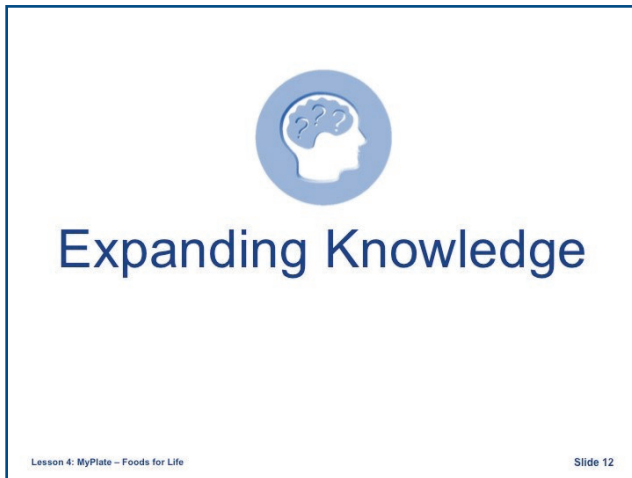
Preparation

Projector Set-up

1. Connect laptop to projector. Load **Focus on Food Lesson 4** (PowerPoint).
2. Queue the PowerPoint presentation to Slide 12.

Procedure

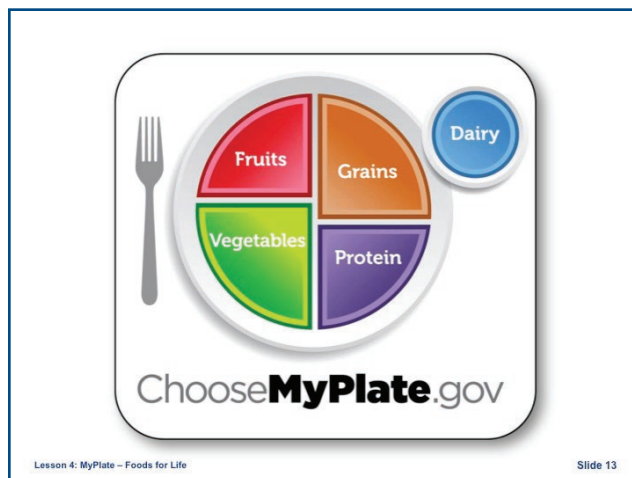
1. **Do:** Go through the Expanding Knowledge presentation slide by slide. The following script is available for use if you so choose.



Slide 12

Slide 12

Let's review some of the concepts we learned during Lesson 4, MyPlate – Foods for Life.



Slide 13

Slide 13

MyPlate is an illustration developed by the USDA to depict the different proportions of different foods to include in your diet. There are 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.

Key Messages of MyPlate

- ✓ Half your plate fruits & vegetables
- ✓ 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

Slide 14

Slide 14

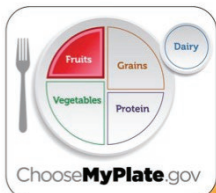
The USDA has included four key messages they want Americans to keep in mind when choosing foods. These are:

- 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.]

What counts as a cup?



- 1 cup fruit
- 1 cup 100% fruit juice
- ½ cup of dried fruit



Lesson 4: MyPlate – Foods for Life

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Slide 15

Slide 15

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

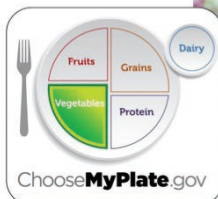
What are some nutrients you can recall that are found in fruit?

[Pause to allow responses from the class.]

Facilitator Tip: Lesson 1 Expanding Knowledge Slides 34 and 35 can be used as a reference for nutrients found in different food groups.

What counts as a cup?

- 1 cup raw or cooked vegetables
- 1 cup 100% vegetable juice
- 2 cups of leafy greens



Lesson 4: MyPlate – Foods for Life

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Slide 16

Slide 16

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.]

What counts as an ounce?



1 slice of bread
1 cup of cold cereal
½ cup cooked rice,
pasta, cereal



Lesson 4: MyPlate – Foods for Life

Slide 17

Slide 17

Slide 17

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.]

What is a whole grain?

Bran —
"Outer shell" protects seed
Fiber, B vitamins, trace minerals

Endosperm —
Provides energy
Carbohydrates, protein

Germ —
Nourishment for the seed
*Antioxidants, vitamin E,
B-vitamins*

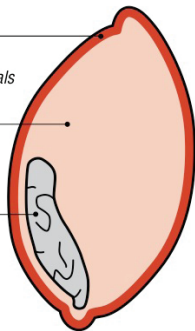


Image source: USDA Whole Grains Resource for the National School Lunch and School Breakfast Programs, 2014
Lesson 4: MyPlate – Foods for Life

Slide 18

Slide 18

Slide 18

MyPlate recommends that half our grains are whole, and the meal pattern requires that all grains are whole grain rich, meaning that they contain at least 50 percent whole grain and the remaining grain, if any, must be enriched.

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?

~~**Bran** —
"Outer shell" protects seed
Fiber, B vitamins, trace minerals~~

Endosperm —
Provides energy
Carbohydrates, protein

~~**Germ** —
Nourishment for the seed
*Antioxidants, vitamin E,
B-vitamins*~~

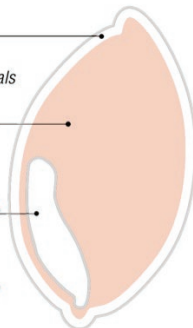


Image source: USDA Whole Grains Resource for the National School Lunch and School Breakfast Programs, 2014
Lesson 4: MyPlate – Foods for Life

Slide 19

Slide 19

Slide 19

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 |
|--|---|
| Bran, germ, and endosperm | Only endosperm |
| Nutrients found in bran and germ: Niacin, Thiamin, Riboflavin, Iron, and Fiber | Milling removes nutrients in bran and germ |
| Most not fortified with folic acid | Nutrients added back: Niacin, Thiamin, Riboflavin, Iron |
| | Fortified with folic acid |

Lesson 4: MyPlate – Foods for Life

Slide 20

Slide 20

Slide 20

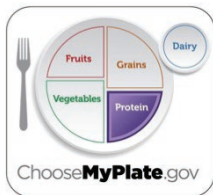
That's why we have what are called "enriched grains." Enriching adds back in some of what was lost when the bran and the germ were removed.

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.]

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

Lesson 4: MyPlate – Foods for Life

Slide 21

Slide 21

Slide 21

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 or 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.]

What counts as a cup?

- 1 cup of fluid milk, yogurt, or soymilk
- 1 ½ ounces of natural cheese
- 2 ounces of processed cheese



Lesson 4: MyPlate – Foods for Life

Slide 22

Slide 22

Slide 22

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 equivalent to 1 cup of dairy.
- 2 ounces of processed cheese is equivalent to 1 cup if dairy.

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



Get your personalized recommendations at:
www.choosemyplate.gov

Lesson 4: MyPlate – Foods for Life

Slide 23

Slide 23

Slide 23

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 important.

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 24

Slide 24

Slide 24

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 necessarily 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

Overview

In this activity, participants will use what they've learned to record some steps they could take to meet their MyPlate fruit and vegetable recommendations.

Getting Ready

Time Required

5 minutes

Materials Needed

(Materials provided in the curriculum)

| | |
|--|--|
| For the Facilitator Optional: <input type="checkbox"/> Lesson 4 (PowerPoint) <input type="checkbox"/> Computer <input type="checkbox"/> PowerPoint Projector | For Each Group of 2-4 Participants <input type="checkbox"/> None |
| For the Class <input type="checkbox"/> None | For Each Participant <input type="checkbox"/> Goal Setting – MyPlate: Foods for Life (Activity Sheet 4-H) Optional: <input type="checkbox"/> Focus on Food Lesson 4 Newsletter (Handout 4-I) |

Preparation

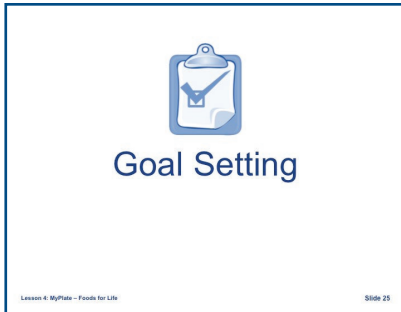
Handouts

1. Make copies of the following handouts:
 - **Goal Setting – MyPlate: Foods for Life (Activity Sheet 4-H)**, one for each participant.
 - Optional: **Focus on Food Lesson 4 Newsletter (Handout 4-I)**, one for each participant.

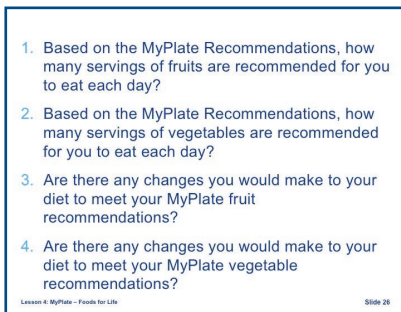
Optional

2. Connect laptop to projector. Load **Focus on Food Lesson 4** (PowerPoint).
3. Queue the PowerPoint presentation to Slide 25.

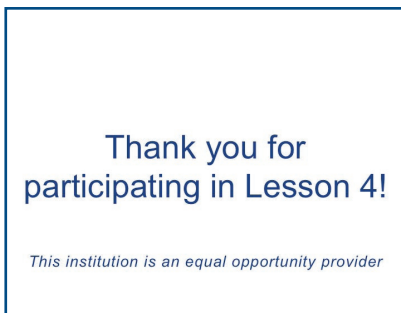
Procedure



Slide 25



Slide 26



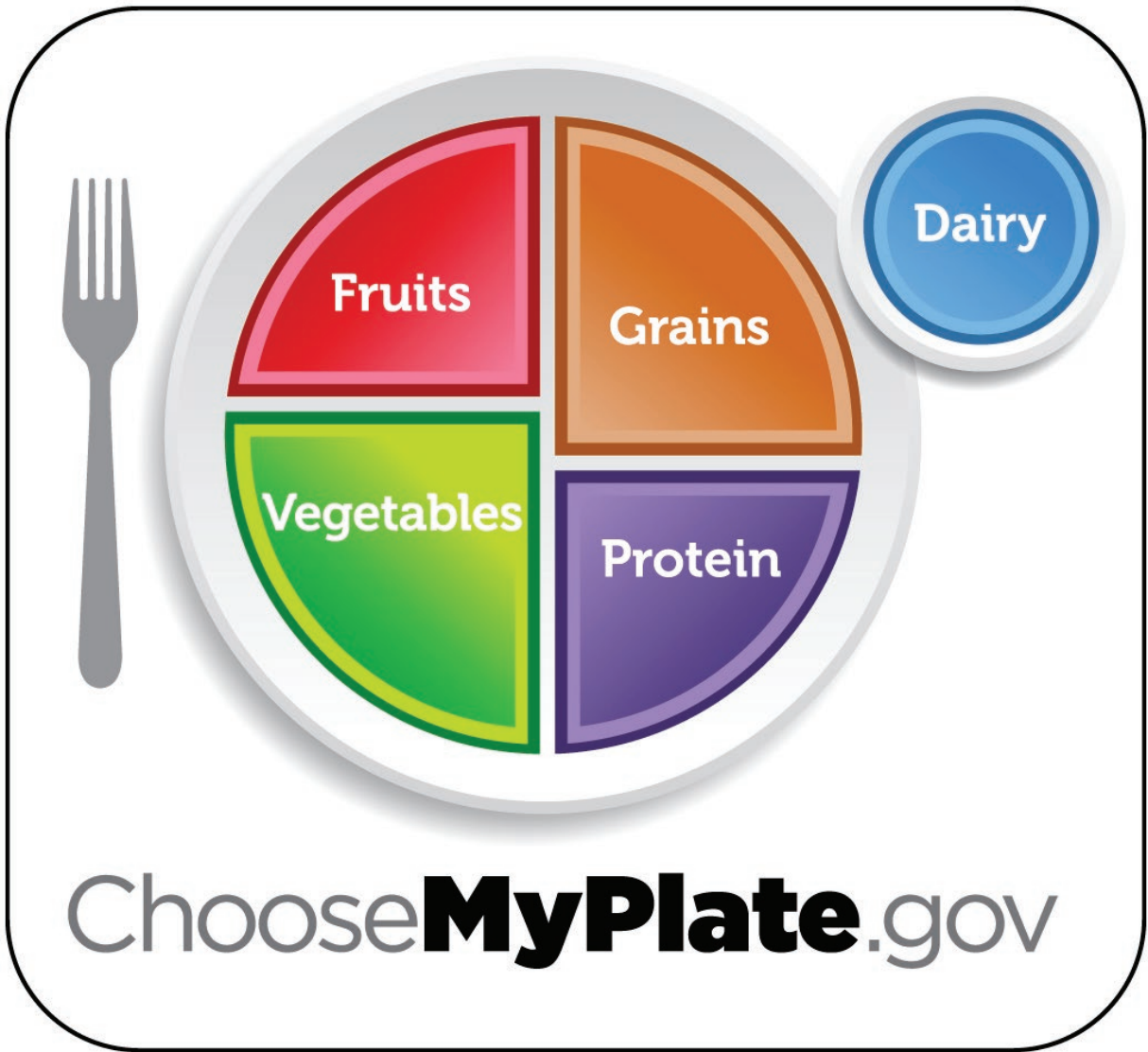
Slide 27

1. **Say:** Now let's move on to goal setting! **(Slide 25)** 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 26)**
 - Based on the MyPlate Recommendations, how many cups of fruits are recommended for you each day?
 - Based on the MyPlate Recommendations, how many cups of vegetables are recommended for you each day?
 - Are there any changes you would make to your diet to meet your MyPlate fruit recommendations?
 - 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 (Activity Sheet 4-H)** 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 27)**
6. **Do:** Provide a copy of the **Focus on Food Lesson 4 Newsletter (Handout 4-I)** to each participant.

MyPlate



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.

MyPlate Recommendations

Recommendations for individuals with less than 30 minutes of moderate physical activity per day.

| | Fruits | Vegetables | Grains | Protein | Dairy |
|----------------------|-----------|------------|---------------------|----------------------|---------|
| Children | | | | | |
| 2-3 years | 1 cup | 1 cup | 3 ounce equivalents | 2 ounce equivalents | 2 cups |
| 4-8 years | 1-1½ cups | 1½ cups | 5 ounce equivalents | 4 ounce equivalents | 2½ cups |
| Girls | | | | | |
| 9-13 years | 1½ cups | 2 cups | 5 ounce equivalents | 5 ounce equivalents | 3 cups |
| 14-18 years | 1½ cups | 2½ cups | 6 ounce equivalents | 5 ounce equivalents | 3 cups |
| Boys | | | | | |
| 9-13 years | 1½ cups | 2½ cups | 6 ounce equivalents | 5 ounce equivalents | 3 cups |
| 14-18 years | 2 cups | 3 cups | 8 ounce equivalents | 6½ ounce equivalents | 3 cups |
| Women | | | | | |
| 19-30 years | 2 cups | 2½ cups | 6 ounce equivalents | 5½ ounce equivalents | 3 cups |
| 31-50 years | 1½ cups | 2½ cups | 6 ounce equivalents | 5 ounce equivalents | 3 cups |
| 51+ years old | 1½ cups | 2 cups | 5 ounce equivalents | 5 ounce equivalents | 3 cups |
| Men | | | | | |
| 19-30 years | 2 cups | 3 cups | 8 ounce equivalents | 6½ ounce equivalents | 3 cups |
| 31-50 years | 2 cups | 3 cups | 7 ounce equivalents | 6 ounce equivalents | 3 cups |
| 51+ years | 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.

| | Fruits | Vegetables | Grains | Protein | Dairy |
|----------------------|---------|------------|----------------------|----------------------|---------|
| Children | | | | | |
| 2-3 years | 1½ cup | 1½ cup | 5 ounce equivalents | 4 ounce equivalents | 2½ cups |
| 4-8 years | 1½ cups | 2 cups | 5 ounce equivalents | 5 ounce equivalents | 3 cups |
| Girls | | | | | |
| 9-13 years | 1½ cups | 2½ cups | 6 ounce equivalents | 5 ounce equivalents | 3 cups |
| 14-18 years | 2 cups | 2½ cups | 6 ounce equivalents | 5½ ounce equivalents | 3 cups |
| Boys | | | | | |
| 9-13 years | 2 cups | 2½ cups | 6 ounce equivalents | 5½ ounce equivalents | 3 cups |
| 14-18 years | 2½ cups | 3½ cups | 10 ounce equivalents | 7 ounce equivalents | 3 cups |
| Women | | | | | |
| 19-30 years | 2 cups | 3 cups | 7 ounce equivalents | 6 ounce equivalents | 3 cups |
| 31-50 years | 2 cups | 2½ cups | 6 ounce equivalents | 5½ ounce equivalents | 3 cups |
| 51+ years old | 2 cups | 2½ cups | 6 ounce equivalents | 5½ ounce equivalents | 3 cups |
| Men | | | | | |
| 19-30 years | 2½ cups | 3½ cups | 10 ounce equivalents | 7 ounce equivalents | 3 cups |
| 31-50 years | 2 cups | 3½ cups | 9 ounce equivalents | 6½ ounce equivalents | 3 cups |
| 51+ years | 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.**

| | Fruits | Vegetables | Grains | Protein | Dairy |
|----------------------|---------|------------|----------------------|----------------------|---------|
| Children | | | | | |
| 2-3 years | 1½ cup | 1½ cup | 5 ounce equivalents | 4 ounce equivalents | 2½ cups |
| 4-8 years | 1½ cups | 2½ cups | 6 ounce equivalents | 5 ounce equivalents | 3 cups |
| Girls | | | | | |
| 9-13 years | 2 cups | 2½ cups | 6 ounce equivalents | 5½ ounce equivalents | 3 cups |
| 14-18 years | 2 cups | 3 cups | 8 ounce equivalents | 6½ ounce equivalents | 3 cups |
| Boys | | | | | |
| 9-13 years | 2 cups | 3 cups | 7 ounce equivalents | 6 ounce equivalents | 3 cups |
| 14-18 years | 2½ cups | 4 cups | 10 ounce equivalents | 7 ounce equivalents | 3 cups |
| Women | | | | | |
| 19-30 years | 2 cups | 3 cups | 8 ounce equivalents | 6½ ounce equivalents | 3 cups |
| 31-50 years | 2 cups | 3 cups | 7 ounce equivalents | 6 ounce equivalents | 3 cups |
| 51+ years old | 2 cups | 3 cups | 7 ounce equivalents | 6 ounce equivalents | 3 cups |
| Men | | | | | |
| 19-30 years | 2½ cups | 4 cups | 10 ounce equivalents | 7 ounce equivalents | 3 cups |
| 31-50 years | 2½ cups | 3½ cups | 10 ounce equivalents | 7 ounce equivalents | 3 cups |
| 51+ years | 2½ cups | 3½ cups | 10 ounce equivalents | 7 ounce equivalents | 3 cups |

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
 $\frac{1}{4}$ 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)

$\frac{1}{2}$ 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)

$\frac{1}{2}$ cup counts as 1 oz of grains

**Rice (White or Brown,
Cooked)**

$\frac{1}{2}$ cup counts as 1 oz of grains

Tortilla (Flour or Corn)

1 small tortilla counts as 1 oz of grains

Whole Grain Muffin

1 small muffin counts as 1 oz of grain

Whole Grain Roll

1 roll counts as 1 oz of grain

Whole Grain Breakfast Bar

1 bar counts as 1 oz of grain

Tomato Sauce

1 cup counts as 1 cup of vegetables

Pasta (White or Brown, Cooked)

$\frac{1}{2}$ cup counts as 1 oz of grains

Ground Turkey Meat

1 serving counts as 3 oz of protein foods

Raisins

$\frac{1}{2}$ 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

Eating from MyPlate

Character name: _____

Recommended number of cups or ounce equivalents for each food group:

Fruits: _____; Vegetables: _____; Grains: _____; Protein: _____; Dairy: _____

| | Breakfast | Lunch | Dinner | Snacks | Total |
|------------|-----------|-------|--------|--------|-------|
| Fruits | | | | | |
| Vegetables | | | | | |
| Grains | | | | | |
| Protein | | | | | |
| Dairy | | | | | |

MyPlate Equivalents

Fruits

**Amount that counts as
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
1 ounce equivalent of grains**

- 1 regular slice of bread
- 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
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
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 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

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 $\frac{1}{2}$ 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 $\frac{1}{2}$ cup cooked brown rice (MyPlate 1 ounce equivalent of grains), 2 ounces of chicken (MyPlate 2 ounce equivalent of protein foods), and $\frac{1}{2}$ cup carrots (MyPlate $\frac{1}{2}$ 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 $\frac{1}{2}$ cup green beans (MyPlate $\frac{1}{2}$ cup of vegetables), with one bottle of water.

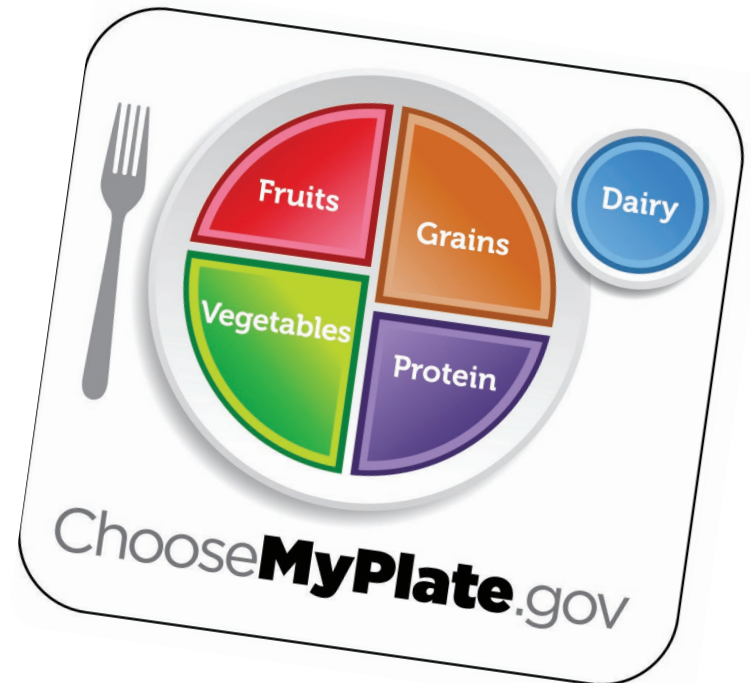
Focus on Food Lesson 4 Newsletter

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 |
| Try this Recipe for Black Bean and Veggie Tostada Olé | Page 2 |
| Whole Grains: Whole Lot of Nutrients | Page 3 |
| Protein Foods: More than Jusy Meat | Page 3 |
| Dairy: Something for Everyone | Page 4 |
| What is Lactose Intolerance Anyway? | Page 4 |
| Test Your Knowledge! Take Our Whole Grain Quiz! | Page 5 |



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>

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!

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!



Focus on Fruits and Veggies

Half your plate, all your color!

The **fruit** group includes any **fresh, canned, frozen, or dried** fruit, and **100% fruit juice**. Fruits are sources of many essential nutrients, including **potassium, dietary fiber, vitamin C, and folate**.

The vegetable group includes any **fresh, canned, frozen, or dried, or dehydrated** vegetables, and **100% vegetable juice**. Vegetables are naturally low in calories and fat, and provide important sources of many nutrients. Some of these nutrients include **potassium, dietary fiber, vitamin C, vitamin A, and folate**.

Eating a diet rich in fruits and 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**.

Try this recipe for Black Bean and Veggie Tostada Olé

Ingredients:

- 1 tablespoon canola oil, separated
- ¼ cup yellow onion, medium chopped
- 1 cup red bell peppers, medium chopped
- 1 cup kernel corn, canned, frozen, or fresh
- 1 cup zucchini, medium chopped
- 1 cup yellow squash, medium chopped
- 1 clove garlic, finely chopped
- 15 ounce can refried black beans
- Queso fresco or feta cheese (optional)
- Corn tostadas (1 for each person)

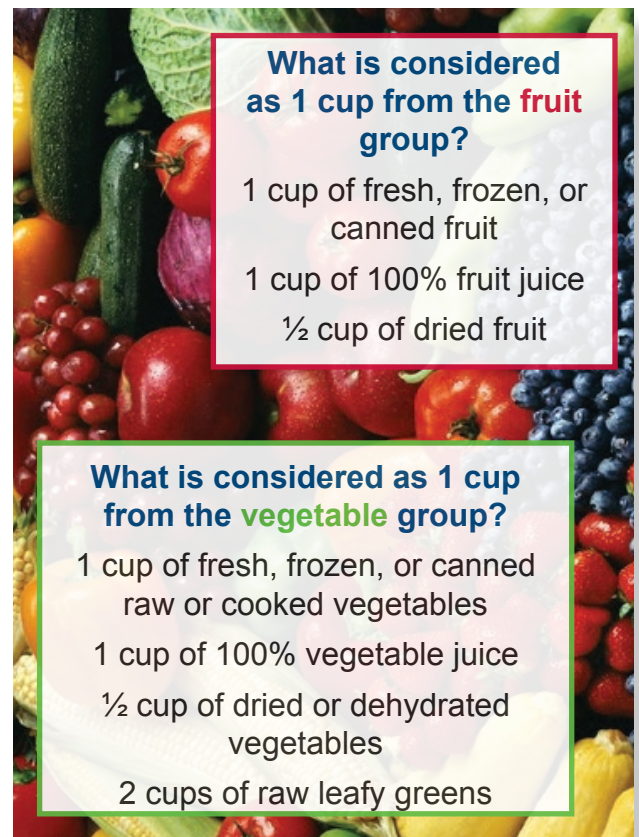
Salsa:

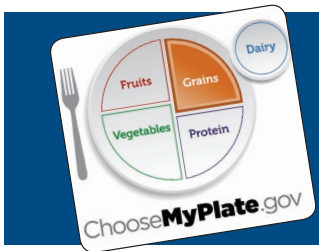
- 2 cloves garlic, finely chopped
- 4 medium tomatoes, roughly chopped
- 1 medium yellow onion, medium chopped
- 1 bunch cilantro, roughly chopped

Directions:

1. Heat 2 teaspoons canola oil in medium skillet over medium heat. Add onion, bell peppers, corn, zucchini, and yellow squash. Cook, stirring occasionally, until vegetables are softened, about 6 minutes.
2. Heat 1 teaspoon canola oil in medium skillet and then add garlic and cook for 30 seconds. Add can of refried black beans. Mix beans and garlic together until garlic is well incorporated and heat until the mixture is hot. Set aside.
3. For salsa: place ingredients in food processor or blender and blend until smooth.
4. Spread a thin layer of the bean and garlic mixture on top of a tostada. Add a spoonful of the cooked vegetables. Top with salsa and queso fresco or feta (if using).

Recipe courtesy of Cooking Up Healthy Choices. For more information about this curriculum, please visit: <http://cns.ucdavis.edu/programs/shcp/cooking.html>





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

Refined Grains

These have been milled, which removes the bran and germ. Only the endosperm is left.

Most refined grains are enriched. This means that certain B-vitamins and iron are added back after the milling process. Fiber is not added back to enriched grains.

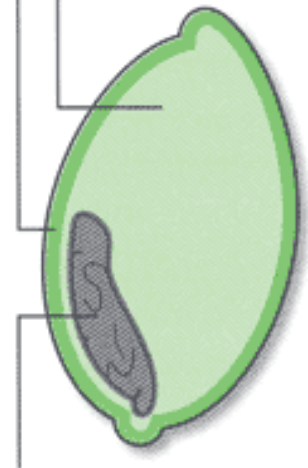
Whole grain kernel

Bran

"Outer shell" protects seed
Fiber, B vitamins, trace minerals

Endosperm

Provides energy
Carbohydrates, protein



Germ

Nourishment for the seed
Antioxidants, vitamin E, B vitamins

What is considered as 1 cup from the grains group?

- 1 slice of bread
- 1 cup of ready-to-eat cereal
- ½ cup of cooked rice, pasta, or cereal
- 1 small flour or corn tortilla

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



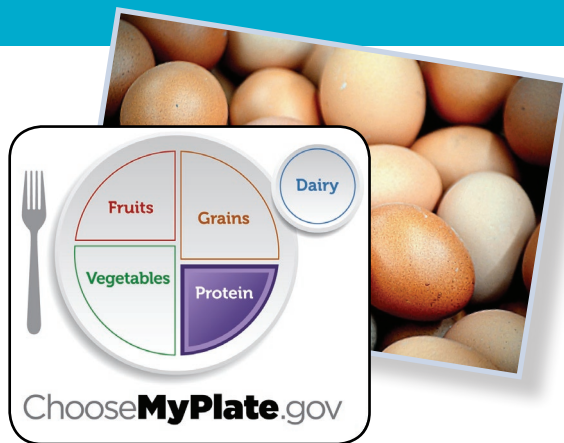
Oatmeal



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 | Shellfish |
| Meatless Burgers | Beans and Peas |
| Poultry (without skin) | Tofu |
| | Fish (not fried) |

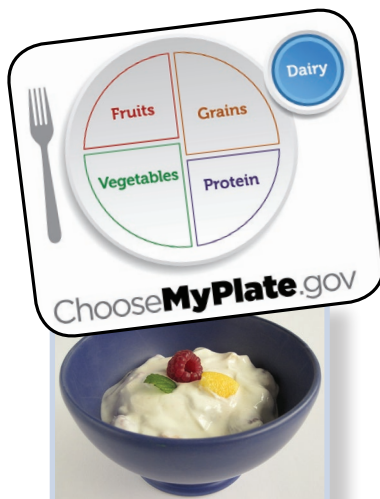


What is considered as 1 ounce equivalent from the protein foods group?

- 1 ounce of meat, poultry, or fish
- ¼ cup of cooked beans
- 1 egg
- 1 tablespoon peanut butter
- ½ ounce nuts or seeds

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



Dairy

Something for Everyone

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**, heart 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
 - b. Whole grain
 - c. Not whole grain
 - d. 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/

Check your answers at the bottom of the page!

1. a; 2. c; 3. a; 4. a; 5. a; 6. b



Lesson 5 – Increasing Plant-based Foods in School Nutrition Programs

Background Information

Many people today are opting to eat plant-based meals. These meals may be once per week on Meatless Mondays, several times per week, or even two out of three meals a day. Others are choosing to eat entirely plant-based meals (a vegetarian diet). There are many reasons why people are choosing to eat plant-based meals, such as for personal health benefits, environmental concerns, or cost effectiveness. With meatless meals becoming a trend nationwide, schools are encouraged to provide this choice for student customers. Planning and serving plant-based meals may have a variety of benefits, including providing students with new, nutritious food choices and promoting future healthful lifestyles.

Plant-based meals are sometimes referred to as **vegetarian** meals however, these terms have different definitions. Plant-based meals place an emphasis on plant-based foods such as vegetables, fruits, whole grains, and **legumes**. Vegetarian meals, in addition to being plant-based, exclude meat and other animal products, to varying degrees.

A major benefit of **plant-based foods** is that they contain **dietary fiber** and **phytonutrients** that are not found in animal foods. Plant-based foods are also a source of **micronutrients** such as **calcium, iron, potassium**, folate, vitamin A, and vitamin C. Research on the possible health benefits of plant-based foods show that regular consumption of plant-based meals may lower the risk of cardiovascular disease and certain types of cancer. Diets rich in fruits, vegetables, whole grains, nuts, and legumes are linked to lower rates of obesity and a decrease in both blood cholesterol and blood pressure.

The American Academy of Nutrition and Dietetics supports plant-based meals for all stages of life including childhood, adolescence, and athletes. Although increased consumption of vegetables and fruits is a key recommendation of the Dietary Guidelines for Americans, research shows that Americans are still not eating the recommended amount of daily servings of fruits and vegetables. To address this finding, introducing children to fruits and vegetables at a young age may establish healthful habits throughout their lifetime. For example, schools may model healthful food choices by replacing traditional meat recipes with plant-based options that meet reimbursable meal requirements.

An important consideration for plant-based meals is that they are planned to meet the requirements for essential nutrients. For example, meat is a good source of **iron**, so when planning plant-based menus consider other iron sources, such as beans and cereals. Protein sources are another consideration. Plant-based meals should be designed to include a variety of complementary protein sources, including legumes, nuts, and seeds. Other foods, such as tofu and **tempeh**, are good sources of plant-based protein as well as calcium.

Americans are also exceeding the recommended intake of **saturated fats**. Saturated fats often come from animal sources and mixed dishes such as hamburgers, tacos, or pizza. There is evidence that shows high levels of saturated fat may lead to an increased risk of cardiovascular disease. When **unsaturated fats** replace saturated fats, the risk of

cardiovascular disease events (such as heart attacks) may decrease. **Plant oils** are high in unsaturated fats and are a source of essential fats and vitamin E. Common sources of plant oils are nuts and seeds, avocado, and vegetable oil such as olive and canola oils.

In summary, incorporating more plant-based foods is a great way for schools to model healthful meals, encourage consumption of fruits and vegetables, and help students meet their nutrient recommendations.

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.

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

Legumes: Types of seeds that can be eaten and are highly nutritious. Legumes include all types of beans, chickpeas, edamame (soybean), and lentils.

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

Phytonutrients: Natural plant chemicals that may have beneficial health effects. They are found in fruits, vegetables, whole grains, and drinks such as tea and wine. Also called phytochemicals.

Plant oils: Oils from plant sources that are usually liquid at room temperature and include mono- and poly-unsaturated fats.

Plant-based foods: Foods that come from plant sources such as fruits, vegetables, whole grains, and legumes; diets consisting primarily of plant-based foods are recommended by the Dietary Guidelines for Americans.

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.

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.

Saturated fats: A type of fat that is solid at room temperature. Too much saturated fat may raise the risk for heart disease.

Tempeh: A fermented soy food pressed into blocks that have a nutty flavor and firm texture. Tempeh is highly nutritious and known for its high levels of protein and micronutrients.

Unsaturated fats: A type of fat that is liquid at room temperature and considered healthier than saturated fats.

Vegan: A person who does not eat or use animal products.

Vegetarian: A person who does not eat meat, and sometimes other animal products.

5.1: Learning Activity

Overview

In this activity, participants will explore the health benefits of plant-based foods by adapting a meat-based recipe into a plant-based one. Participants will use food cards with nutrient information to swap out or add major ingredients.

Getting Ready

Time Required

50 minutes

Materials Needed

(Materials provided in the curriculum)

| | |
|---|--|
| For Each Group of 2-4 Participants <ul style="list-style-type: none"><input type="checkbox"/> Flip chart paper<input type="checkbox"/> Markers, pens, or pencils<input type="checkbox"/> <i>Food Cards (Lesson Material 5-B)</i><input type="checkbox"/> <i>Recipe Changes Worksheet (Activity Sheet 5-C)</i><input type="checkbox"/> Calculator | For the Facilitator <p>Optional:</p> <ul style="list-style-type: none"><input type="checkbox"/> <i>Lesson 5 (PowerPoint)</i><input type="checkbox"/> Computer<input type="checkbox"/> PowerPoint Projector |
| For the Class <ul style="list-style-type: none"><input type="checkbox"/> <i>Sample Recipes (Activity Material 5-A)</i> | For Each Participant <ul style="list-style-type: none"><input type="checkbox"/> None |

Preparation

Handouts

1. Make copies of the following:
 - **Sample Recipes (Activity Material 5-A)**, one or more copies as needed. (Each group will receive one recipe.)
Facilitator Tip: If there are more than five groups, it is acceptable for some groups to have the same recipe.
 - **Recipe Changes Worksheet (Activity Sheet 5-C)**, one copy per group.

Other Materials

2. Print and cut out copies of the **Food Cards (Lesson Material 5-B)**, one set per group.

Classroom Set-Up

3. Organize the class into small groups of 2 to 4 participants. 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 5** (PowerPoint).

Lesson 5:
Increasing Plant-
based Foods in
School Nutrition
Programs

Slide 1



Opening Questions

Slide 2

What are plant-based
foods?

Slide 3

Explain the benefits of
plant-based foods.

Slide 4

Opening Questions/Prompts

Small Group Discussion

1. **Say:** Let's get started with Lesson 5 Increasing Plant-based Foods in School Nutrition Programs! **(Slide 1)** To begin, I'd like everyone to discuss some opening questions within your group. **(Slide 2)** 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.

The first prompt I'd like you to discuss within your groups is: **(Slide 3)**

- What are plant-based foods?

Facilitator Tip: Explain to participants 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 learn more about these topics throughout the lesson.

Facilitator Tip: If participants are struggling with the distinction between plant-based and more common terms such as vegetarian or vegan, then encourage them to focus on the foods that are included in plant-based. These foods are fruits, vegetables, whole grains, legumes, nuts, and seeds. Redirect talk and discussion on what "isn't included" or what people "cannot have".

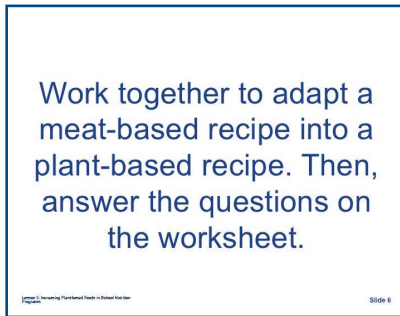
2. **Do:** Allow 2 to 3 minutes for groups to discuss the prompt. Repeat with the remaining prompt:
 - Explain the benefits of plant-based foods. **(Slide 4)**

Class Discussion

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, what are plant-based foods?
4. **Do:** Allow about a minute for participants to share their thoughts on this topic with the class. Repeat with the remaining prompt: Explain the benefits of plant-based foods.



Slide 5



Slide 6

Procedure (Experiencing)

Recipe activity

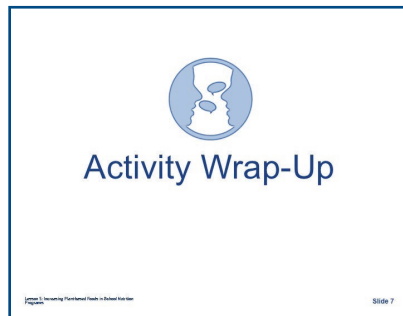
5. **Say:** Now that we've completed our opening discussion, we'll start on the activity for this lesson. **(Slide 5)** This activity involves changing a meat-based recipe to a plant-based recipe.
6. **Say:** I'm going to pass out a different recipe to each group as well as a set of food cards. Your goal is to recommend some changes to the recipe in order to make it plant-based. **(Slide 6)**
 - This might mean swapping out some ingredients or adding other ingredients.
7. **Say:** Once you've made changes that you are satisfied with, work together to fill in the recipe changes worksheet. You may need calculators for this exercise which we will also pass out as you work.
8. **Do:** Pass out **Sample Recipes (Activity Material 5-A)**, **Food Cards (Lesson Material 5-B)**, **Recipe Changes Worksheet (Activity Sheet 5-C)**, and a calculator for participants.

Facilitator Tip: *If participants ask about how they will know if the recipe will taste good, ask them how they would usually try new recipes at home or at work.*

Facilitator Tip: *If you do not have enough calculators for each group then have participants use their mobile devices.*

Facilitator Tip: *Participants may be concerned with creating a recipe that has an equal number of grams of protein compared to the original. If this is the case, assure them that their recipe doesn't necessarily need to match the protein content.*

Activity Wrap-Up (Sharing, Processing, Generalizing)



Slide 7

9. **Say:** Let's have each group share what changes they made to their recipe. **(Slide 7)**
10. **Do:** Follow the group's line of thinking, and if necessary, ask more targeted questions.
 - Explain how you decided which foods or ingredients to add or swap out.
 - Explain how your changes to the recipe change the nutrients in the recipe.
 - Using what you know about those changes in nutrients, how would you describe this new recipe?
 - How are your changes similar to each other? How are they different?
 - How are the nutrient changes you've observed similar to each other? How are they different?
 - Thinking about the second opening prompt, how would you answer "Explain the benefits of plant-based foods?" differently?

Facilitator Tip: Save the questions about similarities and differences until after a few of the groups have presented their changes.

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:

- Plant-based foods are important sources of essential nutrients.
- Plant-based meals may include a wider variety of nutrients than meat-based meals.
- Recipes can be adapted to be more plant-based by swapping out meat-based ingredients for plant-based ingredients.

The following key vocabulary terms should be discovered by participants or introduced to them: plant-based foods, dietary fiber, legumes, protein, and micronutrients.

5.2: Expanding Knowledge

Overview

In this mini-lecture, participants will learn more about what plant-based meals are, their potential health benefits, and important considerations when making plant-based meals.

Getting Ready

Time Required

5 minutes

Materials Needed

(Materials provided in the curriculum)

| | |
|--|---|
| For the Facilitator <ul style="list-style-type: none"><input type="checkbox"/> Lesson 5 (PowerPoint)<input type="checkbox"/> Computer<input type="checkbox"/> PowerPoint Projector | For Each Group of 2-4 Participants <ul style="list-style-type: none"><input type="checkbox"/> None |
| For the Class <ul style="list-style-type: none"><input type="checkbox"/> None | For Each Participant <ul style="list-style-type: none"><input type="checkbox"/> None |

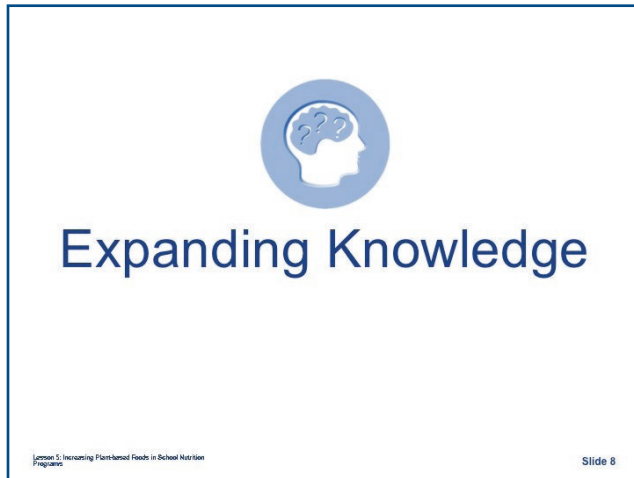
Preparation

Projector Set-Up

1. Connect laptop to projector. Load **Focus on Food Lesson 5** (PowerPoint).
2. Queue the PowerPoint presentation to Slide 8.

Procedure

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



Slide 8

Slide 8

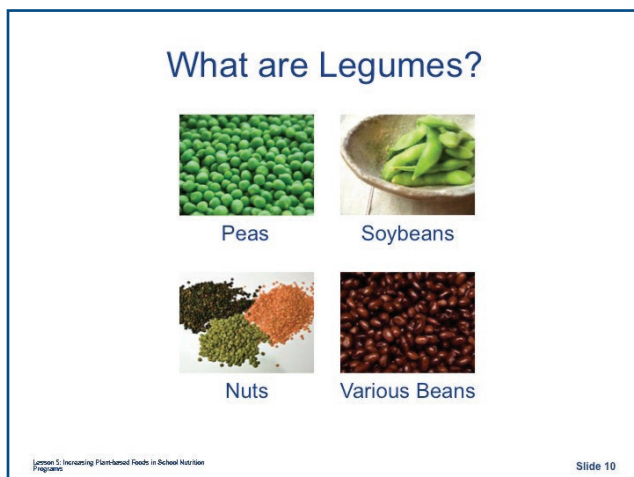
That was a great discussion! Now it's time to recap some concepts we learned throughout Lesson 5, Increasing Plant-based Foods in School Nutrition Programs.



Slide 9

Slide 9

Plant-based foods include fruits, vegetables, whole grains, legumes, nuts, and seeds.



Slide 10

Slide 10

Legumes are types of highly nutritious seeds that can be eaten. These include peas, soybeans, lentils, and various types of beans. Meals with legumes are a healthy alternative to meat-based dishes because they include protein, fiber, and various vitamins and minerals.

Now we'll move onto the potential health benefits of plant-based foods.

What are some health benefits that plant-based foods offer?

[Pause to allow responses from the class.]

Plant-based Foods Provide...

- Essential nutrients for growth and development.
- Protective effects against disease and deficiency

Lesson 5, Increasing Plant-based Foods in School Nutrition Programs

Slide 11

Slide 11

Slide 11

Those are great answers!

For the purposes of our discussion, plant-based foods provide the essential nutrients required for growth and development, and offer protective effects against disease and deficiency.

Nutrients in Plant-based Foods

| Nutrients | Food sources |
|---------------------|--|
| Iron | Dried fruit, fortified beans and cereals, spinach |
| Calcium | Collard greens, spinach, almonds, fortified orange juice |
| Zinc | Whole grains, nuts, legumes |
| Potassium | Most fruits and vegetables |
| Magnesium | Legumes, whole grains |
| Omega-3 fatty acids | Walnuts, ground flaxseed |

Lesson 5, Increasing Plant-based Foods in School Nutrition Programs

Slide 12

Slide 12

Slide 12

Some important plant-based nutrients include:

- Iron, which is in dried fruit, fortified beans and cereals, and spinach.
- Calcium, which is in collard greens, spinach, almonds, and fortified orange juice.
- Zinc, which is in whole grains, nuts, and legumes.
- Potassium, which is in most fruits and vegetables.
- Magnesium, which is in legumes and whole grains, and lastly,
- Omega-3 fatty acids, which can be found in walnuts and flaxseed.

Nutrients in Plant-based Foods

| Nutrients | Function |
|---------------------|---|
| Iron | Moves oxygen in the body |
| Calcium | Bone health, muscle function |
| Zinc | Growth and immune health |
| Potassium | Muscle and nerve function |
| Magnesium | Bone health, muscle and nerve function |
| Omega-3 fatty acids | Involved in cardiovascular and brain health, inflammation |

Lesson 5: Increasing Plant-based Foods in School Nutrition Programs

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Before we move any further, let's also review what some of the functions of these nutrients are.

- Iron helps move oxygen in the body.
- Calcium helps build and repair bones and has a role in how muscles function.
- Zinc is involved in growth and immune health.
- Potassium has a role in the way muscles and nerves function.
- Magnesium contributes to bone health and also how muscles and nerves function, and lastly,
- Omega-3 fatty acids are involved in cardiovascular and brain health, and are anti-inflammatory.

Plant-based foods are high in vitamins and minerals that help the body perform important functions.

Can someone explain what fortified foods are?

[Pause to allow responses from the class.]

What are Fortified Foods?

- More nutrients are added to the original amount. Such as:



Cereals



Soy products



Juices

Lesson 5: Increasing Plant-based Foods in School Nutrition Programs

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Those were great answers!

In plant-based diets many nutrients come from fortified foods. Fortified foods are foods with more nutrients added to the original amount. For example, fortified foods are often cereals, soy products, and juices. These foods make up an important part of plant-based meals because they provide a more complete range of nutrients.

Always check nutrition fact labels to verify that foods are fortified with the nutrients you are looking for. For example, you might be looking for calcium-fortified soy or vitamin D fortified juices.

Potential Health Benefits

- Lowers risk for
 - Obesity
 - Cardiovascular disease
 - Diabetes
 - Hypertension
 - Certain types of cancers

Lesson 5: Increasing Plant-based Foods in School Nutrition Programs Slide 15

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In the long run, eating plant-based diets may reduce the risk factors of obesity, cardiovascular disease, diabetes, hypertension, and certain types of cancers.

Diets rich in plant-based foods are also linked to lower rates of obesity and a decrease in both cholesterol and blood pressure.

Let's take a deeper look at why the risk factors of certain chronic diseases may decrease. Keep in mind this is not a comprehensive take on nutrition and disease, but a brief overview of how plant-based foods can help reduce the risk factors that contribute to chronic disease.

Potential Health Benefits

Plant-based foods

Nutrient-dense

Often lower in calories than meats and cheeses

Fiber may help you feel full longer

Lesson 5: Increasing Plant-based Foods in School Nutrition Programs Slide 16

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Reduced calorie diets can result in meaningful weight loss and health benefits that help fight obesity. Plant-based foods are usually nutrient dense and lower in calories than meals with meats and cheeses. The fiber and protein found in plant-based foods also keeps you feeling fuller for longer.

Potential Health Benefits

Plant-based foods

Low in sodium

High in potassium and magnesium

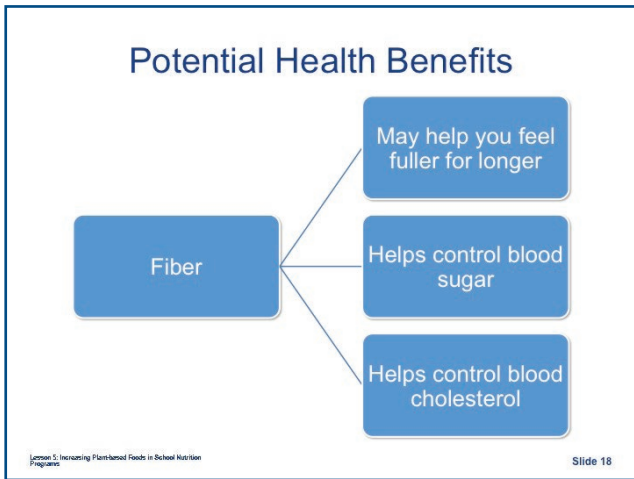
High in many vitamins and minerals

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Additionally, dietary choices can help control blood pressure to reduce the risk factors of hypertension and cardiovascular disease. For example, a common recommendation is to lower the amount of sodium in the diet from processed foods. However, it is also important to replace those foods with fruits and vegetables to increase the amount of potassium and magnesium in the diet.



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Chronic diseases share similar risk factors with each other and reducing your risk for one may lower the risk of several others. For example, in plant-based foods fiber has many functions such as helping you feel fuller for longer, controlling blood sugar, and controlling blood cholesterol. These effects contribute to lowering the risk factors of several conditions we discussed like diabetes and cardiovascular disease at the same time.

Fruit and Vegetable Consumption in Adolescents

Percent of California adolescents (grades 9-12) who consume fruits or vegetables **less than 1 time per day** (2015).

| | Fruits | Vegetables |
|------------|--------|------------|
| California | 32.3% | 38.4% |
| National | 36.7% | 39.0% |

Centers for Disease Control and Prevention, National Center for Chronic Disease Prevention and Health Promotion, Division of Nutrition, Physical Activity and Obesity. Data, Trends and Maps [online]. [accessed May 22, 2017]. URL: <https://www.cdc.gov/nccdphp/dnpao/data-trends-maps/index.html>

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Unfortunately, data from the Centers for Disease Control and Prevention (CDC) suggest that in 2015 around a third of California adolescents in grades 9-12 eat fruits and vegetables less than 1 time per day. These number were similar for adults. Keep in mind that one of the key recommendations of the Dietary Guidelines is to increase consumption of fruits and vegetables across all age groups.

There are many strategies to encourage children and adolescents to eat more plant-based foods, let's discuss some of them.

Mix it Up!

1. Build meals around protein
2. Use calcium-fortified, soy-based beverages
3. Turn meat-based foods into plant-based ones
4. Try ethnic cuisines

Lesson 5: Increasing Plant-based Foods in School Nutrition Programs

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Many school districts in California are serving creative plant-based meals. Here are five suggestions to try at work or at home to start serving plant-based meals of your own.

1. Build meals around protein. Use sources that are naturally low in fat like beans and rice. Avoid overloading meals with meat and cheese.
2. Use calcium-fortified, soy-based beverages: Soy foods provide calcium in similar amounts to milk and also contain less saturated fat.
3. Turn meat-based foods into plant-based ones: Many meat-based dishes can be adapted to be plant-based by swapping out or adding ingredients. For example, you could try black bean casserole, Greek quinoa, or garbanzo bean salad.
4. Try ethnic cuisines: Mediterranean, Indian, Middle Eastern, Hispanic, Asian, and foods have many nutritious plant-based dishes to draw inspiration from. Try something new.

MyPlate Strategies

1. Include beans and peas
2. Nuts make great snacks
3. Make some small changes at restaurants

Lesson 5: Increasing Plant-based Foods in School Nutrition Programs

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Slide 21

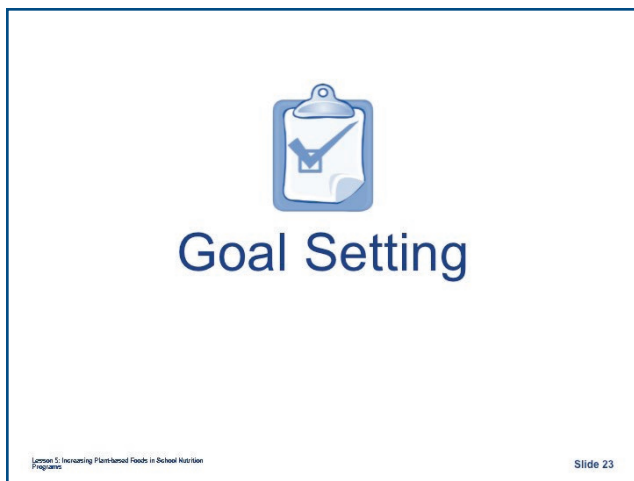
Slide 21

MyPlate also has great recommendations for eating more plant-based foods.

1. Include beans and peas. Vegetarian chili, three bean salad, or split pea soup are all ways to enjoy beans and peas in meals.
2. Nuts make great snacks. Unsalted almonds, walnuts, or pecans can be in side dishes or salads. Lastly,
3. Make some small changes in restaurants. Ask restaurants for vegetarian options or if substitutions are available like tofu and beans for meat.

Which of these strategies do you like the most?

[Pause to allow responses from the class.]



Slide 22

Slide 22

Whether it is at home, at school, or in the community there are many settings to promote plant-based foods. For example, at home you might consider family meal planning or cooking. Schools might participate in Meatless Mondays or include healthy meals and snacks in their menus. Communities may have farmer's markets or community gardens to visit. Incorporating more plant-based foods is a great way for everyone to model healthful meals, eat more fruits and vegetables, and help meet nutrient recommendations.

5.3: Goal Setting Activity

Overview

In this activity, participants will use what they've learned to set goals for incorporating more plant-based foods in their lives.

Getting Ready

Time Required

5 minutes

Materials Needed

(Materials provided in the curriculum)

| | |
|--|---|
| For the Facilitator Optional: <input type="checkbox"/> Lesson 5 (PowerPoint) <input type="checkbox"/> Computer <input type="checkbox"/> PowerPoint Projector | For Each Group of 2-4 Participants <input type="checkbox"/> Food Cards (<i>Lesson Material 5-B</i>) |
| For the Class <input type="checkbox"/> None | For Each Participant <input type="checkbox"/> Goal Setting – Increasing Plant-based Foods in School Nutrition Programs (<i>Activity Sheet 5-D</i>) Optional: <input type="checkbox"/> Focus on Food Lesson 5 Newsletter (<i>Handout 5-E</i>) |

Preparation

Handouts

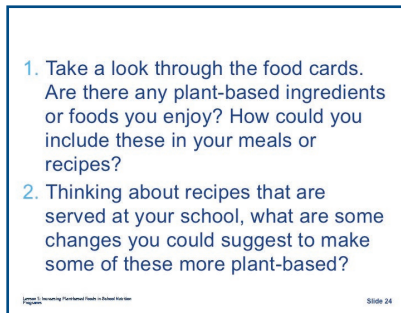
1. Make copies of the following handouts:
 - **Goal Setting – Increasing Plant-based Foods in School Nutrition Programs** (*Activity Sheet 5-D*), one for each participant.
 - Optional: **Focus on Food Lesson 5 Newsletter** (*Handout 5-E*), one for each participant.

Projector Set-Up

2. Connect laptop to projector. Load Focus on Food Lesson 5 (PowerPoint).
3. Queue the PowerPoint presentation to Slide 23.



Slide 21



Slide 22



Slide 23

Procedure

1. **Say:** Now let's move onto Goal Setting! **(Slide 21)** We've worked on adapting recipes to make them more plant-based. 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)**
 - Take a look through the food cards. Are there any plant-based ingredients or foods you enjoy? How could you include these in your meals or recipes?
 - Thinking about recipes that are served at your school, what are some changes you could suggest to make some of these more plant-based?
 2. **Do:** Provide a copy of the ***Goal Setting – Increasing Plant-based Foods in School Nutrition Programs (Activity Sheet 5-D)*** 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?
 4. **Do:** Allow participants to share their goals.
- 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 5! **(Slide 23)**
 6. **Do:** Provide a copy of the ***Focus on Food Lesson 5 Newsletter (Handout 5-E)*** to each participant.



INGREDIENTS:

- ★ Ground beef
- ★ Mozzarella cheese
- ★ Ricotta cheese
- Finely chopped onion
- Minced garlic cloves
- Tomato sauce
- Tomato juice
- Dry lasagna noodles
- Shredded mozzarella cheese
- Grated Parmesan cheese

TOTAL NUTRIENTS/PORTION:

| | |
|---------------|--------------|
| Calories | 329 kcal |
| Carbohydrates | 26 grams |
| Protein | 20 grams |
| Fat | 16 grams |
| Fiber | 2 grams |
| Iron | 3 milligrams |

INGREDIENT FACTS:

Ground Beef

1.6 oz/portion

| | |
|-----------|-----------------|
| Protein | 13 grams |
| Fat | 3.5 grams |
| Calcium | 4 milligrams |
| Potassium | 208 milligrams |
| Iron | 1.46 milligrams |
| Fiber | 0 grams |

Mozzarella Cheese

0.8 oz/portion

| | |
|-----------|-----------------|
| Protein | 5.36 grams |
| Fat | 4.47 grams |
| Calcium | 162 milligrams |
| Potassium | 30 milligrams |
| Iron | 0.05 milligrams |
| Fiber | 0 grams |

Ricotta cheese

0.8 oz/portion

| | |
|-----------|-----------------|
| Protein | 2.58 grams |
| Fat | 1.79 grams |
| Calcium | 62 milligrams |
| Potassium | 28 milligrams |
| Iron | 0.10 milligrams |
| Fiber | 0 grams |



SPAGHETTI WITH MEAT SAUCE

INGREDIENTS:

- ★ Ground beef
- ★ Spaghetti
- Tomato puree
- Tomato sauce
- Onions, chopped
- Garlic cloves, minced
- Worcestershire sauce

INGREDIENT FACTS:

Ground Beef

2.5 oz/portion

| | | |
|-----------|------|------------|
| Protein | 21 | grams |
| Fat | 5 | grams |
| Calcium | 6 | milligrams |
| Potassium | 325 | milligrams |
| Iron | 2.29 | milligrams |
| Fiber | 0 | grams |

Spaghetti

1.6 oz/portion

| | | |
|-----------|------|------------|
| Protein | 5.6 | grams |
| Fat | 0.80 | grams |
| Calcium | 0 | milligrams |
| Potassium | 67 | milligrams |
| Iron | 1.44 | milligrams |
| Fiber | 0 | grams |

TOTAL NUTRIENTS/PORTION:

| | | |
|---------------|-----|------------|
| Calories | 371 | kcal |
| Carbohydrates | 48 | grams |
| Protein | 21 | grams |
| Fat | 11 | grams |
| Fiber | 4 | grams |
| Iron | 6 | milligrams |



PASTA, BEEF, AND TOMATO CASSEROLE

INGREDIENTS:

- ★ Ground beef
- ★ Pasta, elbows
- Onions, chopped
- Celery, chopped
- Diced tomatoes, canned
- Tomato puree
- Chile sauce

TOTAL NUTRIENTS/PORTION:

| | |
|---------------|--------------|
| Calories | 313 kcal |
| Carbohydrates | 27 grams |
| Protein | 22 grams |
| Fat | 13 grams |
| Fiber | 1 grams |
| Iron | 4 milligrams |

INGREDIENT FACTS:

Ground Beef

2.24 oz/portion

| | |
|-----------|----------------|
| Protein | 18.5 grams |
| Fat | 4.81 grams |
| Calcium | 6 milligrams |
| Potassium | 291 milligrams |
| Iron | 2 milligrams |
| Fiber | 0 grams |

Pasta, elbows

0.8 oz/portion

| | |
|-----------|-----------------|
| Protein | 2.83 grams |
| Fat | 0.41 grams |
| Calcium | 0 milligrams |
| Potassium | 34 milligrams |
| Iron | 0.73 milligrams |
| Fiber | 0.8 grams |



BEEF, PORK, AND NOODLE CASSEROLE

INGREDIENTS:

- ★ Ground beef
- ★ Ground pork
- ★ Cheddar cheese, grated or ground
- Onions, finely chopped
- Tomato soup
- Noodles
- Bread crumbs

TOTAL NUTRIENTS/PORTION:

| | | |
|---------------|-----|------------|
| Calories | 332 | kcal |
| Carbohydrates | 21 | grams |
| Protein | 20 | grams |
| Fat | 18 | grams |
| Fiber | 1 | grams |
| Iron | 3 | milligrams |

INGREDIENT FACTS:

Ground Beef

1.28 oz/portion

| | | |
|-----------|------|------------|
| Protein | 10.6 | grams |
| Fat | 2.75 | grams |
| Calcium | 3 | milligrams |
| Potassium | 166 | milligrams |
| Iron | 1.17 | milligrams |
| Fiber | 0 | grams |

Ground Pork

1.28 oz/portion

| | | |
|-----------|------|------------|
| Protein | 9.38 | grams |
| Fat | 7.53 | grams |
| Calcium | 8 | milligrams |
| Potassium | 131 | milligrams |
| Iron | 0.47 | milligrams |
| Fiber | 0 | grams |

Cheddar cheese

0.64 oz/portion

| | | |
|-----------|------|------------|
| Protein | 4.15 | grams |
| Fat | 6.04 | grams |
| Calcium | 129 | milligrams |
| Potassium | 14 | milligrams |
| Iron | 0.03 | milligrams |
| Fiber | 0 | grams |



TERIYAKI CHICKEN AND RICE

INGREDIENTS:

- ★ Chicken breasts
- ★ Teriyaki sauce
- ★ White rice
- Orange juice
- Dijon mustard
- Dried parsley
- Honey

TOTAL NUTRIENTS/PORTION:

| | |
|---------------|-----------------|
| Calories | 250 kcal |
| Carbohydrates | 38.9 grams |
| Protein | 20.6 grams |
| Fat | 2.1 grams |
| Fiber | 0.3 grams |
| Iron | 2.33 milligrams |

INGREDIENT FACTS:

Chicken breasts

2 oz/portion

| | |
|-----------|-----------------|
| Protein | 17.7 grams |
| Fat | 2.03 grams |
| Calcium | 9 milligrams |
| Potassium | 146 milligrams |
| Iron | 0.59 milligrams |
| Fiber | 0 grams |

Teriyaki sauce

1 serving

| | |
|-----------|-----------------|
| Protein | 0.73 grams |
| Fat | 0.12 grams |
| Calcium | 8 milligrams |
| Potassium | 0 milligrams |
| Iron | 0.40 milligrams |
| Fiber | 0 grams |

White rice

0.5 cups/serving

| | |
|-----------|-----------------|
| Protein | 2.21 grams |
| Fat | 0.20 grams |
| Calcium | 3 milligrams |
| Potassium | 27 milligrams |
| Iron | 1.39 milligrams |
| Fiber | 0.3 grams |

Food Cards

Tofu (Firm)**¼ block**

Protein – 7.32 grams
 Fat – 3.38 grams
 Calcium – 553 milligrams
 Potassium – 192 milligrams
 Iron – 2.15 grams
 Fiber – 1.9 grams

Wild Rice**½ cup**

Protein – 3.27 grams
 Fat – 0.28 grams
 Calcium – 2 milligrams
 Potassium – 83 milligrams
 Iron – 0.5 grams
 Fiber – 1.5 grams

Tempeh**3 ounces**

Protein – 16.92 gram
 Fat – 9.67 grams
 Calcium – 82 milligrams
 Potassium – 341 milligrams
 Iron – 1.81 milligrams
 Fiber – 0 grams

Corn Tortilla**1 ounce**

Protein – 1.62 grams
 Fat – 0.81 grams
 Calcium – 50 milligrams
 Potassium – 44 milligrams
 Iron – 0.4 grams
 Fiber – 1.5 grams

Green Peas (Raw)**½ cup**

Protein – 3.93 grams
 Fat – 0.29 grams
 Calcium – 18 milligrams
 Potassium – 177 milligrams
 Iron – 1.07 grams
 Fiber – 4.1 grams

Almonds**1 ounce**

Protein – 5.94 grams
 Fat – 14.90 grams
 Calcium – 76 milligrams
 Potassium – 208 milligrams
 Iron – 1 gram
 Fiber – 3.5 grams

Black Beans (cooked) $\frac{1}{2}$ cup

Protein – 7.62 grams
 Fat – 0.46 grams
 Calcium – 23 milligrams
 Potassium – 305 milligrams
 Iron – 1.81 grams
 Fiber – 7.5 grams

Green Beans (Cooked) $\frac{1}{2}$ cup

Protein – 1.18 grams
 Fat – 0.17 grams
 Calcium – 28 milligrams
 Potassium – 91 milligrams
 Iron – 0.41 grams
 Fiber – 2 grams

Brown Rice (Cooked) $\frac{1}{2}$ cup

Protein – 2.25 grams
 Fat – 0.81 grams
 Calcium – 5 milligrams
 Potassium – 33 milligrams
 Iron – 0.25 grams
 Fiber – 0.9 grams

Broccoli (Cooked) $\frac{1}{2}$ cup

Protein – 1.86 grams
 Fat – 0.32 grams
 Calcium – 31 milligrams
 Potassium – 229 milligrams
 Iron – 0.52 grams
 Fiber – 2.6 grams

Baked Potato (With skin)

1 medium

Protein – 4.33 grams
 Fat – 0.22
 Calcium – 26 milligrams
 Potassium – 926 milligrams
 Iron – 1.9 grams
 Fiber – 3.8 grams

Kale (Cooked) $\frac{1}{2}$ cup

Protein – 1.24 grams
 Fat – 0.26 grams
 Calcium – 47 milligrams
 Potassium – 148 milligrams
 Iron – 0.58 milligrams
 Fiber – 1.3 grams

Acorn Squash (Cooked) $\frac{1}{2}$ cup, cubes

Protein – 1.15 grams
Fat – 0.14 grams
Calcium – 45 milligrams
Potassium – 448 milligrams
Iron – 0.95 grams
Fiber – 4.5 grams

Carrots (Raw) $\frac{1}{4}$ cup

Protein – 0.30 grams
Fat – 0.08 grams
Calcium – 11 milligrams
Potassium – 102 milligrams
Iron – 0.1 grams
Fiber – 0.9 grams

Corn (Yellow) $\frac{1}{2}$ cup

Protein – 2.54 grams
Fat – 1.12 grams
Calcium – 2 milligrams
Potassium – 162 milligrams
Iron – 0.34 grams
Fiber – 1.8 grams

Cherry Tomatoes $\frac{1}{4}$ cup

Protein – 0.50 grams
Fat – 0 grams
Calcium – 4 milligrams
Potassium – 88 milligrams
Iron – 0 grams
Fiber – 0.1 grams

White Beans (Canned) $\frac{1}{2}$ cup

Protein – 9.51 grams
Fat – 0.38
Calcium – 97 milligrams
Potassium – 595 milligrams
Iron – 3.9 grams
Fiber – 6.3 grams

Asparagus (Cooked) $\frac{1}{2}$ cup

Protein – 2.16 grams
Fat – 0.20 grams
Calcium – 21 milligrams
Potassium – 202 milligrams
Iron – 0.82 grams
Fiber – 1.8 grams

Soybeans $\frac{1}{2}$ cup

Protein – 11.12 grams
 Fat – 5.76 grams
 Calcium – 130 milligrams
 Potassium – 485 milligrams
 Iron – 2.25 grams
 Fiber – 3.8 grams

Dates $\frac{1}{4}$ cup

Protein – 0.9 grams
 Fat – 0.6 grams
 Calcium – 14 milligrams
 Potassium – 241 milligrams
 Iron – 0.37 grams
 Fiber – 3 grams

White Mushrooms (Raw) $\frac{1}{2}$ cup

Protein – 1 gram
 Fat – 0 grams
 Calcium – 1 milligrams
 Potassium – 111 milligrams
 Iron – 0.17 grams
 Fiber – 0.3 grams

**Mixed Vegetables
(Cooked)**

1 cup

Protein – 4.22 grams
 Fat – 0.41 grams
 Calcium – 44 milligrams
 Potassium – 474 milligrams
 Iron – 1.71 grams
 Fiber – 4.9 grams

Pinto Beans (Canned) $\frac{1}{2}$ cup

Protein – 7.70 grams
 Fat – 0.56 grams
 Calcium – 39 milligrams
 Potassium – 373 milligrams
 Iron – 1.79 grams
 Fiber – 7.7 grams

Spinach (Raw)

1 cup

Protein – 0.86 grams
 Fat – 0.12 grams
 Calcium – 30 milligrams
 Potassium – 167 milligrams
 Iron – 0.8 grams
 Fiber – 0.7 grams

Spaghetti Squash $\frac{1}{2}$ cup

Protein – 0.51 grams
 Fat – 0.20 grams
 Calcium – 16 milligrams
 Potassium – 91 milligrams
 Iron – 0.26 milligrams
 Fiber – 1.1 grams

Zucchini (cooked w/skin) $\frac{1}{4}$ cup

Protein – 0.51 grams
 Fat – 0.16 grams
 Calcium – 8 milligrams
 Potassium – 119 milligrams
 Iron – 0.17 milligrams
 Fiber – 0.5 grams

**Yellow Squash
(cooked w/skin)** $\frac{1}{4}$ cup

Protein – 0.47 grams
 Fat – 0.18 grams
 Calcium – 10 milligrams
 Potassium – 80 milligrams
 Iron – 0.17 milligrams
 Fiber – 0.5 grams

Avocado $\frac{1}{2}$ cup, pureed

Protein – 2.25 grams
 Fat – 17.72 grams
 Calcium – 15 milligrams
 Potassium – 583 milligrams
 Iron – 0.70 milligrams
 Fiber – 7.8 grams

Sweet potato

1 small

Protein – 1.21 grams
 Fat – 2.0 grams
 Calcium – 23 milligrams
 Potassium – 285 milligrams
 Iron – 0.41 milligrams
 Fiber – 2.0 grams

Sunbutter spread

2 Tbsp.

Protein – 6.00 grams
 Calcium – 0 milligrams
 Potassium – 180 milligrams
 Iron – 1.44 milligrams
 Fiber – 2.0 grams

Recipe Changes Worksheet

Describe the changes that you made to the recipe

Explain why you made those changes.

Which nutrients increased and by how much? Which decreased?

Goal Setting – Increasing Plant-based Foods in School Nutrition Programs

1. Take a look through the food cards. Are there any plant-based ingredients or foods you enjoy? How could you include these in your meals or recipes?
2. Thinking about recipes that are served at your school, what are some changes you could suggest to make some of these more plant-based?

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.

Increasing Plant-Based Foods in School Nutrition Programs

In this issue...

Are All Vegetarian Diets the Same? Page 2

Going Plant-Based for Your Health Page 2

Delicious Dunking Dip Recipe! Page 3

What is Fortification? Page 3

Five Tips for Planning Plant-Based Meals Page 4

Getting Your Nutrients From Plant-Based Sources Page 4

Test your knowledge! Take the plant-based foods quiz! Page 5



Plant-based is great!

Maybe you've heard that meatless meals are a trend. Not only are they trendy, they can be really healthy too! Plant-based foods are some of the best sources of several nutrients, such as potassium, vitamin C, and folate.

There are many reasons why people are choosing to eat plant-based meals, such as for personal health benefits, environmental concerns, or because it can be less expensive than eating meat. Some people even choose to eat an entirely plant-based diet, which is usually referred to as a vegetarian diet. So how can we eat a more plant-based diet? Why should we?

Turn the page to learn more!



Did you know?

Getting the benefits from plant-based foods doesn't mean you have to be 100% meat-free! It just means focusing on healthy plant-based foods!



Are all vegetarian diets the same?

Nope! There are many different types of vegetarian diets. Here are a few of the most common ones:

Vegetarian: A diet that does not include meat, poultry, or fish, but might include eggs, dairy, or both.

Semi-vegetarian: A diet that is mostly vegetarian, but includes small amounts of poultry, eggs, dairy, or fish from time to time.

Pescatarian: A diet that includes fish, but not other types of meat.

Vegan: A diet that does not contain any animal products including meat, poultry, fish, eggs, dairy, or gelatin.



Going Plant-Based for Your Health

Benefits of a plant-based diet

Plant-based diets have many potential health benefits. Research shows that vegetarians have a **lower risk** of developing heart disease and certain types of cancer.

This might be because vegetarian diets often have **more fiber** and **lower saturated fat** compared to diets with meat.

Let's not forget all the great nutrients in plant-based foods including **dietary fiber** and **phytonutrients** (which aren't found in animal foods at all!), as well as **calcium**, **iron**, **potassium**, **folate**, **vitamin A**, and **vitamin C**.

Most Americans aren't eating enough fruits, vegetables, and whole grains and eating plant-based meals is a great way to add more of these foods to your diet!

Plant-based diets are also a way to introduce children to fruits and vegetables at a young age to help them start **healthy habits** that last a lifetime!

Delicious Dunking Dip Recipe!

This recipe is a great plant-based snack that goes well with a variety of fresh veggies and whole grain crackers or pitas.

Recipe serves 4-6 people



Dunking Dip:

- 1 15-oz can cannellini or garbanzo beans, drained
- 3 cloves garlic, roughly chopped
- 1 cup spinach
- 2 tablespoons tahini (sesame seed paste)
- 2 tablespoons lemon juice from 2 lemons
- 1/4 cup extra virgin olive oil
- 2 tablespoons rice vinegar
- 1/2 teaspoon salt



Dunkers:

- Carrots sliced into large medallions (baby carrots work great too!)
- Broccoli, cut into bite-size florets
- Radishes, sliced
- Cauliflower, cut into bite-size pieces
- Asparagus, sliced into bite-size pieces
- Whole wheat pita bread, cut into pieces
- Whole wheat crackers

These dunkers are just some suggestions. Try it with your favorite fresh veggies!

Directions:

1. In a food processor or blender, blend all Dunking Dip ingredients for approximately 2 minutes until smooth.
2. Place bean dip in a serving bowl.
3. Scoop bean dip with various vegetable and whole grain dunkers to enjoy!

Recipe courtesy of Cooking Up Healthy Choices. For more information about this curriculum, please visit: <http://cns.ucdavis.edu/programs/shcp/cooking.html>.



What is fortification?

Fortifying foods with nutrients means that more is added to the original amount. For those that go entirely plant-based (such as vegetarians or vegans), fortified foods are important. For example, vegetarians who don't eat dairy should get calcium from a combination of foods that are calcium-fortified. In fact, schools that serve soy milk in the lunch or breakfast program need to make sure that the soy milk they serve is fortified so that it has the same amount of nutrients as regular milk.

Five Tips for Planning Plant-Based Meals



1 Build your meals around protein: Use sources that are naturally low in fat such as: beans, lentils, and rice. Avoid overloading meals with high-fat cheeses to replace meat.

2 Use calcium-fortified, soy-based beverages such as soy milk: These can provide calcium in amounts similar to milk, and also be lower in saturated fat.

3 Choose complementary foods: Complementary foods such as beans and brown rice, lentil soup and bread, tofu or tempeh with quinoa, or even a peanut butter sandwich (but don't forget to go whole grain) allow the right combinations of essential protein to be included in the diet.



4 Turn meat-based dishes into plant-based dishes: Many recipes that contain meat can be adapted to be plant-based by substituting tofu, beans, or lentils for meat.

5 Try ethnic cuisines: Indian, Middle Eastern, Hispanic, and Asian foods have many plant-based dishes that have plenty of protein from beans, nuts, and high-protein grains.

Getting Your Nutrients from Plant-Based Sources

Protein: Beans, nuts, quinoa, tofu, and other soy-based protein foods

Iron: Dried or fortified beans, cereals, spinach, chard, and dried fruit

Calcium: Collard greens, spinach, almonds, calcium-fortified orange juice, fortified cereal, fortified soymilk, and tofu

Vitamin B12: Vitamin supplements,

fortified breakfast cereals, fortified soymilk, and nutritional yeast

Vitamin D: Fortified breakfast cereals, fortified soymilk, and fortified orange juice

Omega-3 Fatty Acids: Walnuts and ground flaxseeds

Zinc: Whole grains, nuts, and legumes

Test your knowledge with the plant-based foods quiz!

1. What does it mean for a food to be fortified?
 - a. It is unprocessed.
 - b. It has fewer calories.
 - c. Nutrients are removed in processing.
 - d. More of a nutrient is added to the original amount.
2. Which of the following is generally true about vegan diets?
 - a. They contain small amounts of eggs and dairy.
 - b. They include small amounts of poultry and fish.
 - c. No animal products of any kind are included.
 - d. They only include raw foods.
3. True or false: Walnuts are a source of omega-3 fatty acids.
 True
 False
4. Which of these foods is a good source of protein?
 - a. Quinoa
 - a. Dried fruit
 - b. Orange juice
 - c. Bell pepper



The Results are In!

If you got all four right:

You really know your plant-based foods! Keep on learning more and trying new foods.

If you got two or three right:

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

If you got one or less right:

It just means you have more chances to learn! Try reading through this newsletter again to learn more about what you missed.

Check your answers at the bottom of the page!

1. d; 2. c; 3. True; 4. a.



Lesson 6 – Nutrients of Concern

Background Information

We all 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 their stage of **growth**, gender, and level of physical activity. By weight, children tend to need more of most nutrients compared to adults.

In general, we are able to meet our nutrient needs through consuming a variety of nutrient dense foods. **Nutrient-dense foods** are foods that contain more essential nutrients compared 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, **empty calorie foods** contain very little to no essential nutrients compared to the amount of calories they provide. 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 is not encouraged to replace nutrient-dense foods with empty calorie ones.

Unfortunately, many Americans consume diets high in empty calorie foods and low in nutrient dense foods. Consequently, Americans consume 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.

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

6.1: Learning Activity

Overview

This lesson builds on Lesson 4 by exploring nutrient requirements in more depth with a focus on nutrients of concern. In this activity, participants first identify nutrients using clues. Once participants have completed that step, they identify the nutrient requirements of a character by examining their food choices. Using a set of food cards, the small groups make suggestions for changes to their character's diet to help the character meet their nutrient needs. The activity closes with a discussion in which each group shares their character's food choices and the changes they've decided to make.

Getting Ready

Time Required

45 minutes

Materials Needed

(Materials provided in the curriculum)

| | |
|---|--|
| For Each Group of 2-4 Participants <ul style="list-style-type: none"><input type="checkbox"/> Flip chart paper<input type="checkbox"/> Markers, pens, or pencils<input type="checkbox"/> Calculator<input type="checkbox"/> <i>Nutrient Recommendations (Handout 6-B)</i><input type="checkbox"/> <i>Food Choices Worksheet (Activity Sheet 6-D)</i><input type="checkbox"/> <i>Food Sources Cards (Lesson Material 6-E)</i> | For the Facilitator <p>Optional:</p> <ul style="list-style-type: none"><input type="checkbox"/> <i>Lesson 6 (PowerPoint)</i><input type="checkbox"/> Computer<input type="checkbox"/> PowerPoint Projector |
| For the Class <ul style="list-style-type: none"><input type="checkbox"/> <i>Nutrient Mystery (Activity Sheet 6-A)</i><input type="checkbox"/> <i>One Day of Food Choices (Activity Sheet 6-C)</i> | For Each Participant <ul style="list-style-type: none"><input type="checkbox"/> None |

Preparation

Handouts

1. Make copies of the following:
 - **Nutrient Mystery (Activity Sheet 6-A)**, one or more copies as needed. (Each group will receive one page.)
 - **One Day of Food Choices (Activity Sheet 6-C)**, one or more copies as needed. (Each group will receive one page, matched to their *Nutrient Mystery*.)
Facilitator Tip: Printing the above handouts in color simplifies matching these during the activity.
 - **Nutrient Recommendations (Handout 6-B)**, one copy per group.
 - **Food Choices Worksheet (Activity Sheet 6-D)**, one copy per group.

Other Materials

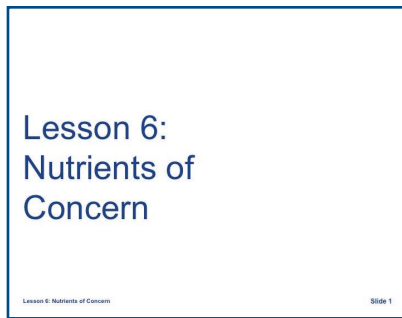
2. Print and cut out copies of the **Food Sources Cards (Lesson Material 6-E)**, one set per group.
Facilitator Tip: Printing each of the different nutrients on different colored cardstock will help with organization.

Classroom Set-up

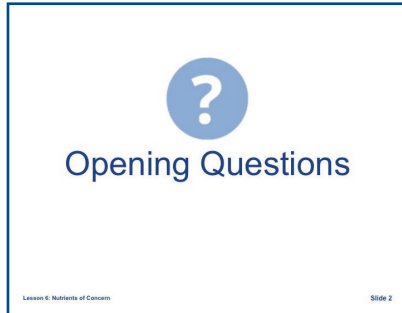
3. Organize the class into small groups of 2 to 4 participants.
Facilitator Tip: These groups can also be used in future lessons.
4. Provide each group with a sheet of flip chart paper and markers, pens, or pencils to answer opening questions/prompts.

Optional

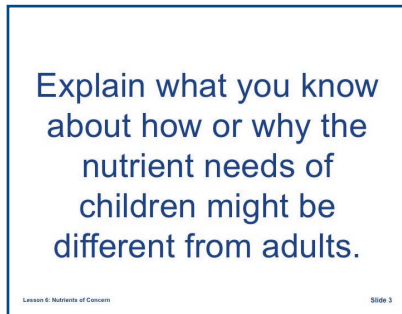
5. Before participants arrive, connect laptop to projector. Load **Focus on Food Lesson 6** (PowerPoint).



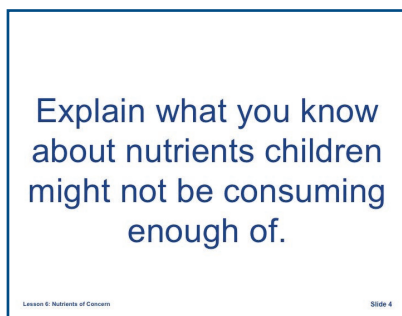
Slide 1



Slide 2



Slide 3



Slide 4

Opening Questions/Prompts

Small Group Discussion

1. **Say:** Let's get started with Lesson 6 – Nutrients of Concern! **(Slide 1)** To begin, I'd like everyone to discuss some opening questions within your group. **(Slide 2)** 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.

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

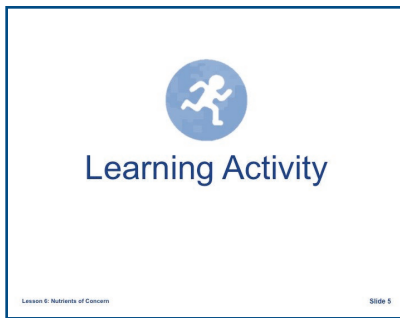
- Explain what you know about how or why the nutrient needs of children might be different from adults. **(Slide 3)**

Facilitator Tip: Explain to participants 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 learn more about these topics throughout the lesson.

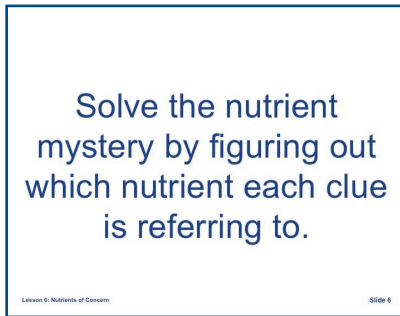
2. **Do:** Allow 2 to 3 minutes for groups to discuss the prompt. Repeat with the remaining prompt:
 - Explain what you know about nutrients children might not be getting enough of **(Slide 4)**

Class Discussion

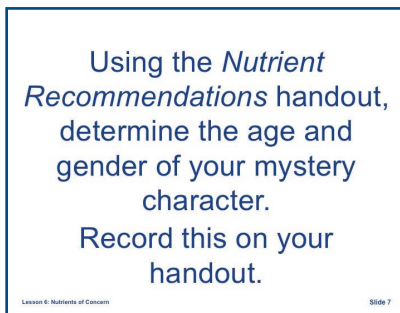
3. **Say:** As a class, let's discuss what you talked about in your groups. What were some of your thoughts on the first prompt, "Explain what you know about how or why the nutrient needs of children might be different from adults?"
4. **Do:** Allow about a minute for participants to share their thoughts on this topic with the class. Repeat with the remaining prompt:
 - Explain what you know about nutrients children might not be getting enough of. **(Slide 4)**



Slide 5



Slide 6



Slide 7

Procedure (Experiencing)

Solving the Nutrient Mystery

5. **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 that will be used in this activity. **(Slide 5)**

- First, you will figure out which nutrient is being described by each clue or to “solve the nutrient mystery”. You should record this information on the ***Nutrient Mystery*** activity sheet. **(Slide 6)**
- Then you will use the ***Nutrient Recommendations*** handout to figure out the age and gender of a mystery character. **(Slide 7)**

6. **Do:** Provide each group with:

- One copy of ***Nutrient Mystery (Activity Sheet 6-A)***.
- One copy of ***Nutrient Recommendations (Handout 6-B)***

Facilitator Tip: There are five different Nutrient Mysteries; 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.

- **Do:** Allow several minutes for participants to complete the activity sheet.

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.**

Look over the *One Day of Food Choices* Handout. Focus on the total amounts of nutrients that the meal and snack choices provide.

Lesson 6: Nutrients of Concern

Slide 8

Slide 8

On the *One Day of Food Choices* handout, answer the first two questions.

Lesson 6: Nutrients of Concern

Slide 9

Slide 9

Record some different choices your character could make to meet his or her nutrient recommendations.

Lesson 6: Nutrients of Concern

Slide 10

Slide 10

Identifying Nutrient Shortfalls

7. **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 and use the information from the third column of your nutrient mystery to answer the two questions on the bottom. **(Slide 8)**

- 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)**

8. **Do:** Distribute to each group:

- One copy of ***One Day of Food Choices (Activity Sheet 6-C)*** matched to each group's ***Nutrient Mystery (Activity Sheet 6-A)***.

9. **Do:** Allow a few minutes for participants to complete this step.

Recommending Different Choices

10. **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)**

- 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.

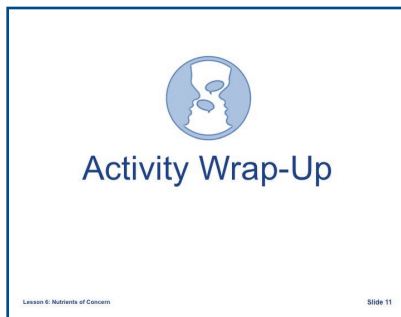
11. **Do:** Hand out one copy of ***Food Choices Worksheet (Activity Sheet 6-D)***, one set of ***Food Sources Cards (Lesson Material 6-E)*** and a calculator to each group.

12. **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?*



Slide 10

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

13. **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)**

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

- Describe how you decided which foods to add or swap.
- Compare the nutrient needs of the different characters.
- What did you notice about the food sources of different nutrients?
- Describe what it might mean if they are missing a nutrient.
- If not mentioned, guide participants to verbalize:
- The teenaged boy and teenaged girl have very different iron needs.
- Teenaged girls and women have much higher iron needs due to menstruation.

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 activity, 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 6.2: *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.

6.2: Expanding Knowledge

Overview

In this mini-lecture, participants will learn more about the nutrient recommendations for children and adults and the different nutrients of concern.

Getting Ready

Time Required

5 minutes

Materials Needed

(Materials provided in the curriculum)

| | |
|--|---|
| For the Facilitator <ul style="list-style-type: none"><input type="checkbox"/> Lesson 6 (PowerPoint)<input type="checkbox"/> Computer<input type="checkbox"/> PowerPoint Projector | For Each Group of 2-4 Participants <ul style="list-style-type: none"><input type="checkbox"/> None |
| For the Class <ul style="list-style-type: none"><input type="checkbox"/> None | For Each Participant <ul style="list-style-type: none"><input type="checkbox"/> None |

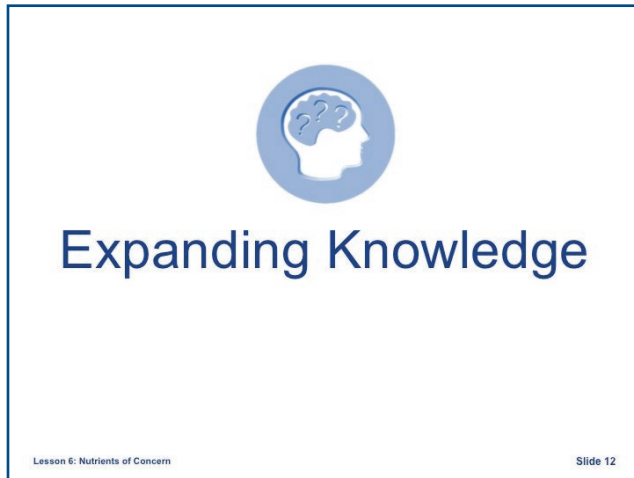
Preparation

Projector Set-up

1. Connect laptop to projector. Load **Focus on Food Lesson 6** (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.



Slide 12

Slide 12

Let's recap some main concepts that we learned in Lesson 6, Nutrients of Concern



Slide 13

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 14

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.

Nutrient Recommendations



Prevent disease and support health.

Higher nutrient needs for men, except iron and folate.

Increased calcium and vitamin B6 needs for older adults (50+).

Lesson 6: Nutrients of Concern

Slide 15

Slide 15

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.

Nutrients of Concern

Americans are consuming less than recommended:



Lesson 6: Nutrients of Concern

Slide 16

Slide 16

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.]

Nutrients of Concern

Pre-menopausal women and adolescent girls:

Folate or folic acid – important for preventing neural tube (brain) defects in growing fetuses.

Iron – replacing iron loss due to menstruation.

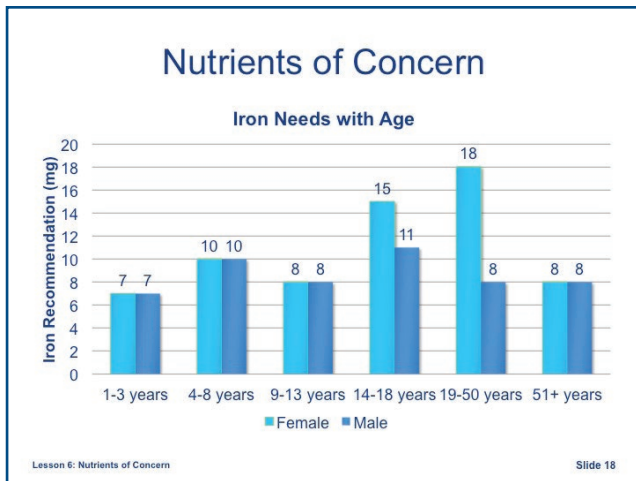
Lesson 6: Nutrients of Concern

Slide 17

Slide 17

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 18


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.]

Nutrients of Concern


Different food groups provide different nutrients of concern.



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 6: Nutrients of Concern Slide 19

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

What are some ways the breakfast and lunch meal patterns help children consume nutrients of concern?

Lesson 6: Nutrients of Concern Slide 20

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.]

6.3: Goal Setting Activity

Overview

In this activity, participants will use what they've learned to set a goal to encourage students to choose and consume foods that are good sources of a nutrient of concern.

Getting Ready

Time Required

5 minutes

Materials Needed

(Materials provided in the curriculum)

| | |
|--|---|
| For the Facilitator Optional: <input type="checkbox"/> Lesson 6 (PowerPoint) <input type="checkbox"/> Computer <input type="checkbox"/> PowerPoint Projector | For Each Group of 2-4 Participants <input type="checkbox"/> Food Sources Cards <i>(Lesson Material 6-E)</i> |
| For the Class <input type="checkbox"/> None | For Each Participant <input type="checkbox"/> Goal Setting – Nutrients of Concern <i>(Activity Sheet 6-G)</i> Optional: <input type="checkbox"/> Focus on Food Lesson 6 Newsletter <i>(Handout 6-H)</i> |

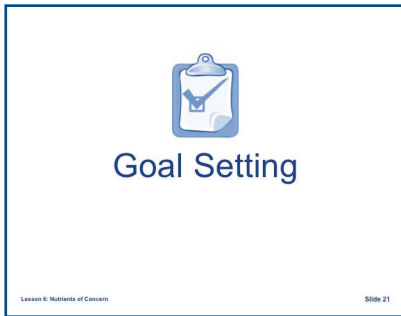
Preparation

Handouts

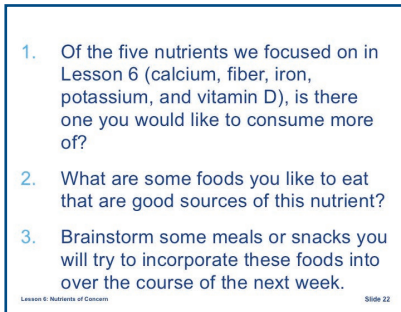
1. Make copies of the following handouts:
 - **Goal Setting – Nutrients of Concern** *(Activity Sheet 6-G)*, one for each participant.
 - Optional: **Focus on Food Lesson 6 Newsletter** *(Handout 6-H)*, one for each participant.

Projector Set-up

2. Connect laptop to projector. Load Focus on Food Lesson 6 (PowerPoint).
3. Queue the PowerPoint presentation to Slide 21.



Slide 21



Slide 22



Slide 23

Procedure

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)**

- 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?
 - Take a look through the **Food Sources Cards**. Which of these are good sources of the nutrient you selected above? Do you serve any of these in your program?
 - Brainstorm some ways you can encourage students to choose these foods.
2. **Do:** Provide a copy of **Goal Setting – Nutrients of Concern (Activity Sheet 6-G)** 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 23)**
5. **Do:** Provide a copy of the **Focus on Food Lesson 6 Newsletter (Handout 6-H)** to each participant.

Nutrient Mystery – Group 1

Use the clue to figure out the nutrients. Your choices are: **Iron, Calcium, Potassium, Vitamin D,** and **Dietary Fiber.**

| | | Nutrient | Amount Recommended for Your Character |
|--------|--|----------|---------------------------------------|
| Clue 1 | <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 µg |
| Clue 2 | <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 mg |
| Clue 3 | <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> | | 11 mg |
| Clue 4 | <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 mg |
| Clue 5 | <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> | | 31 g |

The nutrient recommendations listed above are for a mystery character. Using the *Nutrient Recommendations Handout*, what do you think is the age and gender of your mystery character?

Age: _____ **Gender:** _____

Nutrient Mystery – Group 2

Use the clue to figure out the nutrients. Your choices are: **Iron, Calcium, Potassium, Vitamin D, and Dietary Fiber.**

| | | Nutrient | Amount Recommended For Your Character |
|--------|--|----------|---------------------------------------|
| 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 g |
| 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 μ g |
| 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 mg |
| 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 mg |
| 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 mg |

The nutrient recommendations listed above are for a mystery character. Using the Nutrient Recommendations Handout, what do you think is the age and gender of your mystery character?

Age: _____ **Gender:** _____

On the back of the sheet, invent a name and a back story for your character.

Nutrient Mystery – Group 3

Use the clue to figure out the nutrients. Your choices are: **Iron, Calcium, Potassium, Vitamin D,** and **Dietary Fiber.**

| | | Nutrient | Amount Recommended For Your Character |
|--------|--|----------|---------------------------------------|
| Clue 1 | <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> | | 3000 mg |
| Clue 2 | <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> | | 7 mg |
| Clue 3 | <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> | | 14 g |
| Clue 4 | <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> | | 700 mg |
| Clue 5 | <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 µg |

The nutrient recommendations listed above are for a mystery character. Using the *Nutrient Recommendations Handout*, what do you think is the age and gender of your mystery character?

Age: _____ **Gender:** _____

On the back of the sheet, invent a name and a back story for your character.

Nutrient Mystery – Group 4

Use the clue to figure out the nutrients. Your choices are: **Iron, Calcium, Potassium, Vitamin D,** and **Dietary Fiber.**

| | | Nutrient | Amount Recommended For Your Character |
|--------|--|----------|---------------------------------------|
| 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 mg |
| 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 g |
| 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 mg |
| 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 µg |
| 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 mg |

The nutrient recommendations listed above are for a mystery character. Using the *Nutrient Recommendations Handout*, what do you think is the age and gender of your mystery character?

Age: _____ Gender: _____

On the back of the sheet, invent a name and a back story for your character.

Nutrient Mystery – Group 5

Use the clue to figure out the nutrients. Your choices are: **Iron, Calcium, Potassium, Vitamin D,** and **Dietary Fiber.**

| | | Nutrient | Amount Recommended For Your Character |
|--------|--|----------|---------------------------------------|
| Clue 1 | <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 mg |
| Clue 2 | <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 mg |
| Clue 3 | <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 µg |
| Clue 4 | <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> | | 25 g |
| Clue 5 | <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 mg |

The nutrient recommendations listed above are for a mystery character. Using the *Nutrient Recommendations Handout*, what do you think is the age and gender of your mystery character?

Age: _____ **Gender:** _____

On the back of the sheet, invent a name and a back story for your character.

Nutrient Recommendations

| Nutrient | Child 1-3 | Female 4-8 | Male 4-8 | Female 9-13 | Male 9-13 | Female 14-18 | Male 14-18 |
|--|----------------|----------------|----------------|----------------|----------------|-----------------|----------------|
| Macronutrients | | | | | | | |
| Calories (moderately active) | 1000 - 1400 | 1400 - 1600 | 1400 - 1600 | 1600 - 2000 | 1800 - 2200 | 2000 | 2400 - 2800 |
| Protein (g) | 13 | 19 | 19 | 34 | 34 | 46 | 52 |
| Carbohydrates (g) | 130 | 130 | 130 | 130 | 130 | 130 | 130 |
| Total fiber (g) | 14 | 17 | 20 | 22 | 25 | 25 | 31 |
| Total fat (% of calories) | 30-40 | 25-35 | 25-35 | 25-35 | 25-35 | 25-35 | 25-35 |
| Minerals | | | | | | | |
| Calcium (mg) | 700 | 1000 | 1000 | 1300 | 1300 | 1300 | 1300 |
| Iron (mg) | 7 | 10 | 10 | 8 | 8 | 15 | 11 |
| Magnesium (mg) | 80 | 130 | 130 | 240 | 240 | 360 | 410 |
| Potassium (mg) | 3000 | 3800 | 3800 | 4500 | 4500 | 4700 | 4700 |
| Zinc (mg) | 3 | 5 | 5 | 8 | 8 | 9 | 11 |
| Copper (mcg) | 340 | 440 | 440 | 700 | 700 | 890 | 890 |
| Selenium (mcg) | 20 | 30 | 30 | 40 | 40 | 55 | 55 |
| Vitamins | | | | | | | |
| Vitamin A (mcg RAE) | 300 | 400 | 400 | 600 | 600 | 700 | 900 |
| Vitamin D (mcg) | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| Vitamin E (mg AT) | 6 | 7 | 7 | 11 | 11 | 15 | 15 |
| Vitamin C (mg) | 15 | 25 | 25 | 45 | 45 | 65 | 75 |
| Thiamin (mg) | 0.5 | 0.6 | 0.6 | 0.9 | 0.9 | 1.0 | 1.2 |
| Riboflavin (mg) | 0.5 | 0.6 | 0.6 | 0.9 | 0.9 | 1.0 | 1.3 |
| Niacin (mg) | 6 | 8 | 8 | 12 | 12 | 14 | 16 |
| Folate (mcg) | 150 | 200 | 200 | 300 | 300 | 400 | 400 |
| Vitamin B₆ (mcg) | 0.5 | 0.6 | 0.6 | 1.0 | 1.0 | 1.2 | 1.3 |
| Vitamin B₁₂ (mcg) | 0.9 | 1.2 | 1.2 | 1.8 | 1.8 | 2.4 | 2.4 |
| Choline (mg) | 200 | 250 | 250 | 375 | 375 | 400 | 550 |
| Vitamin K (mcg) | 30 | 55 | 55 | 60 | 60 | 75 | 75 |

One Day of Food Choices – Group 1

| | Fiber (g) | Calcium (mg) | Iron (mg) | Potassium (mg) | Vitamin D (µg) |
|---------------------------------|-------------|----------------|--------------|----------------|----------------|
| Breakfast | | | | | |
| 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 |
| Lunch | | | | | |
| 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 |
| Dinner | | | | | |
| 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 |
| Snacks | | | | | |
| Cheese puffs | 3 g | 86 mg | 0 mg | 69 mg | 0 µg |
| Totals | 24 g | 1253 mg | 16 mg | 2764 mg | 4 µg |

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

| | Fiber (g) | Calcium (mg) | Iron (mg) | Potassium (mg) | Vitamin D (µg) |
|--|-------------|---------------|-------------|----------------|----------------|
| Breakfast | | | | | |
| 1 cup orange juice | 1 g | 27 mg | 0 mg | 443 mg | 0 µg |
| Lunch | | | | | |
| 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 |
| Dinner | | | | | |
| 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 |
| Snacks | | | | | |
| 15 gummy worms | 0 g | 3 mg | 0 mg | 6 mg | 0 µg |
| Totals | 14 g | 928 mg | 8 mg | 2358 mg | 3 µg |

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 (g) | Calcium (mg) | Iron (mg) | Potassium (mg) | Vitamin D (µg) |
|---------------------------|------------|---------------|-------------|----------------|----------------|
| Breakfast | | | | | |
| 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 |
| Lunch | | | | | |
| 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 |
| Dinner | | | | | |
| 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 |
| Snacks | | | | | |
| 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 |
| Totals | 8 g | 748 mg | 4 mg | 1496 mg | 3 µg |

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 (g) | Calcium (mg) | Iron (mg) | Potassium (mg) | Vitamin D (µg) |
|---------------------------------|-------------|---------------|--------------|----------------|----------------|
| Breakfast | | | | | |
| 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 |
| Lunch | | | | | |
| 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 |
| Dinner | | | | | |
| Lasagna with meat sauce | | | | | |
| 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 |
| Snacks | | | | | |
| Corn puffs | | | | | |
| 1 medium chocolate cupcake | 1 g | 46 mg | 1 mg | 70 mg | 0 µg |
| Totals | 16 g | 1356 g | 17 mg | 2266 mg | 7 µg |

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 (g) | Calcium (mg) | Iron (mg) | Potassium (mg) | Vitamin D (µg) |
|---|-------------|----------------|--------------|----------------|----------------|
| Breakfast | | | | | |
| 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 |
| Lunch | | | | | |
| 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 |
| Dinner | | | | | |
| 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 |
| Snacks | | | | | |
| 1 oz multigrain chips | 1 g | 1 mg | 0 mg | 36 mg | 0 µg |
| Totals | 28 g | 1232 mg | 10 mg | 3338 mg | 8 µg |

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?

Food Choices Worksheet

What are some different choices your character could make to meet his or her daily recommendations?

| | |
|------------------|--|
| | |
| Breakfast | |
| Lunch | |
| Dinner | |
| Snacks | |
| Totals | |

Appendix 5E – Food Sources Cards

Protein Foods

| | |
|--|---|
| <p>Hard-Boiled Egg 1 large</p> <p>Calcium – 25 milligrams Vitamin D – 1.1 micrograms Potassium – 63 milligrams Iron – 0.6 grams Fiber – 0 grams</p> | <p>Tuna (Canned in Water) 3 ounces</p> <p>Calcium – 12 milligrams Vitamin D – 1.7 micrograms Potassium – 201 milligrams Iron – 0.8 grams Fiber – 0 grams</p> |
| <p>Smoked Salmon 3 ounces</p> <p>Calcium – 9 milligrams Vitamin D – 14.5 micrograms Potassium – 149 milligrams Iron – 0.7 grams Fiber – 0 grams</p> | <p>Salami 5 slices</p> <p>Calcium – 9 milligrams Vitamin D – 0.6 micrograms Potassium – 194 milligrams Iron – 1 grams Fiber – 0 grams</p> |
| <p>Chicken Breast (Grilled) 3 ounces</p> <p>Calcium – 4 milligrams Vitamin D – 0 micrograms Potassium – 332 milligrams Iron – 0 grams Fiber – 0 grams</p> | <p>Canadian Bacon 2 slices</p> <p>Calcium – 4 milligrams Vitamin D – 0.1 micrograms Potassium – 551 milligrams Iron – 0 grams Fiber – 0 grams</p> |

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)
 $\frac{1}{4}$ 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 $\frac{1}{2}$ 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

| | |
|--|---|
| <p>Brown Rice (Cooked) 1 cup</p> <p>Calcium – 10 milligrams Vitamin D – 0 micrograms Potassium – 77 milligrams Iron – 0.5 grams Fiber – 1.8 grams</p> | <p>Instant Oatmeal (Cooked) 1 packet</p> <p>Calcium – 21 milligrams Vitamin D – 0 micrograms Potassium – 144 milligrams Iron – 1.7 grams Fiber – 4.0 grams</p> |
| <p>Low-Fat Microwave Popcorn (Popped) 3 cups</p> <p>Calcium – 0 milligrams Vitamin D – 0 micrograms Potassium – 100 milligrams Iron – 0 grams Fiber – 2 grams</p> | <p>Whole-Wheat Pita 1 small pita</p> <p>Calcium – 4 milligrams Vitamin D – 0 micrograms Potassium – 48 milligrams Iron – 0.9 grams Fiber – 1.7 grams</p> |

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) $\frac{1}{2}$ cup

Calcium – 18 milligrams
 Vitamin D – 0 micrograms
 Potassium – 177 milligrams
 Iron – 1.07 grams
 Fiber – 4.1 grams

Corn (Yellow) $\frac{1}{2}$ cup

Calcium – 2 milligrams
 Vitamin D – 0 micrograms
 Potassium – 162 milligrams
 Iron – 0.34 grams
 Fiber – 1.8 grams

Broccoli (Cooked) $\frac{1}{2}$ cup

Calcium – 31 milligrams
 Vitamin D – 0 micrograms
 Potassium – 229 milligrams
 Iron – 0.52 grams
 Fiber – 2.6 grams

Green Beans (Cooked) $\frac{1}{2}$ cup

Calcium – 28 milligrams
 Vitamin D – 0 micrograms
 Potassium – 91 milligrams
 Iron – 0.41 grams
 Fiber – 2 grams

Asparagus (Cooked) $\frac{1}{2}$ cup

Calcium – 21 milligrams
 Vitamin D – 0 micrograms
 Potassium – 202 milligrams
 Iron – 0.82 grams
 Fiber – 1.8 grams

Acorn Squash (Cooked) $\frac{1}{2}$ 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) $\frac{1}{2}$ cup

Calcium – 44 milligrams
 Vitamin D – 0.1 micrograms
 Potassium – 111 milligrams
 Iron – 0.18 grams
 Fiber – 0.4 grams

Cherry Tomatoes $\frac{1}{4}$ cup

Calcium – 4 milligrams
 Vitamin D – 0 micrograms
 Potassium – 88 milligrams
 Iron – 0 grams
 Fiber – 0.1 grams

Carrots (Raw) $\frac{1}{4}$ 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**1/4 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)**1/2 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 | Orange 1 medium |
|--|----------------------------|
| Calcium – 250 milligrams | Calcium – 60 milligrams |
| Vitamin D – 1.7 micrograms | Vitamin D – 0 micrograms |
| Potassium – 221 milligrams | Potassium – 271 milligrams |
| Iron – 0.25 grams | Iron – 0.14 grams |
| Fiber – 0.2 grams | Fiber – 3.8 grams |

Goal Setting – Nutrients of Concern

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*. 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.

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.

Nutrients of Concern

In this issue...

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| 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 |
| Test Your Knowledge With the Nutrients of Concern Word Search! | Page 5 |



Growing Strong and Healthy

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.

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!

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 many Americans consume 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, some
dairy foods



Women and Teenaged Girls

In addition to calcium, vitamin D, fiber, and potassium, there are two more nutrients of concern for teenage girls and women capable of becoming pregnant.

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

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!)

Recipe serves 4-6 people

Ingredients:

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)

Directions:

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.

Recipe courtesy of Cooking Up Healthy Choices. For more information about this curriculum, please visit: <http://cns.ucdavis.edu/programs/shcp/cooking.html>

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?

See the bottom of the page for a list of words you can find!

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 the amount of energy in food. _____

I am an adjective describing 'in good health' _____

I am a macronutrient with 9 calories per gram and can be solid or liquid at room temperature. _____

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. _____

Vitamins Carbohydrates Energy Folate Potassium Minerals Fats Calories Calcium Healthy Protein Water Iron Fiber Well-Balanced



Lesson 7 – Understanding Influences on Food Choices

Background Information

Americans have a wide variety of food choices, but are also heavily influenced by many factors when selecting and purchasing foods.

Some examples of these **influences** 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, the immediate setting, or advertisements also influence food choices. Restaurants and markets often take advantage of this. For example, a grocery store might put food at eye level to encourage shoppers to purchase it. A buffet restaurant might place items in a certain order, knowing that customers will often choose to take more of the first few items. **Indirect factors** outside of one's control may also affect food choices. For example, government policies might influence the cost to produce food which may then be passed onto the consumer. The resulting changes in prices could in turn influence food purchases.



An individual could even be influenced by multiple factors at once, for example: someone who 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 special at a fast food restaurant instead of cooking a healthy meal.

Many of these factors are obvious when we consider the National School Lunch Program and School Breakfast Program. Factors that influence students' choices could be the 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, ambiance, marketing, and availability.

Indirect factors: Certain factors may not immediately or directly cause food choices to change, but will still influence individual food choices like government policy and climate change by affecting aspects outside of the control of the consumer.

Influences: 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.

7.1: Learning Activity

Overview

In this activity, participants will explore influences on food choices. There are six different scenarios that are posted around the room in which different characters make food choices. In small groups, participants will record possible influences on the character's choices before rotating to the next flip chart. The activity closes with volunteers reading each of the scenarios and summarizing the influences recorded and the class comparing and contrasting the choices made by the characters in the scenarios.

Getting Ready

Time Required

45 minutes

Materials Needed

(Materials provided in the curriculum)

| | |
|--|--|
| For Each Group of 2-4 Participants <ul style="list-style-type: none"><input type="checkbox"/> Flip chart paper<input type="checkbox"/> Markers, pens, or pencils | For the Facilitator <ul style="list-style-type: none"><input type="checkbox"/> TimerOptional:<ul style="list-style-type: none"><input type="checkbox"/> Lesson 7 (PowerPoint)<input type="checkbox"/> Computer<input type="checkbox"/> PowerPoint Projector |
| For the Class <ul style="list-style-type: none"><input type="checkbox"/> Food Choice Scenarios (Lesson Material 7-A)<input type="checkbox"/> Prepared flip chart papers for each scenario<input type="checkbox"/> Flip chart markers | For Each Participant <ul style="list-style-type: none"><input type="checkbox"/> None |

Preparation

Other Materials

1. Print one copy of ***Food Choice Scenarios (Lesson Material 7-A)***
2. Prepare one flip chart for each of the characters listed on the ***Food Choice Scenarios (Lesson Material 7-A)***. Each flip chart should have the following: number and name of scenario written across the top; scenario taped or pasted to the flip chart.

Activity Set-up

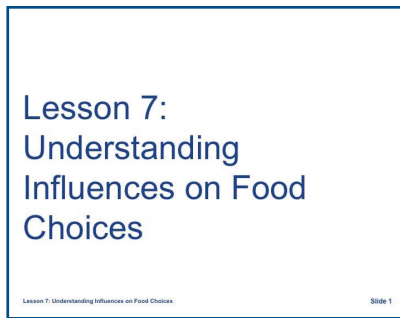
3. Post the prepared flip chart papers in numerical order around the room.

Classroom Set-up

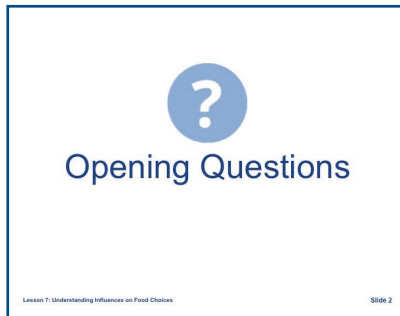
4. Organize the class into small groups of 2 to 4 participants.
5. Provide each group with a sheet of flip chart paper and markers, pens, or pencils to answer opening questions/prompts.

Optional

6. Before participants arrive, connect laptop to projector. Load ***Focus on Food Lesson 7 (PowerPoint)***.



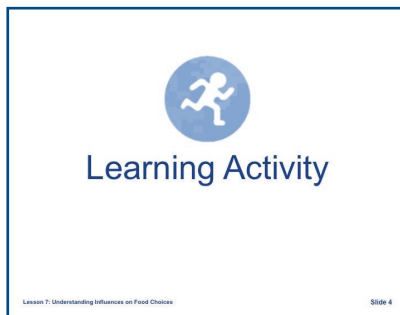
Slide 1



Slide 2



Slide 3



Slide 4

Opening Questions/Prompts

Small Group Discussion

1. **Say:** Let's get started with Lesson 7 – Understanding Influences on Food Choices! **(Slide 1)** To begin, I'd like everyone to discuss an opening question within your group. **(Slide 2)** 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.

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)**

Facilitator Tip: Explain to participants 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 learn more about these topics throughout the lesson.

2. **Do:** Allow 2 to 3 minutes for groups to discuss the prompt.

Class Discussion

3. **Say:** As a class, let's discuss what you talked about in your groups. What were some of your thoughts on the 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.

Procedure (Experiencing)

Flip Chart Write and Rotate

5. **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

Count off from 1 to 6 to form six new groups.

Go to the scenario that matches your number (e.g. those assigned 1 meet at Flipchart 1, and so on).

Lesson 7: Understanding Influences on Food Choices

Slide 5

Slide 5

Read through the food choice scenario.

On the flip chart paper, brainstorm different factors that might impact your character's food choices.

Lesson 7: Understanding Influences on Food Choices

Slide 6

Slide 6

Move to the next flip chart paper.

Lesson 7: Understanding Influences on Food Choices

Slide 7

Slide 7

Read through the food choice scenario.

On the flip chart paper, brainstorm different factors that might influence your character's food choices.

Lesson 7: Understanding Influences on Food Choices

Slide 8

Slide 8



Activity Wrap-Up

Lesson 7: Understanding Influences on Food Choices

Slide 9

Slide 9

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)**

- Do:** Have the learners count off from 1 to 6 to form six new groups and go to the corresponding flip chart.

Facilitator Tip: If you have six groups, feel free to skip the formation of new groups, and have each of the existing groups go to a different flip chart.

- Do:** Allow one to two minutes for the groups to read the scenario and brainstorm at least two to three factors. Use a timer to count down the time.

- 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)**

- Do:** Repeat Steps 3 and 4 every few minutes until each group has discussed three or four scenarios.

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

- 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?

- Do:** Allow the volunteer to read the scenario to the class.

- Say:** Let's discuss the scenario. What were some of the factors that were brainstormed and some of the observations you had?

- Do:** Repeat Steps 2 and 3 for each scenario. 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.

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.

7.2: Expanding Knowledge

Overview

In this mini-lecture, participants will learn more about how personal and environmental factors can influence food choices.

Getting Ready

Time Required

10 minutes

Materials Needed

(Materials provided in the curriculum)

| | |
|--|---|
| For the Facilitator <ul style="list-style-type: none"><input type="checkbox"/> Lesson 7 (PowerPoint)<input type="checkbox"/> Computer<input type="checkbox"/> PowerPoint Projector | For Each Group of 2-4 Participants <ul style="list-style-type: none"><input type="checkbox"/> None |
| For the Class <ul style="list-style-type: none"><input type="checkbox"/> None | For Each Participant <ul style="list-style-type: none"><input type="checkbox"/> None |

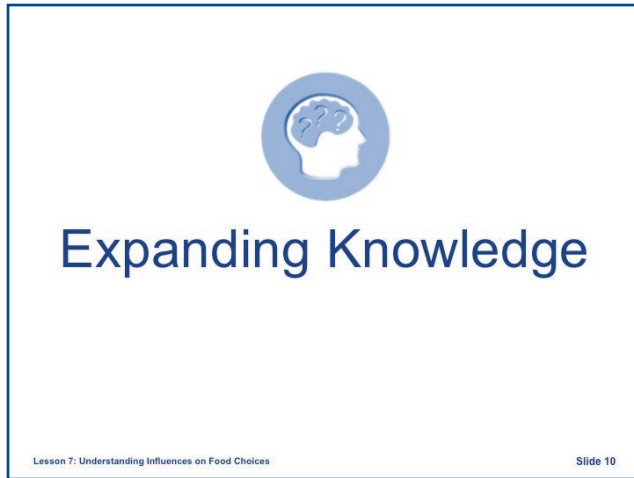
Preparation

Projector Set-up

1. Connect laptop to projector. Load **Focus on Food Lesson 7** (PowerPoint).
2. Queue the PowerPoint presentation to Slide 10.

Procedure

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



Slide 10

Slide 10

Now let's review some concepts that we learned in Lesson 7, understanding Influences on Food Choices.



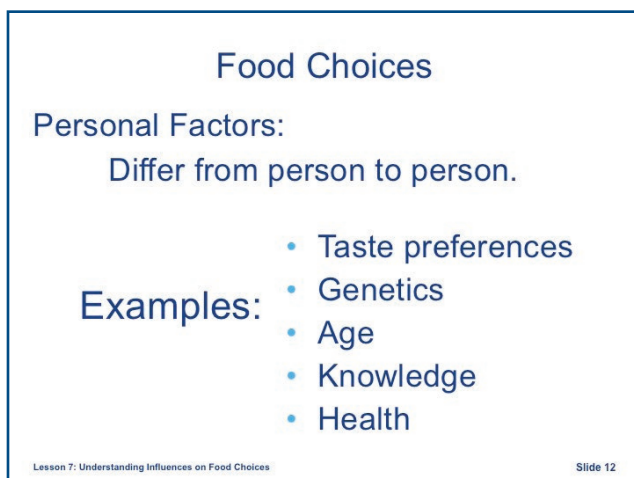
Slide 11

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.]



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.]

Food Choices

Environmental Factors:



Aspects of a setting, atmosphere, or location that influence an individual's choices.

Lesson 7: Understanding Influences on Food Choices

Slide 13

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.]

Food Choices

Gina:

- Hot dog (no bun)
- Fruit salad: Watermelon, grapes, & strawberries (removes honeydew)



Matt:

- spicy chicken wings
 - carrot salad
- Avoids:
Green salad, contains cilantro

Lesson 7: Understanding Influences on Food Choices

Slide 14

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

Gina:

Taste: Hates spicy food, loves watermelon and strawberries.

Age: At the age where children are typically resistant to trying new foods.

Personal knowledge: Heard that some foods help you run fast.

Genetic factors: Has a gene that makes cilantro taste bad.



Matt:

Taste: 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 7: Understanding Influences on Food Choices

Slide 15

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 7: Understanding Influences on Food Choices Slide 16

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.

Food Choices

What are some examples of the way influences on our food choices can change over time?

Lesson 7: Understanding Influences on Food Choices Slide 17

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.]

Food Choices

By being more aware of environmental and personal factors, we can make smarter choices.



Lesson 7: Understanding Influences on Food Choices Slide 18

Slide 18

Slide 18

Why does this matter? By being more aware of environmental and personal factors, we can make smarter choices.

Food Choices

How could the food have been arranged differently to encourage smarter choices?

Lesson 7: Understanding Influences on Food Choices Slide 19

Slide 19

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.]

7.3: Goal Setting Activity

Overview

In this activity, participants will use what they've learned to set goals about being more aware of influences on their food choices and influences on student food choices in the lunchroom.

Getting Ready

Time Required

5 minutes

Materials Needed

(Materials provided in the curriculum)

| | |
|--|--|
| For the Facilitator Optional: <input type="checkbox"/> Lesson 7 (PowerPoint) <input type="checkbox"/> Computer <input type="checkbox"/> PowerPoint Projector | For Each Group of 2-4 Participants <input type="checkbox"/> <i>None</i> |
| For the Class <input type="checkbox"/> None | For Each Participant <input type="checkbox"/> Goal Setting – Understanding Influences on Food Choices (Activity Sheet 7-B) Optional: <input type="checkbox"/> Focus on Food Lesson 7 Newsletter (Handout 7-C) |

Preparation

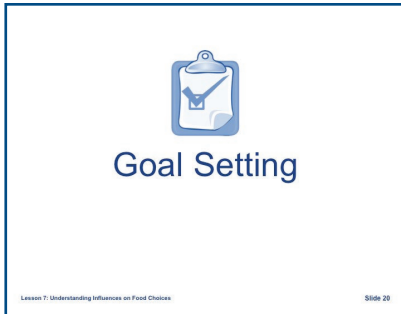
Handouts

1. Make copies of the following handouts:
 - **Goal Setting – Understanding Influences on Food Choices handout (Activity Sheet 7-B)**, one for each participant.
 - Optional: **Focus on Food Lesson 7 Newsletter (Handout 7-C)**, one for each participant.

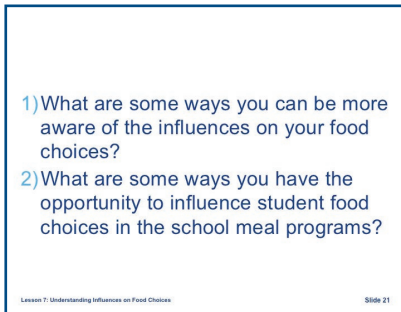
Optional

2. Connect laptop to projector. Load Focus on Food Lesson 7 (PowerPoint).
3. Queue the PowerPoint presentation to Slide 20.

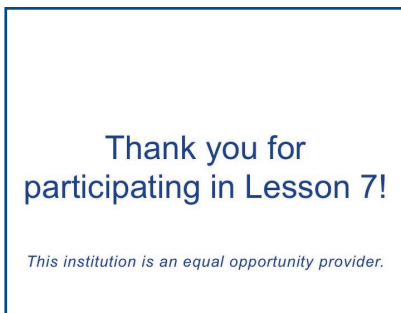
Procedure



Slide 20



Slide 21



Slide 22

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)**
 - What are some ways you can be more aware of the influences on your food choices?
 - 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 (Activity Sheet 7-B)*** 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 7! **(Slide 22)**
5. **Do:** Provide a copy of the ***Focus on Food Lesson 7 Newsletter (Handout 7-C)*** to each participant.

Food Choice Scenarios

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?

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?

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?

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?

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?

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?

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.

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 Environment? Take our Quiz to Find Out! | Page 5 |



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.



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!

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 Justin's food choices.

Health Status

Justin is very healthy and tries to maintain his weight with a balanced diet. Due to this, he is more likely to choose more nutrient-dense foods.

Genes

Justin has a gene that makes bitter foods taste really bitter. Due to this, there are certain foods he will pass on every time.

Special Diet Requirements

Justin has no special diet requirements. This individual factor does not influence his food choice, but may be important for another person.

Mood

Justin is in a great mood! Due to this, he is more willing to go out with friends to eat.



Hunger Level

Justin is very hungry! He's looking forward to a large meal.

Knowledge

Justin reads Local Health Department reports online regularly. These reports help him determine whether he'd like to try a new restaurant or not.

Ethnicity

Justin is part Italian and is always willing to eat Italian cuisine.

Age

Justin is 22 years old. He is interested in trying different ethnic cuisines and new trendy food items.

Personal Income

Justin is a full-time college student and works part-time at the movie theater. After paying for school and rent, he doesn't have much money left for food.

Personal Taste Preference

Justin loves spicy food. He would like to eat something really spicy.

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

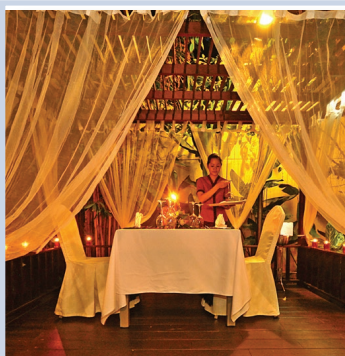
Ever crave ice cream on a hot day? What about a warm bowl of soup when it's cold?

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 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!

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.



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.





Lesson 8 – How Smart is Your Lunchroom?

Background Information

In the 2013-2014 school year, California schools served nearly 560 million lunches and 280 million breakfasts to children 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 by including whole grains, fruits, vegetables, protein, and low-fat dairy. However, many still find it 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.

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 strategies 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, which include: **promoting vegetables and salads**, **increasing sales of reimbursable meals**, **creating school synergies**, 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.

8.1: Learning Activity

Overview

This lesson explores changes that can be made to the lunchroom to influence students to choose and consume healthy options by using Smarter Lunchrooms Movement techniques. In this activity, participants read a handout summarizing some of the key areas of the Smarter Lunchrooms Movement. They are then assigned a menu item and a type of school and are asked to make a plan to promote that menu item using at least three Smarter Lunchroom Techniques. As part of this plan, they are asked to make a poster to promote the item. The posters are then shared with the class during a class discussion.

Getting Ready

Time Required

45 minutes

Materials Needed

(Materials provided in the curriculum)

| | |
|--|--|
| For Each Group of 2-4 Participants <ul style="list-style-type: none"><input type="checkbox"/> Flip chart paper<input type="checkbox"/> Markers, pens, or pencils<input type="checkbox"/> <i>Smarter Lunchrooms Movement (Handout 8-A)</i><input type="checkbox"/> <i>Food of the Day Cards (Lesson Material 8-B)</i> | For the Facilitator <p>Optional:</p> <ul style="list-style-type: none"><input type="checkbox"/> <i>Lesson 8 (PowerPoint)</i><input type="checkbox"/> Computer<input type="checkbox"/> PowerPoint Projector |
| For the Class <ul style="list-style-type: none"><input type="checkbox"/> Craft supplies, such as construction paper, scissors, glue sticks, tape, glue, etc. | For Each Participant <ul style="list-style-type: none"><input type="checkbox"/> None |

Preparation

Handouts

1. Make copies of the following handout:
 - ***Smarter Lunchrooms Movement (Handout 8-A)***, one copy per group.

Other Materials

2. Print and cut out copies of the ***Food of the Day Cards (Lesson Material 8-B)***, one card for each group.

Facilitator Tip: To tailor this activity to your program, create your own food of the day cards for menu items served in your lunchroom, rather than using the ones provided.

Activity Set-up

3. Prepare a table with assorted craft supplies that participants may use to create their poster.

Classroom Set-up

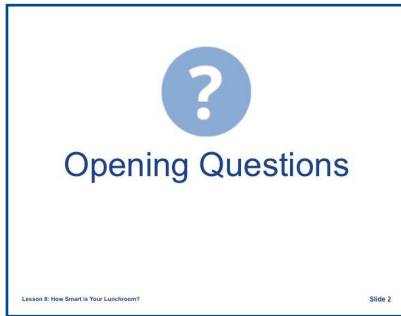
4. Organize the class into small groups of 2 to 4 participants.
5. Provide each group with a sheet of flip chart paper and markers, pens, or pencils to answer opening questions/prompts.

Optional

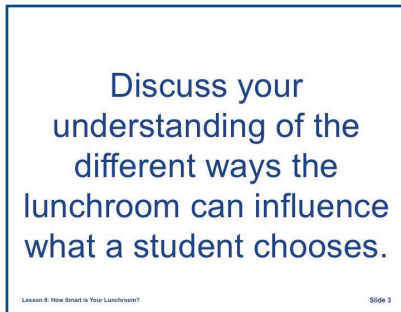
6. Before participants arrive, connect laptop to projector. Load ***Focus on Food Lesson 8*** (PowerPoint).



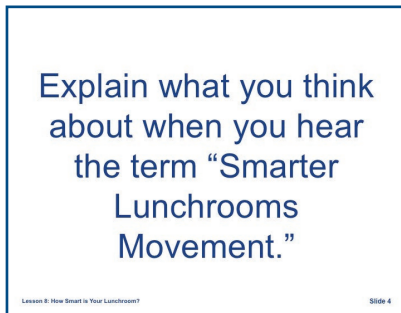
Slide 1



Slide 2



Slide 3



Slide 4

Opening Questions/Prompts

Small Group Discussion

1. **Say:** Let's get started with Lesson 8 – How Smart Is Your Lunchroom! **(Slide 1)** To begin, I'd like everyone to discuss some opening questions within your group. **(Slide 2)** 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.

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)**

Facilitator Tip: Explain to participants 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 learn more about these topics throughout the lesson.

2. **Do:** Allow 2 to 3 minutes for groups to discuss the prompt. Repeat with the remaining prompt:
 - Explain what you think about when you hear the term "Smarter Lunchrooms Movement." **(Slide 4)**

Class Discussion

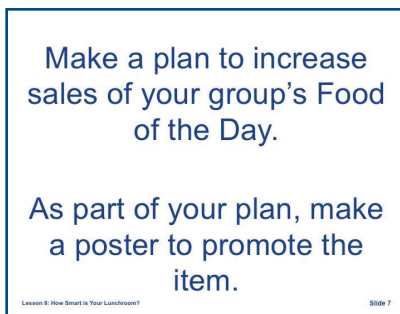
3. **Say:** As a class, let's discuss what you talked about in your groups. What were some of your thoughts on the first prompt, "Discuss your understanding of the different ways the lunchroom can influence what a student chooses?"
4. **Do:** Allow about a minute for participants to share their thoughts on this topic with the class. Repeat with the remaining prompt:
 - Explain what you think about when you hear the term "Smarter Lunchrooms Movement." **(Slide 4)**



Slide 5



Slide 6



Slide 7

Procedure (Experiencing)

Reading About Smarter Lunchrooms

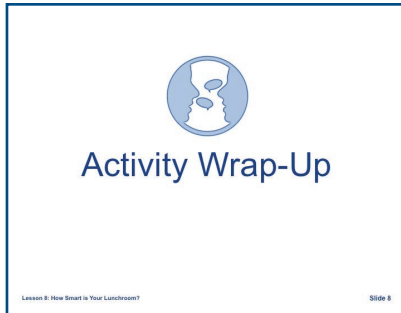
5. **Say:** Now that we've completed our opening discussion, we'll start on the activity for this lesson. **(Slide 5)** This activity involves the Smarter Lunchrooms Movement.
 - You will receive a handout that is about methods that are being used in schools to guide student choices in the lunchroom.
 - Read through the handout within your groups. It might help to take turns reading aloud. **(Slide 6)**
6. **Do:** Hand out a copy of the **Smarter Lunchrooms Movement Handout (Handout 8-A)**, one per group. Allow the groups a few minutes to read through the handout.

Creating a Plan and Poster

7. **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.
8. **Do:** Provide each group with a **Food of the Day Card (Lesson Material 8-B)**.

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.*

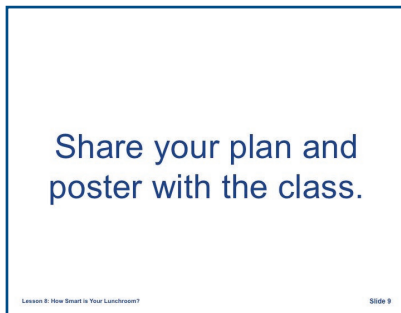


Slide 8

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

9. **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)**

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



Slide 9

- 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.

8.2: Expanding Knowledge

Overview

In this mini-lecture, participants will learn more about the different tactics the Smarter Lunchrooms Movement uses to increase participation and selection and consumption of healthy items.

Getting Ready

Time Required

10 minutes

Materials Needed

(Materials provided in the curriculum)

| | |
|--|---|
| For the Facilitator <ul style="list-style-type: none"><input type="checkbox"/> Lesson 8 (PowerPoint)<input type="checkbox"/> Computer<input type="checkbox"/> PowerPoint Projector | For Each Group of 2-4 Participants <ul style="list-style-type: none"><input type="checkbox"/> None |
| For the Class <ul style="list-style-type: none"><input type="checkbox"/> None | For Each Participant <ul style="list-style-type: none"><input type="checkbox"/> None |

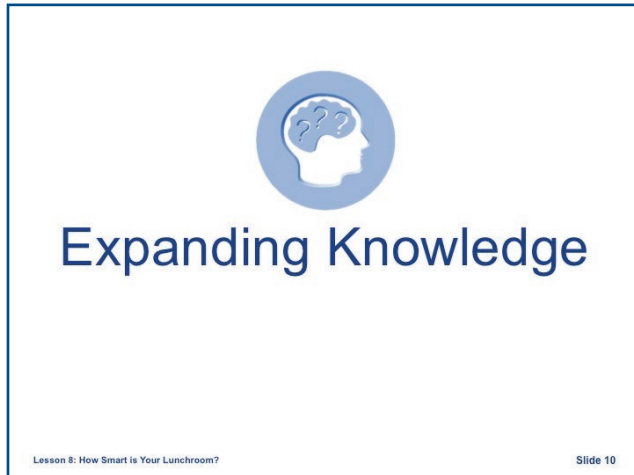
Preparation

Projector Set-up

1. Connect laptop to projector. Load **Focus on Food Lesson 8** (PowerPoint).
2. Queue the PowerPoint presentation to Slide 10.

Procedure

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



Slide 10

Slide 10

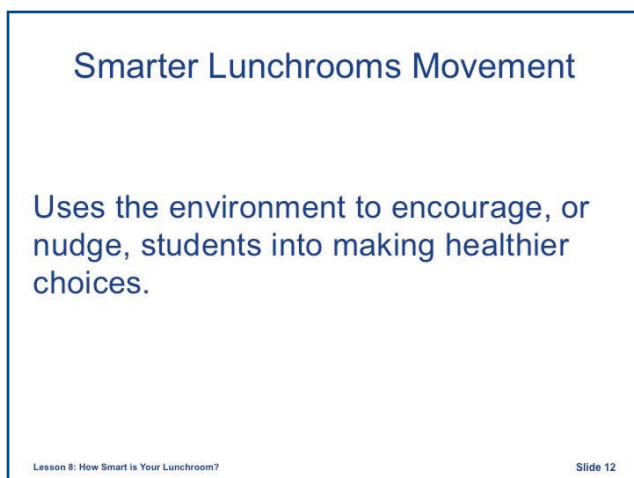
Let's review some of the concepts we learned during Lesson 8, How Smart is Your Lunchroom?



Slide 11

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 12

Slide 12

One tactic of 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.

Smarter Lunchrooms Movement Principles

- Increase convenience
- Improve visibility
- Enhance taste expectations
- Use suggestive selling
- Manage portion sizes
- Set smart pricing strategies

Lesson 8: How Smart is Your Lunchroom?

Slide 13

Slide 13

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.

Increase Convenience

- By making healthy options quicker and easier, students will be more likely to choose them.
- Create a healthy foods convenience or grab-and-go line.



Lesson 8: How Smart is Your Lunchroom?

Slide 14

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 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 8: How Smart is Your Lunchroom?

Slide 15

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.

Lesson 8: How Smart is Your Lunchroom?

Slide 16

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

Promote the next day's menu with signs.



Use colorful, eye-catching signage, menu boards, and name cards.



Lesson 8: How Smart is Your Lunchroom?

Slide 17

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

Try using smaller scoops or spoons for foods you want children to select less of.



Lesson 8: How Smart is Your Lunchroom?

Slide 18

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.

Lesson 8: How Smart is Your Lunchroom? Slide 19

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 8: How Smart is Your Lunchroom? Slide 20

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.]

8.3: Goal Setting Activity

Overview

In this activity, participants review the Smarter Lunchrooms Movement Scorecard and use what they've learned to set goals for getting involved in Smarter Lunchrooms in their school.

Getting Ready

Time Required

5 minutes

Materials Needed

(Materials provided in the curriculum)

| | |
|--|--|
| For the Facilitator Optional: <input type="checkbox"/> Lesson 8 (PowerPoint) <input type="checkbox"/> Computer <input type="checkbox"/> PowerPoint Projector | For Each Group of 2-4 Participants <input type="checkbox"/> None |
| For the Class <input type="checkbox"/> None | For Each Participant <input type="checkbox"/> Goal Setting – How Smart is Your Lunchroom? (Activity Sheet 8-C) <input type="checkbox"/> Smarter Lunchrooms Self-Assessment Scorecard (Handout 8-D) Optional: <input type="checkbox"/> Focus on Food Lesson 8 Newsletter (Handout 8-E) |

Preparation

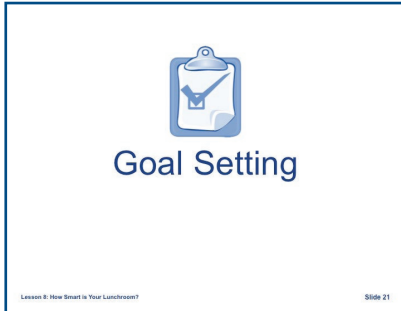
Handouts

1. Make copies of the following handouts:
 - **Goal Setting – How Smart is Your Lunchroom? (Activity Sheet 8-C)**, one for each participant.
 - **Smarter Lunchrooms Self-Assessment Scorecard (Handout 8-D)**, one for each participant.
 - Optional: **Focus on Food Lesson 8 Newsletter (Handout 8-E)**, one for each participant.

Optional

2. Connect laptop to projector. Load **Focus on Food Lesson 8** (PowerPoint).
3. Queue the PowerPoint presentation to Slide 21.

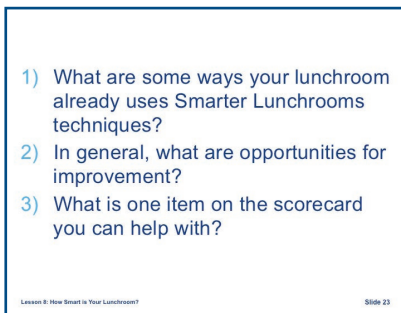
Procedure



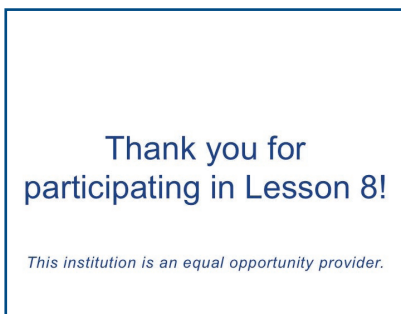
Slide 21



Slide 22



Slide 23



Slide 24

1. **Say:** Now let's move on to Goal Setting! **(Slide 21)** We've talked about the importance of encouraging students to select and consume healthy foods. 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.

Briefly glance over the Scorecard, and then answer the following questions on your Goal Setting Handout: **(Slide 23)**

- What are some ways your lunchroom already uses Smarter Lunchrooms techniques?
 - In general, what are some opportunities for improvement?
 - What is one item on the *Smarter Lunchrooms Self-Assessment Scorecard* you can help with?
2. **Do:** Provide a copy of **Goal Setting – How Smart is Your Lunchroom? (Activity Sheet 8-C)** and **Smarter Lunchrooms Self-Assessment Scorecard (Handout 8-D)** 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 8! **(Slide 24)**
5. **Do:** Provide a copy of the **Focus on Food Lesson 8 Newsletter (Handout 8-E)** to each participant.

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>Creative names</p> <p>One cost-effective way to nudge students is to give foods fun or descriptive names.</p> <p>Examples:</p> <ul style="list-style-type: none"> • Younger students may be drawn to imaginative names like “Silly String Beans” and “X-Ray Vision Carrots.” • Older students might prefer more descriptive names, such as “Garlic Roasted String Beans” and “Succulent Summer Squash.” | <p>Eye appeal</p> <p>The way foods are displayed can also influence whether or not a student selects or eats them.</p> <p>Examples:</p> <ul style="list-style-type: none"> • Place fruits in colorful bowls to make them more appealing to students. • Slicing fruits and vegetables is another way to increase eye-appeal, especially in younger students. |
| <p>Offer variety</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>Examples:</p> <ul style="list-style-type: none"> • Make fruit available at least twice along the lunch line, either by repeating options or by offering two or more options in different places. • Display a mix of apples, oranges, and pears to draw the students' eyes. | <p>Use signage, posters, and menu boards</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>Examples:</p> <ul style="list-style-type: none"> • Try a menu board or poster outside the cafeteria or on the wall where students wait in line to buy lunch. • Grab student's attention by updating signs and posters every few months |

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.

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.

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.

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.

Smarter Lunchrooms Self-Assessment Scorecard

The Smarter Lunchrooms Self-Assessment Scorecard is a resource developed by the Cornell Center for Behavioral Economics in Child Nutrition Program (also called the BEN Center). To download the scorecard, visit the following link.

<https://www.smarterlunchrooms.org/scorecard-tools/smarter-lunchrooms-scorecard>

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.

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 students to choose white milk over flavored milk.

Turn the page to find out what Smarter Lunchrooms is all about!



Smarter Lunchrooms Movement

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 choice.

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 fruit available at least twice along the lunch line, either by repeating options or by offering two or more options in different places.



•••••
• Make sure students can see all the great fruit you offer by displaying it at their eye level.

•••••
• 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 descriptive names.

Studies have shown that labeling a food as "healthy" actually decreases sales. Try using "fresh" to convey a similar idea.

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>

Check your answers at the bottom of the page!

1. False; 2. False; 3. True; 4. False; 5. False; 6. True



Lesson 9 – Nutrition and Academic Success

Background Information

With the passage of the Healthy Hunger-Free Kids Act in 2010 and changes to the National School Lunch Program and School Breakfast Program, there is a growing importance of school meal programs in providing high quality, nutritious meals to children. While improving childhood nutrition is the focus, an often-unexplored benefit of access to school meal programs is the **academic success** of students. For example, research on the academic impact of school breakfast programs on participating students shows an improvement in school attendance, memory, and in some cases standardized test scores. There is even research that suggests school lunches contain more fruits and vegetables than packed lunches, further reinforcing the nutritional quality of school meals. Whether it is from breakfast or lunch, students who receive regular, healthy meals are focused and less tired during class.

Children also need essential nutrients for proper growth and development. Those at risk for nutrient deficiencies benefit greatly from healthy, nutritious school meals. Consider what happens to students who are at risk for iron deficiency and anemia. **Iron deficiency** is caused by low iron in the diet and is one of the most common nutritional disorders for children worldwide. Iron deficiency can result in anemia, developmental issues during early childhood, impaired growth and intellectual development, and changes in brain metabolism that may not be correctable with supplementation later in life. **Anemia** is one of the most prevalent red blood cell disorders with a wide range of symptoms including fatigue, lightheadedness, pale skin, muscle weakness, and fainting. As a result, students who have or are susceptible to iron deficiency and anemia may find it increasingly difficult to be successful in school. The recommendations are for children to consume foods with high iron availability and foods that enhance iron absorption, such as foods with vitamin C. Another concern for children is zinc deficiency, which can result in impaired immune function, which in turn may impact attendance. The National School Lunch Program and School Breakfast Program meal patterns require a variety of foods be served to students that are excellent sources these nutrients.



Communicating the contributions of school meals to student health, well-being, and academic success is one way to help promote school meal programs. To ensure that students are receiving healthy, nutritious meals the support and appreciation of school meals from the entire school community is required. Using **tailored messages** as a form of communication and outreach with school community members may increase their interest and result in higher participation in school meals. School nutrition professionals can tailor their messages to each of these groups to accomplish this. For example, you might explain to teachers that school meals improve concentration during class time. Being knowledgeable about the connection between nutrition and academic success enables school nutrition professionals to advocate for their school meal programs.

Concepts and Vocabulary

Anemia: One of the most prevalent red blood cell disorders with a wide range of symptoms that includes fatigue, lightheadedness, pale skin, muscle weakness and fainting.

Academic Success: A term typically used to describe the attainment of outcomes specific to educational experiences such as grades.

Iron Deficiency: One of the most common nutritional disorders for children worldwide caused by low iron in the diet or present in a form that is poorly absorbed. Iron deficiency can result in anemia, developmental issues during early childhood, impaired growth and intellectual development, and changes in brain metabolism that may not be correctable later in life.

Tailored Messages: A marketing term that addresses the attitudes and beliefs of different target groups to promote key ideas or themes.

Nutrient Deficiency: The result of inadequate consumption or absorption, or excessive loss of a nutrient. It can lead to symptoms of deficiency, which vary by nutrient.

School Community: The school community is an audience that may consist of students, parents, teachers, principals, administrators, nurses, board members, and nutrition personnel. Each group has a level of influence on students' eating habits and perceptions about food.

9.1: Learning Activity

Overview

In this activity, participants will learn about the connection between proper nutrition from school meals and academic success. Participants will then create a tailored message to promote participation in school meal programs for an assigned school community member. The tailored message will be based on what they have learned about nutrition and academic success and brainstorming some of the concerns that their assigned school community member may have.

Getting Ready

Time Required

50 minutes

Materials Needed

(Materials provided in the curriculum)

| | |
|--|---|
| For Each Group of 2-4 Participants <ul style="list-style-type: none"><input type="checkbox"/> Flip chart paper<input type="checkbox"/> Markers, pens, or pencils | For the Facilitator <p>Optional:</p> <ul style="list-style-type: none"><input type="checkbox"/> Lesson 9 (PowerPoint)<input type="checkbox"/> Computer<input type="checkbox"/> PowerPoint Projector |
| For the Class <ul style="list-style-type: none"><input type="checkbox"/> Nutrition and Academic Success Cards (Lesson Material 9-A)<input type="checkbox"/> Promoting School Meal Programs Cards (Lesson Material 9-B) | For Each Participant <ul style="list-style-type: none"><input type="checkbox"/> None |

Preparation

Other Materials

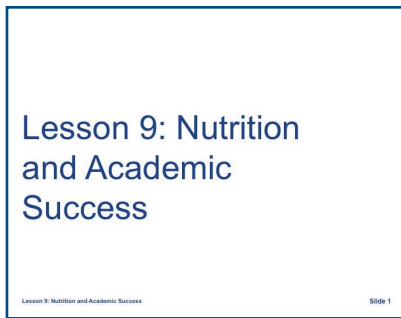
1. Print and cut out copies of the following:
 - ***Nutrition and Academic Success Cards (Lesson Material 9-A)*** so that each group has one of the four different topics.
Facilitator Tip: You may also print and pass out multiple copies of the same card so each group member has one to read.
 - ***Promoting School Meal Programs Cards (Lesson Material 9-B)*** so each group has one of the four different cards.

Classroom Set-Up

2. Organize the class into small groups of 2 to 4 participants.
3. Provide each group with a sheet of flip chart paper and markers, pens, or pencils to answer opening questions/prompts.

Optional

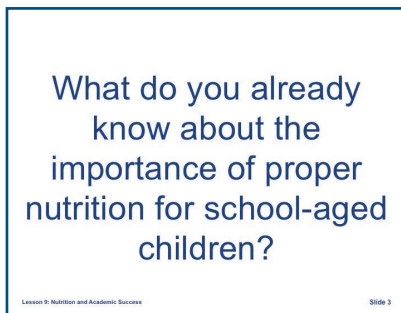
4. Before participants arrive, connect laptop to projector. Load ***Focus on Food Lesson 9 (PowerPoint)***.



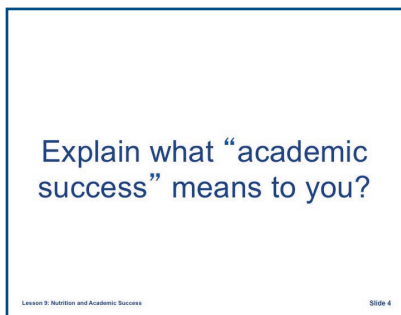
Slide 1



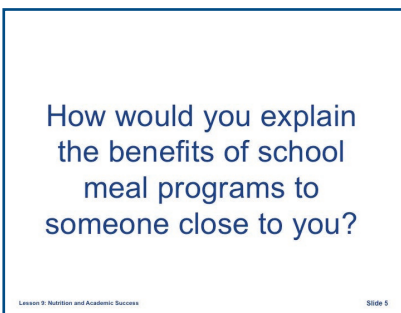
Slide 2



Slide 3



Slide 4



Slide 5

Opening Questions/Prompts

Small Group Discussion

1. **Say:** Let us get started with Lesson 9 – Nutrition and Academic Success! **(Slide 1)** To begin, I would like everyone to discuss some opening questions within your group. **(Slide 2)** Once you have discussed the prompts within your groups, we will come back together as a class and discuss your thoughts and responses as a whole.

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

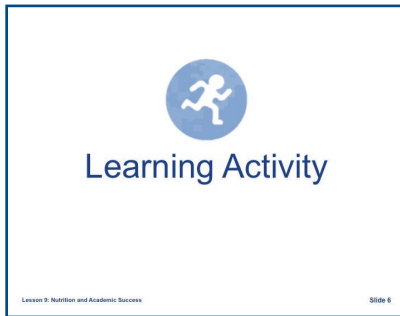
- What do you already know about the importance of proper nutrition for school-aged children? **(Slide 3)**
Facilitator Tip: Explain to participants they may write their answers independently or assign one person in their group to write down everyone's thoughts. It may be helpful to explain to the class that they will learn more about these topics throughout the lesson.

2. **Do:** Allow 2 to 3 minutes for groups to discuss the prompt. Repeat with the remaining two prompts:
 - Explain what "academic success" means to you. **(Slide 4)**
 - How would you explain the benefits of school meal programs to someone close to you? **(Slide 5)**

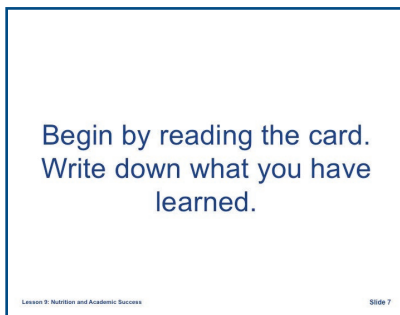
Class Discussion

3. **Say:** As a class, let us discuss what you talked about in your groups. What were some of your thoughts on the first prompt, what do you already know about the importance of proper nutrition for school-aged children? **(Slide 3)**
4. **Do:** Allow about a minute for participants to share their thoughts on this topic with the class. Repeat with the remaining prompts:
 - Explain what "academic success" means to you. **(Slide 4)**
 - How would you explain the benefits of school meal programs to someone close to you? **(Slide 5)**

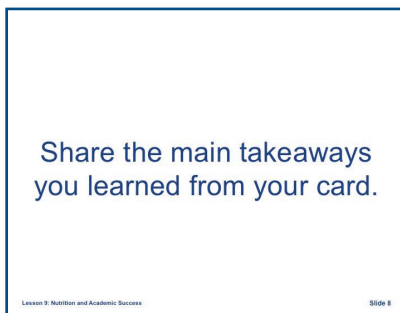
Facilitator Tip: *This sharing phase is a great opportunity to begin to build rapport with participants. Some statements and questions to help engage participants at this phase are, “Tell me more about that”; “What do you mean by...”; “Did anyone else write this?”; “That’s a very popular opinion.” At this stage, it is important 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.*



Slide 6



Slide 7



Slide 8

Procedure (Experiencing)

Small Group Discussion

5. **Say:** Now that we’ve completed our opening discussion, we’ll start on the activity for this lesson. **(Slide 6)** I am going to pass out an info card to each group. These cards have information about the School Breakfast Program, the National School Lunch Program, essential nutrients, and messaging on them. Begin by reading the card and writing down what you learned. We will come back together as a class and discuss it as a whole. **(Slide 7)**
6. **Do:** Provide each group with one of four different ***Nutrition and Academic Success Cards (Lesson Material 9-A)*** and allow groups 3-5 minutes to read.
 - You may also print and pass out multiple copies of the same card to each group so that each member has one to read.
 - You can also encourage groups to write down what they have learned.

Class Discussion

7. **Say:** Let us discuss what your main takeaways were. **(Slide 8)**
8. **Do:** As groups talk about their main takeaways write them down on a flip chart paper that is viewable to the class.

Creating and Presenting Skits

Brainstorm concerns that your school community member may have about school meals.

Lesson 9: Nutrition and Academic Success

Slide 9

Slide 9

9. **Say:** Now I am going to pass out a school community member to each group. First, your group will brainstorm concerns that your assigned school community member may have about school meals or school meal programs. **(Slide 9)** If you are having trouble brainstorming concerns, use the guided questions on your card.

Facilitator Tip: *When groups are brainstorming concerns, make sure their concerns are ones that can be addressed by what they have learned. If necessary, guide their discussions in that direction.*

Respond to one of those concerns by creating a brief skit that includes the information you have learned.

Lesson 9: Nutrition and Academic Success

Slide 10

Slide 10

10. **Do:** Provide each group with a copy of the **Promoting School Meal Programs Cards (Lesson Material 9-B)** and allow groups 3-5 minutes to brainstorm.
11. **Say:** Now as a group, respond to one of those concerns by creating a brief skit that includes the information you have learned in your response. Your skit should be able to demonstrate what concern you are responding to and also promote school meals. **(Slide 10)**

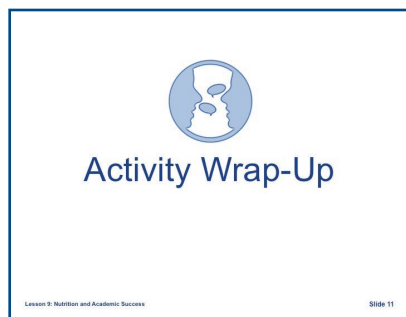
Facilitator Tip: *If you audience is uncomfortable with skits then try reframing it as a roleplaying situation. Emphasize that participants are simply pretending to be other people.*

Facilitator Tip: *Skits should include the main takeaways from the info cards that groups were given. If necessary, guide their discussions in that direction. For example, you may ask questions like, “how are you going to use what you have learned?” or “is there another way to express that?”*

12. **Do:** Allow groups 3-5 minutes or longer to create a skit.
13. **Say:** Lets have each group share their skit with the rest of the class. Before you start, please announce which school community member you have.
14. **Do:** After enough time has passed, have each group announce their school community member and share their skit with the rest of the class.

Activity Wrap-Up (Sharing, Processing, Generalizing)

15. **Say:** Those were great skits! Let us have each group explain what their skits were about and why you chose to perform them like that. **(Slide 11)**
16. **Do:** Allow groups to explain their skits and the reasoning behind them. Follow the group's line of thinking, and if necessary, ask more targeted questions.
 - How were other group's skits similar to yours? How were they different?
 - What did you learn about school meals or school meal programs from watching other group's skits? What did you learn about other school community members from watching other group's skits?
 - What other concerns did you come up with that your school community member may have about school meals?
 - What other responses could you have come up with and demonstrated?
 - Why was tailoring your response the way you did important when addressing that school community member?
 - Why is it important to consider the concerns from school community members?



Slide 11

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:

- School meal programs have a critical role to play in providing students with proper nutrition, which affects their learning experience.
- The nutrition status of students may affect their educational outcomes such as attendance and possibly grades.
- Appreciation of school nutrition programs can be fostered through positive and tailored messages to members of the school community by expressing how these programs contribute to learning.

The following key vocabulary term should be discovered by participants or introduced to them: School Breakfast Program, National School Lunch Program, academic success, school community members, tailoring.

9.2: Expanding Knowledge

Overview

In this mini-lecture, participants will go in-depth on how school nutrition programs benefit students.

Getting Ready

Time Required

5 minutes

Materials Needed

(Materials provided in the curriculum)

| | |
|---|--|
| For the Facilitator <input type="checkbox"/> Lesson 9 (PowerPoint) <input type="checkbox"/> Computer <input type="checkbox"/> PowerPoint Projector | For Each Group of 2-4 Participants <input type="checkbox"/> None |
| For the Class <input type="checkbox"/> None | For Each Participant <input type="checkbox"/> None |

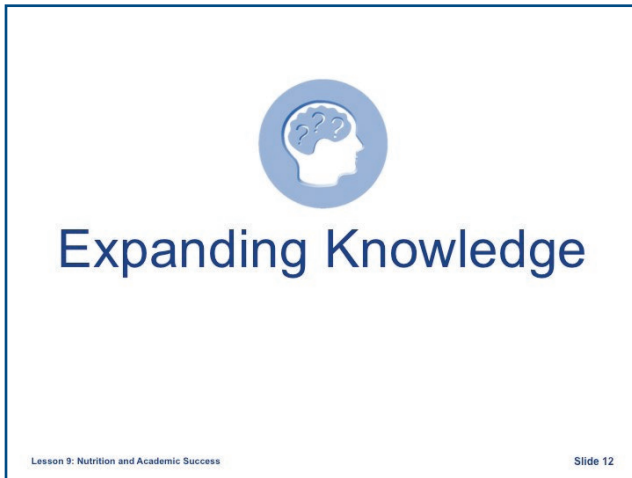
Preparation

Projector Set-Up

1. Connect laptop to projector. Load **Focus on Food Lesson 9** (PowerPoint).
2. Queue the PowerPoint presentation to Slide 12.

Procedure

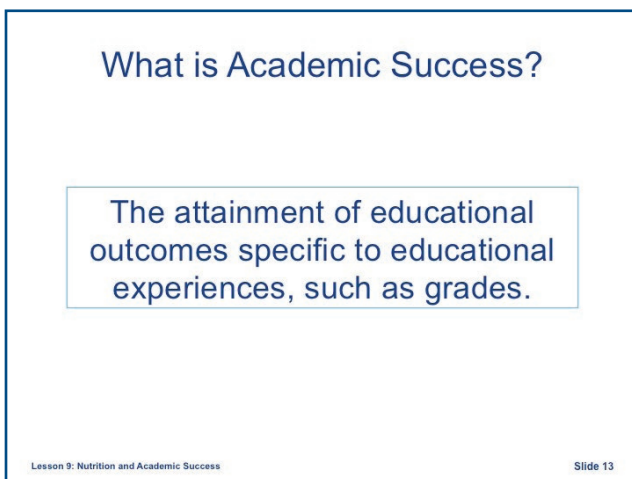
1. Do: Go through the Expanding Knowledge presentation slide by slide. The following script is available for use if you so choose.



Slide 12

Slide 12

That was a great discussion! Now it's time to recap some concepts we learned throughout Lesson 9, Nutrition and Academic Success.

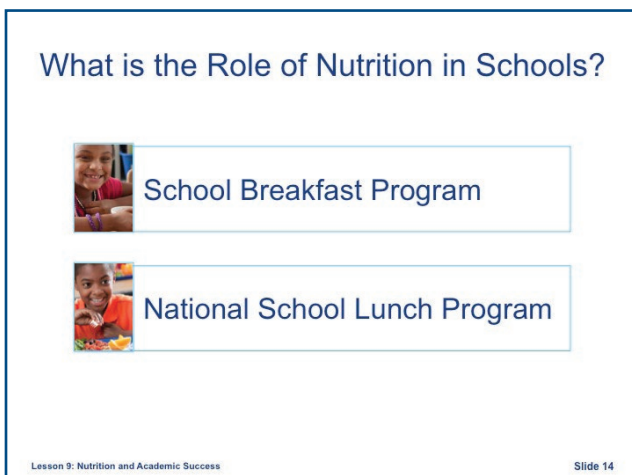


Slide 13

Slide 13

For the purposes of our discussion we define academic success as “the attainment of educational outcomes specific to educational experiences, such as grades.”

Keep in mind that grades are not the only measure of academic success. We will discuss how nutrition affects many components of academic success.



Slide 14

Slide 14

To review, breakfasts, lunches, snacks, and suppers must meet state and federal nutrition requirements as part of the School Breakfast Program and National School Lunch Program. These requirements are designed to raise the nutritional quality of school meals.

These meals are required to have fruits, vegetables, protein, and low-fat dairy.

How might students benefit from these meals?

[Pause to allow responses from the class.]

What is the Role of Nutrition in Schools?



Classroom behavior



Academic standards



Growth and development

Lesson 9: Nutrition and Academic Success

Slide 15

Slide 15

Slide 15

Those are great ideas!

There are many reasons why students may benefit from having healthy meals. Nutrition from healthy meals affects classroom behavior, academic standards, and influences the growth and development of children. We will be discussing how healthy meals affect all three categories.

Classroom Behavior

| Hungry students | Well-fed students |
|--|---|
| Distracted | Show up ready to learn |
| More absences results in less class time | Improved attendance results in more class time. |

Lesson 9: Nutrition and Academic Success

Slide 16

Slide 16

Slide 16

The effects of healthy meals are very apparent in the classroom. For example, hungry students may come to class distracted while well-fed students show up ready to learn. School breakfast programs also reduce absenteeism, resulting in more time spent in class.

Academic Standards

- Improvement in:
 - Memory and cognition
 - Standardized test scores
- Opportunity to develop social skills

Lesson 9: Nutrition and Academic Success

Slide 17

Slide 17

Slide 17

There is evidence that healthy eating results in better grades. Research shows that healthy school meals improve memory and cognition among students. In some cases, school meals were shown to improve students' standardized test scores. School meals also provide an opportunity to develop social skills.

Growth and Development

What nutrients might affect a child's learning potential?

Lesson 9: Nutrition and Academic Success

Slide 18

Slide 18

Slide 18

School meals provide the essential nutrients that students need to protect against illness and fight against deficiency and undernutrition.

What nutrients might have an impact on a child's growth and development?

[Pause to allow responses from the class.]

Iron Deficiency

- Possible outcomes:
 - Anemia
 - Developmental issues
 - Impaired growth and development
 - Changes in brain chemistry

Lesson 9: Nutrition and Academic Success

Slide 19

Slide 19

Slide 19

Those are great examples!

A big concern for children is iron deficiency. Iron deficiency can result in anemia, developmental issues during early childhood, impaired growth and development, and changes in brain chemistry that may not be correctable later in life.

What are some sources of iron?

[Pause to allow responses from the class.]

Anemia

- A red blood cell disorder
- Symptoms include:
 - Fatigue
 - Lightheadedness
 - Pale skin
 - Muscle weakness
 - Fainting

Lesson 9: Nutrition and Academic Success

Slide 20

Slide 20

Slide 20

Anemia is one the most prevalent red blood cell disorders with a wide range of symptoms including fatigue, lightheadedness, pale skin, muscle weakness, and fainting.

Anemia has serious consequences for children in school. Since iron deficiency is the most common cause of anemia so knowing food sources of iron is important.

Zinc Deficiency

- Possible outcomes:
 - Impaired immune function
 - Stunted growth


Lesson 9: Nutrition and Academic Success Slide 21

Slide 21


Slide 21

Another nutrient of concern is zinc. Zinc deficiency can result in stunted growth and impaired immune function which may impact attendance.

What else is important for learning?



Proper hydration improves focus



School meals are cost effective

Lesson 9: Nutrition and Academic Success Slide 22

Slide 22

Slide 22

There are also many other reasons why school meals help students learn.

Hydration improves cognitive function in children which is important for learning and school meals are a cost effective way to combat food insecurity, hunger, and undernutrition.

The importance of school meals

- Practice healthy eating behaviors
- Provide nutrient-rich foods
- Offer academic benefits to students

Lesson 9: Nutrition and Academic Success Slide 23

Slide 23

Slide 23

Schools are in a unique position to provide students with opportunities to learn about and practice healthy eating behaviors.

The School Breakfast Program and National School Lunch Program provide a variety of foods to students that are excellent sources of important nutrients.

School meals also provide many important academic benefits to students. Being knowledgeable about these contributions is one way to help promote school meal programs.

9.3: Goal Setting Activity

Overview

In this activity, participants will use what they have learned about school nutrition and academics to set goals for communicating with members of the school community.

Getting Ready

Time Required

5 minutes

Materials Needed

(Materials provided in the curriculum)

| | |
|--|--|
| For the Facilitator Optional: <input type="checkbox"/> Lesson 9 (PowerPoint) <input type="checkbox"/> Computer <input type="checkbox"/> PowerPoint Projector | For Each Group of 2-4 Participants <input type="checkbox"/> None |
| For the Class <input type="checkbox"/> None | For Each Participant <input type="checkbox"/> Goal Setting – Nutrition and Academic Success (Activity Sheet 9-C) Optional: <input type="checkbox"/> Focus on Food Lesson 9 Newsletter (Handout 9-D) |

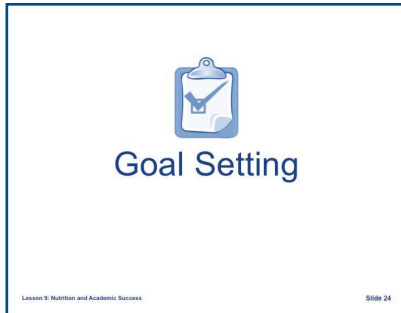
Preparation

Handouts

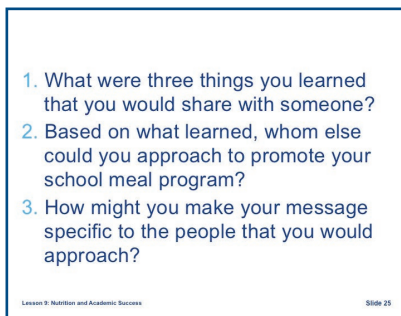
1. Make copies of the following handouts:
 - **Goal Setting – Nutrition and Academic Success (Activity Sheet 9-C)**, one for each participant.
 - Optional: **Focus on Food Lesson 9 Newsletter (Handout 9-D)**, one for each participant.

Projector Set-Up

2. Connect laptop to projector. Load Focus on Food Lesson 9 (PowerPoint).
3. Queue the PowerPoint presentation to Slide 24.



Slide 24



Slide 25



Slide 26

Procedure

1. **Say:** Now let us move onto Goal Setting! **(Slide 24)** We have learned about the role school nutrition programs can play in helping children reach their academic potential. The next step is to set some goals and make a plan. I am going to distribute a Goal Setting Handout which has the following questions: **(Slide 25)**
 - What were three things you learned that you would share with someone?
 - Based on what you learned, whom else could you approach to promote your school meal program?
 - How might you make your message specific to the people that you would approach?
2. **Do:** Provide a copy of the ***Goal Setting – Nutrition and Academic Success Handout (Activity Sheet 9-C)*** 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?
4. **Do:** Allow participants to share their goals.

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 8! **(Slide 26)**
6. **Do:** Provide a copy of the ***Focus on Food Lesson 9 Newsletter (Handout 9-D)*** to each participant.

Nutrition and Academic Success Cards

Research suggests that there is connection between school breakfast programs and academic success.

- One study compared students' standardized test scores before and after implementing a school breakfast program. Students who participated saw improvements in their test scores compared to students who did not participate.
- More than one study has also shown that participating in school breakfast could help improve attendance.
- School breakfast contains many of the nutrients students need to grow. Students who participate in school breakfast are also less likely to experience hunger during class.
- Eating breakfast regularly, whether at home or school, is a great way for students to see health and academic benefits.

The National School Lunch Program is based on nutrition recommendations from the Dietary Guidelines for Americans.

- The Dietary Guidelines are designed to help Americans of all ages make food choices that add up to a healthy eating pattern.
- A healthy eating pattern includes fruits, vegetables, protein, grains, and plant oils. These include vegetables from a variety of colored subgroups, whole grains, and whole fruit. A healthy eating pattern also limits added sugar, saturated fat, and sodium.
- Following a healthy eating pattern can help a person maintain a healthy body weight, get all the nutrients they need, and reduce the risk of chronic disease.
- The current meal pattern helps promote healthy eating patterns in schools by including a variety of fruits, vegetables, and whole grains.

School meals provide essential nutrients for proper growth and development.

When someone doesn't consume enough of a nutrient they need, that person could develop a nutrient deficiency.

Students who have a nutrient deficiency may find it more difficult to be successful in school. For example, iron deficiency is caused by low iron in the diet. This can result in anemia.

Anemia is a red blood cell disorder that can cause a wide range of symptoms. These symptoms include fatigue, lightheadedness, and fainting, which can make it hard for at student with anemia to learn.

Other deficiencies in zinc, B vitamins, and omega-3 fatty acids have been shown to affect the cognitive development of children. Over time, the effects of these nutrient deficiencies can might lead to student absences, or make it harder for them to learn.

School meal programs benefit from a variety of marketing goals and messaging strategies.

Marketing school meal programs is a way to influence the diet and health of youth.

Good marketing treats students like customers and delivers age-appropriate nutrition messages. As a result, these students may be more receptive to school meals and less so to outside competition.

Even if you do not have a marketing background, there are goals that non-marketers can aim for.

Start by creating a positive image of the school meal program. Promote good food and nutrition education. Use clear, compelling, and specific messages to attract different members of the school community.

For example, you might suggest to students that school meals are great to enjoy time with friends. Parents might be interested in the health benefits of school meals.

Combine marketing goals and messaging strategies to have a positive effect on students' eating behaviors!

Appendix 9B – Promoting School Meal Programs

Students

- What are some of their main concerns about school meals?
- What are their expectations about school meals?
- How might this audience benefit from knowing what you have learned?

Parents

- What are some of their main concerns about school meals?
- What are their expectations about school meals?
- How might this audience benefit from knowing what you have learned?

Teachers

- What are some of their main concerns about school meals?
- What are their expectations about school meals?
- How might this audience benefit from knowing what you have learned?

Principals

- What are some of their main concerns about school meals?
- What are their expectations about school meals?
- How might this audience benefit from knowing what you have learned?

Goal Setting – Nutrition and Academic Success

1. What were three things you learned that you would share with someone?
2. Based on what you learned, who else could you could approach to promote your school meal program?
3. How might you make your message specific to the people that you would approach?

Focus on Food Lesson 9 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.

Nutrition and Academic Success

In this issue...

Healthy Foods and Learning Page 2

Spotlight on Iron and Zinc Page 2

Getting Your Message Out Page 3

Test your knowledge!
Take the nutrition and academic success quiz! Page 3



The role of nutrition in academic success

Academic success means different things to different people. For one person it might mean good grades, but to another it might mean finishing school with the tools needed to be a productive member of society. However you choose to define it, good nutrition can be an important factor because it contributes to a student's ability to learn.

Turn the page to learn more about nutrition and academic success!



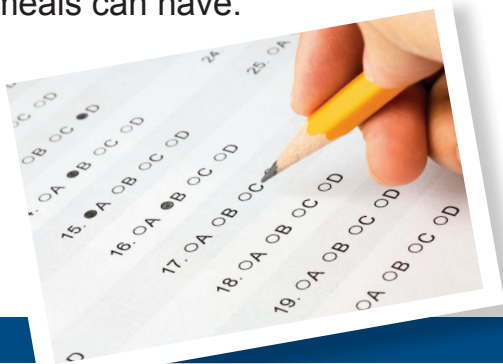
Did you know?

Iron deficiency can make it harder for children to learn.



Healthy Foods and Learning

We know that healthy meals help students learn, but how? First, they provide the nutrients students need to fuel their brains and bodies. Hungry students may be distracted while well-fed students are more likely to show up ready to learn. Healthy eating may even lead to better tests scores! Of course, school breakfast and lunch are a great way for students to get the healthy foods they need to learn. Last year, over five billion school lunches and over two billion school breakfasts were served nationwide. That's a lot of meals served to kids! It just goes to show how much of an impact school meals can have.



Spotlight on Iron and Zinc

Iron is one of many nutrients that are important for learning. Not enough iron in the diet can lead to anemia. Anemia means that red blood cells aren't able to move enough oxygen around in the blood. Some of the symptoms of anemia are lightheadedness, muscle weakness, and fainting, which can make it harder for students to learn.

Zinc is another nutrient than can have an impact on student success, but for a different reason. When a person's diet doesn't have enough zinc, this might result in their immune system not working as well as it could. When that happens to a student, it could lead to more illnesses and missed days of school.

Encourage students to choose foods that are good sources of these nutrients, including meat, beans, and dark green veggies for iron, and whole grains, nuts, and legumes for zinc.

Getting Your Message Out

Sharing how school meals can contribute to student health, well-being, and academic success is one way to help promote your program. Different members of the school community will have different priorities. That's why it's important to tailor your message when promoting school meals. For example, you might explain

to teachers that school meals improve concentration during class time. But for parents, you might want to tell them about how school meals contain nutrients that help students learn. Being able to share the connection between nutrition and academic success can help you advocate for your school meal program.

Test your knowledge with the nutrition and academic success quiz!

1. Which of these nutrients is important in preventing anemia?
 - a. Iron
 - b. Carbohydrates
 - c. Vitamin D
 - d. Thiamin
2. How many lunches were served in the National School Lunch Program last year?
 - a. 200,000
 - b. 8 million
 - c. 50 million
 - d. 5 billion
3. True or false: Nuts are a source of zinc.
 True
 False



The Results are In!

If you got all three right:

You really know the connection between nutrition and academic success!

If you got two right:

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

If you got one or less right:

It just means you have more chances to learn! Try reading through this newsletter again to learn more about what you missed.

Check your answers at the bottom of the page!

1. a; 2. d; 3. True



Lesson 10 – Working Toward Wellness

Background Information

Schools play an important role in improving students' health and social outcomes, and 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.



Each **Local School Wellness Policy** is required to have certain components. Policies must have specific goals for nutrition promotion and education, physical activity, and other school-based activities that promote student wellness. Districts must have nutrition guidelines for all foods available on the school campus; these standards must be consistent with Federal regulations for school meals and competitive foods. In addition, there must be policies in place that only allow for marketing and promotion of foods that meet USDA Smart Snacks in Schools standards. The process of developing, assessing, updating, and sharing the policy must involve the school community (such as teachers, administrators, school meals program staff, etc.) and the general public. The wellness policy needs to be available to the public, and assessed every three years. The results of the assessment, as well as any updates or progress, must be made available to the public as well.

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.

10.1: Learning Activity

Overview

In this activity, participants learn about local school wellness policies by creating their own ideal wellness policy. Participants start off by brainstorming on sticky notes different ways a school can support wellness. Next, the groups are provided with a handout about district wellness policy requirements, and are asked to organize their ideas into the different categories of wellness policy requirements. Using that as a foundation, they create their ideal wellness policy by filling in any gaps in the requirements.

Getting Ready

Time Required

45 minutes

Materials Needed

(Materials provided in the curriculum)

| | |
|---|---|
| For Each Group of 2-4 Participants <ul style="list-style-type: none"><input type="checkbox"/> Flip chart paper (one sheet for Opening Questions and one sheet for creating their wellness policy)<input type="checkbox"/> Markers, pens, or pencils<input type="checkbox"/> <i>District Wellness Policy Requirements (Handout 10-A)</i><input type="checkbox"/> 1.5" x 2" colored sticky notes (four pads per group) | For the Facilitator <p>Optional:</p> <ul style="list-style-type: none"><input type="checkbox"/> <i>Lesson 10 (PowerPoint)</i><input type="checkbox"/> Computer<input type="checkbox"/> PowerPoint Projector |
| For the Class <ul style="list-style-type: none"><input type="checkbox"/> None | For Each Participant <ul style="list-style-type: none"><input type="checkbox"/> None |

Preparation

Handouts

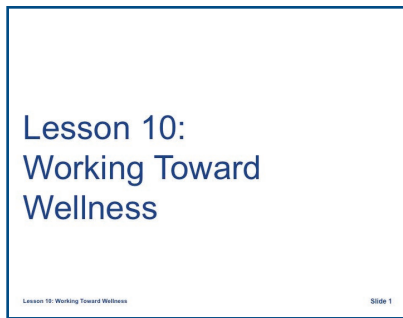
1. Make copies of the following handout:
 - ***District Wellness Policy Requirements (Handout 10-A)***, one copy per group.

Classroom Set-up

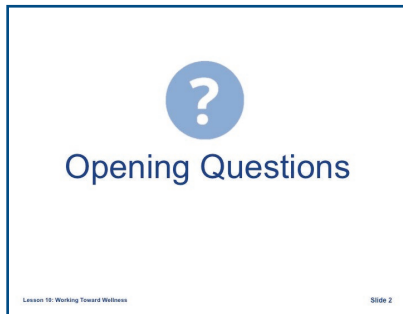
2. Organize the class into small groups of 2 to 4 participants.
3. Provide each group with a sheet of flip chart paper and markers, pens, or pencils to answer opening questions/prompts.

Optional

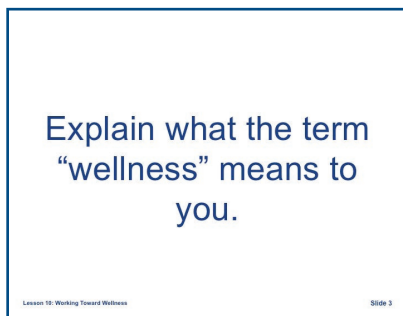
4. Before participants arrive, connect laptop to projector. Load ***Focus on Food Lesson 10*** (PowerPoint).



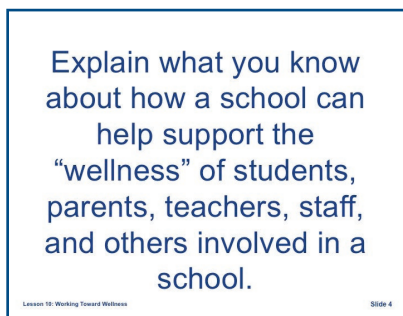
Slide 1



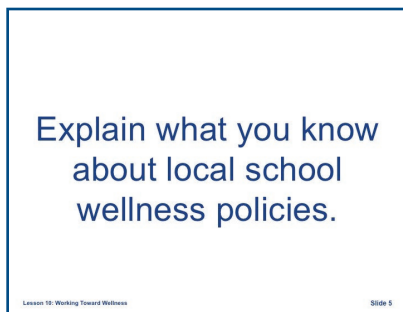
Slide 2



Slide 3



Slide 4



Slide 5

Opening Questions/Prompts

Small Group Discussion

1. **Say:** Let's get started with Lesson 10 – Working Toward Wellness! **(Slide 1)** To begin, I'd like everyone to discuss some opening questions within your group. **(Slide 2)** 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.

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

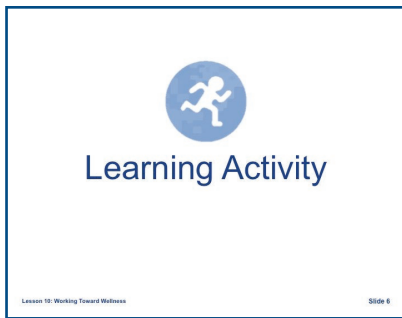
- Explain what the term "wellness" means to you. **(Slide 3)**

Facilitator Tip: Explain to participants 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 learn more about these topics throughout the lesson.

2. **Do:** Allow 2 to 3 minutes for groups to discuss the prompt. Repeat with the remaining prompts:
 - 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)**
 - Explain what you know about local school wellness policies. **(Slide 5)**

Class Discussion

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 the term "wellness" means to you?"
4. **Do:** Allow about a minute for participants to share their thoughts on this topic with the class. Repeat with the remaining prompts:
 - 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)**
 - Explain what you know about local school wellness policies. **(Slide 5)**



Slide 6

Procedure (Experiencing)

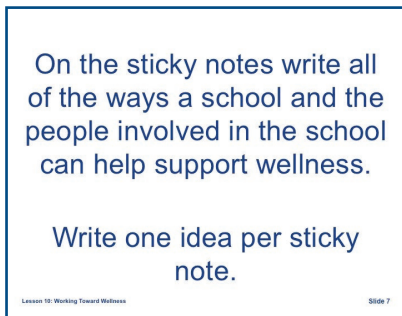
Brainstorming

5. **Say:** Now that we've completed our opening discussion, we'll start on the activity for this lesson. **(Slide 6)** 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.

6. **Do:** Provide each group with 1.5" x 2" colored sticky notes (four pads per group). 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?"



Slide 7

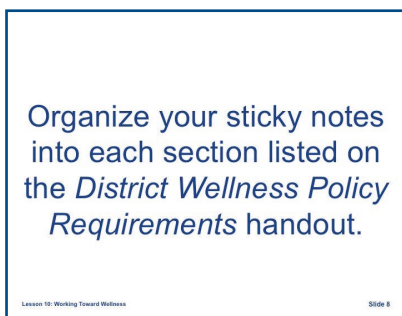
Creating an Ideal Wellness Policy

7. **Say:** Now I'm going to distribute a handout about District Wellness Policy Requirements. Organize your sticky notes into each component listed on the **District Wellness Policy Requirements**. **(Slide 8)**

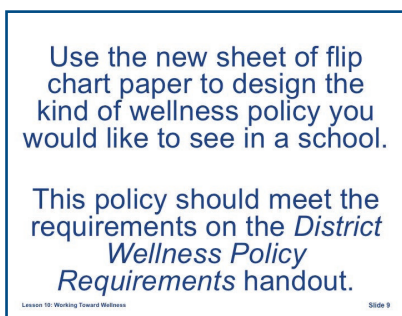
8. **Do:** Provide each group with a copy of **District Wellness Policy Requirements (Handout 10-A)**. Allow participants a few minutes to organize their sticky notes.

9. **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)**

- Think of it as your "ideal" wellness policy.



Slide 8



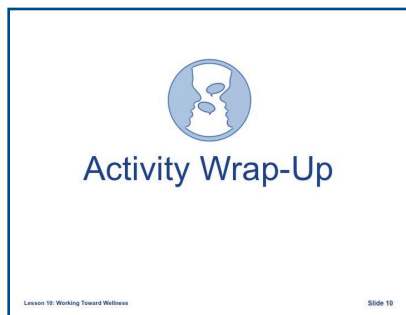
Slide 9

- Your policy should meet the requirements on the ***District Wellness Policy Requirements*** handout.
10. **Do:** Hand out a new, blank piece of flip chart paper to each group. Allow participants several minutes to brainstorm create their ideal wellness policy.

Facilitator Tip: Encourage participants 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)



Slide 10

11. **Say:** Let's have each group share their wellness policy with the class. **(Slide 10)**
12. **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.

10.2: Expanding Knowledge

Overview

In this mini-lecture, participants will learn more about the different requirements of a Local School Wellness Policy and some ways schools are implementing them.

Getting Ready

Time Required

10 minutes

Materials Needed

(Materials provided in the curriculum)

| | |
|---|---|
| For the Facilitator <ul style="list-style-type: none"><input type="checkbox"/> Lesson 10 (PowerPoint)<input type="checkbox"/> Computer<input type="checkbox"/> PowerPoint Projector | For Each Group of 2-4 Participants <ul style="list-style-type: none"><input type="checkbox"/> None |
| For the Class <ul style="list-style-type: none"><input type="checkbox"/> None | For Each Participant <ul style="list-style-type: none"><input type="checkbox"/> None |

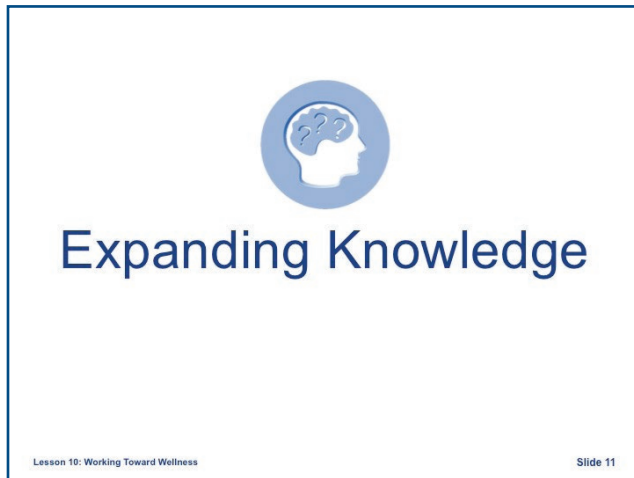
Preparation

Projector Set-up

1. Connect laptop to projector. Load **Focus on Food Lesson 10** (PowerPoint).
2. Queue the PowerPoint presentation to Slide 11.

Procedure

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



Slide 11

Slide 11

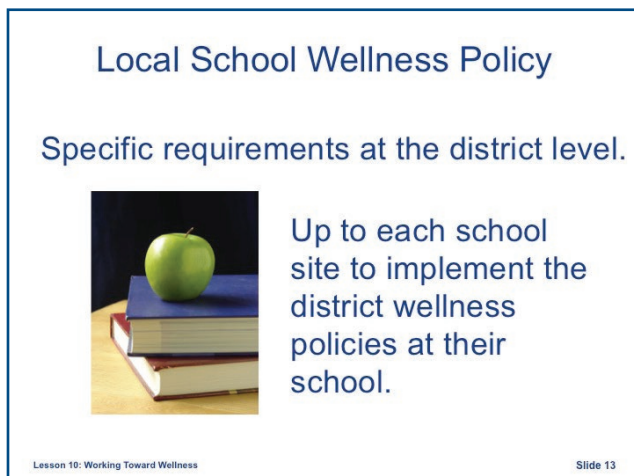
That was a great discussion! Now it's time to recap some concepts we learned throughout Lesson 10, working toward wellness.



Slide 12

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 schools 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 13

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.

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 14

Slide 14

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.

District Wellness Policy Requirements

Include goals that promote good nutrition in schools.

Examples:

- “School lunchrooms should advertise healthy foods”
- “Teachers use non-food items to reward students”



Lesson 10: Working Toward Wellness Slide 15

Slide 15

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.]

District Wellness Policy Requirements

Include goals for teaching nutrition in the classroom, coordinating with the school lunchroom.

Examples:



“Students of all grade levels learn about nutrition in the classroom”

“School lunchrooms feature foods that students are learning about in class”

Lesson 10: Working Toward Wellness Slide 16

Slide 16

Slide 16

Wellness policies should also include goals for teaching nutrition in the classroom and coordinating nutrition messages 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.]

District Wellness Policy Requirements

Include goals for student's physical activity.

Example:

"In addition to recess, students are given the opportunity to be physically active at least 200 minutes a week"



Lesson 10: Working Toward Wellness

Slide 17

Slide 17

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.]

District Wellness Policy Requirements

Include goals to support other areas of student wellness.



Example:

"Schools will provide services that emphasize student support, advocacy, and resiliency building."

Lesson 10: Working Toward Wellness

Slide 18

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, and/or 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

Include nutrition guidelines for all foods available on the school campus, with the goal of promoting student health.

Example:

"Schools abide by the USDA meal patterns and food safety guidelines"



Lesson 10: Working Toward Wellness

Slide 19

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

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.



Example:

“All schools have a wellness committee with diverse members to design and carry out policy”

Lesson 10: Working Toward Wellness

Slide 20

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

The district checks that schools are following the wellness policy. The results are made available to the public.



Example:

“The wellness committee assesses each school’s progress with wellness policy implementation once a year. Results are posted on the district website.”

Lesson 10: Working Toward Wellness

Slide 21

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

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.

Example:

“Each school provides a public newsletter that highlights new wellness policies being implemented in each school”



Lesson 10: Working Toward Wellness

Slide 22

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

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.



Lesson 10: Working Toward Wellness Slide 24

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.

10.3: Goal Setting Activity

Overview

In this activity, participants will use what they've learned to set goals about becoming involved in their local school wellness policy.

Getting Ready

Time Required

5 minutes

Materials Needed

(Materials provided in the curriculum)

| | |
|---|--|
| For the Facilitator Optional: <input type="checkbox"/> Lesson 10 (PowerPoint) <input type="checkbox"/> Computer <input type="checkbox"/> PowerPoint Projector | For Each Group of 2-4 Participants <input type="checkbox"/> None |
| For the Class <input type="checkbox"/> None | For Each Participant <input type="checkbox"/> Goal Setting – Working Toward Wellness (Activity Sheet 10-B) Optional: <input type="checkbox"/> Focus on Food Lesson 10 Newsletter (Handout 10-C) |

Preparation

Handouts

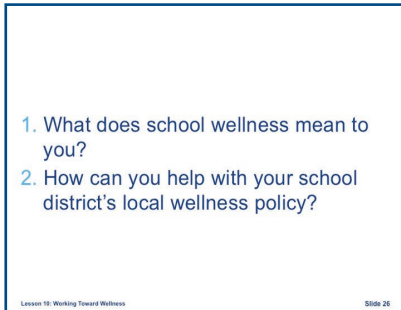
1. Make copies of the following handouts:
 - **Goal Setting – Working Toward Wellness (Activity Sheet 10-B)**, one for each participant.
 - Optional: **Focus on Food Lesson 10 Newsletter (Handout 10-C)**, one for each participant.

Projector Set-up

2. Connect laptop to projector. Load **Focus on Food Lesson 10** (PowerPoint).
3. Queue the PowerPoint presentation to Slide 25.



Slide 25



Slide 26



Slide 27

Procedure

1. **Say:** Now let's move on to Goal Setting! **(Slide 25)** We've talked about how 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)**
 - What does school wellness mean to you?
 - How can you help with your school district's local wellness policy?
2. **Do:** Provide a copy of the **Goal Setting – Working Toward Wellness Handout (Handout 10-B)** 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 10! **(Slide 27)**
5. **Do:** Provide a copy of the **Focus on Food Lesson 10 Newsletter (Handout 10-C)** to each participant.

District Wellness Policy Requirements

The Local Wellness Policy federal mandate requires that, at a 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.

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?

Focus on Food Lesson 10 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!

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.

Where do 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.



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 food goals, the district added healthier options to vending machines, cafeterias, and featured snack shops with 100% healthful foods.



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.

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

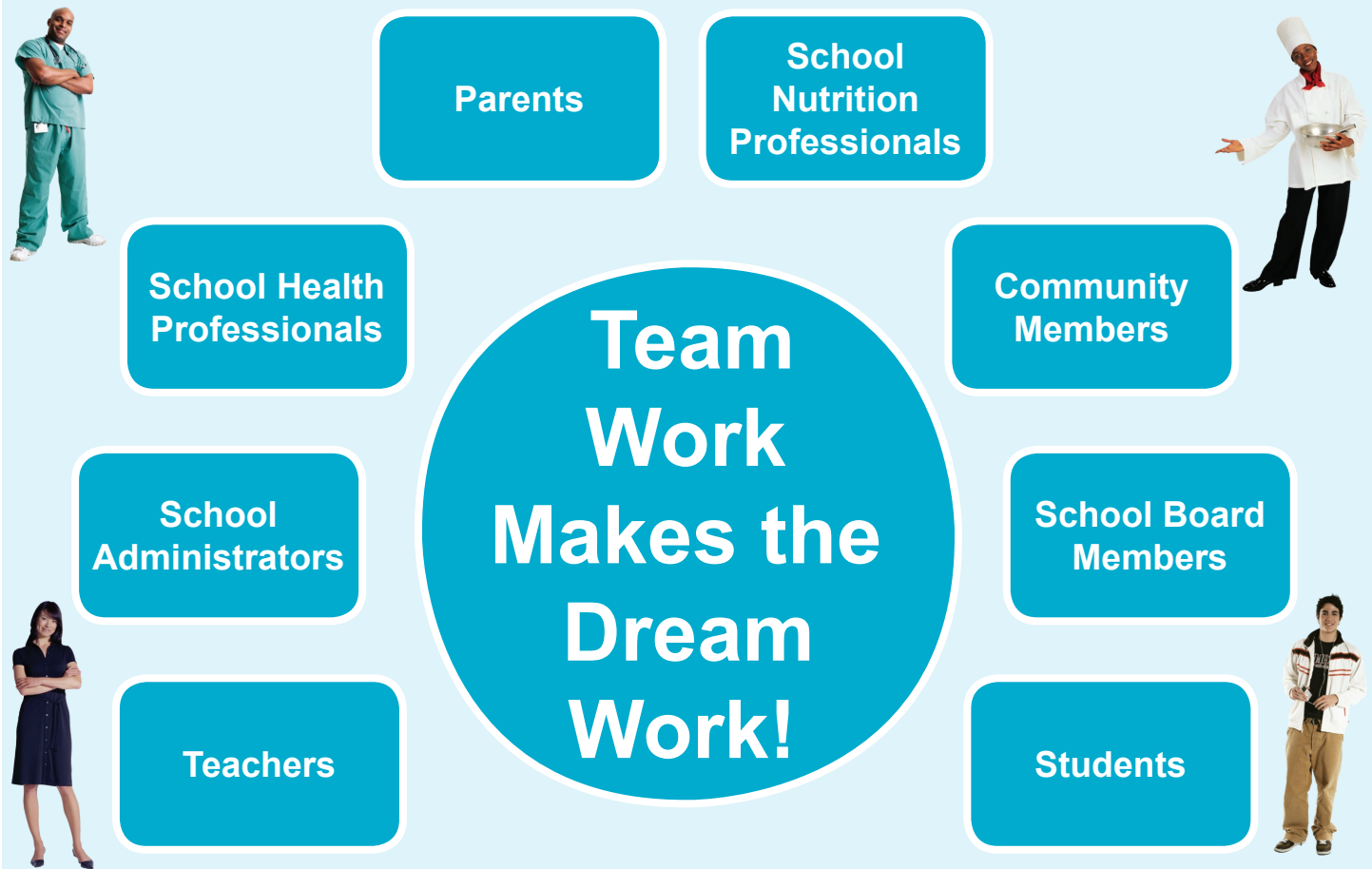
People in the community should help design and carry out the policy.



Check-Up

The district should check that the policy is working from time to time.





Schools play an important role in improving students' health and social outcomes, as well as promoting academic success. The above community members should be involved in the development, implementation, review, and update of the Local School Wellness Policy to best provide for the students.

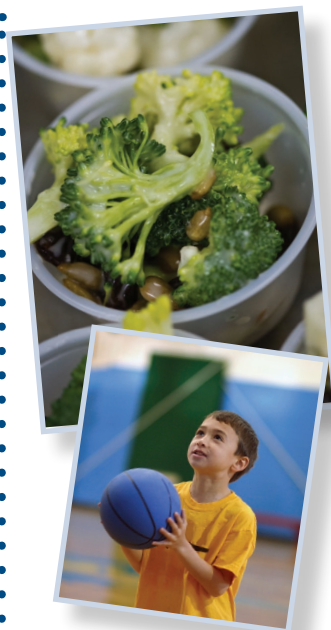
School Wellness Success! Clinton, Mississippi

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!



1. Local School Wellness Policies are required for every school site.
 True
 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.
 True
 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.
 True
 False
4. The Healthy, Hunger-Free Kids Act of 2010 eliminated the requirement to have a Local School Wellness Policy for each district.
 True
 False
5. Most school districts will have a link to their Local School Wellness Policy on their website.
 True
 False

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/>

Check your answers at the bottom of the page!

1. b; 2. b; 3. a; 4. b; 5. a

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Cover:

- a. Salad bowl: Microsoft Clip Art

Repeated in Each Lesson:

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Introduction:

1. Cover
 - a. Sliced peppers in skillet: Microsoft Clip Art

Lesson 1:

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 - a. Blueberries: Microsoft Clip Art
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1. Lesson Images
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3. Newsletter Images

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- b. Variety of food: Creative Commons Zero, image via pixabay.com
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Lesson 3:

1. Lesson Images

- a. Jump rope: Microsoft Clip Art
- b. Hula hooping girl: Microsoft Clip Art

2. PowerPoint Images

- a. Man taking pulse (shading modified, blurred slightly): Public Domain, image via Wikimedia
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- a. All MyPlate images: USDA. Public Domain.
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Lesson 6:

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 - a. Strawberries: Microsoft Clip Art
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 - a. Watermelon: Microsoft Clip Art
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 - c. Man and daughter: Microsoft Clip Art

- d. Thinking man: Creative Commons Zero, image via Pixabay.com
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 - g. Capitol: Architect of the Capitol derivative work: Crisco 1492 (United_States_Capitol_-_west_front.jpg) [Public domain], via Wikimedia Commons
 - h. Kids eating lunch: Microsoft Clip Art
 - l. Salad being served: Ezra Gregg, DC Central Kitchen / Flickr/ CC-BY-SA-2.0. <https://creativecommons.org/licenses/by-sa/2.0/>
 - i. Salad: Creative Commons Zero, image via pixabay.com
 - j. Kids playing: Pete (originally posted to Flickr as determination_0970) [CC BY-SA 2.0 (<http://creativecommons.org/licenses/by-sa/2.0/>)], via Wikimedia Commons
 - k. Vegetable skewers: Creative Commons Zero, image via pixabay.com
 - l. Vegetables: Microsoft clip art

Lesson 8:

- 1. Lesson Images
 - a. Tomatoes: Microsoft Clip Art
 - b. Salad bar: USDA/ Flickr / CC-BY-SA-2.0. <https://creativecommons.org/licenses/by-sa/2.0/>
- 2. PowerPoint Images
 - a. Food on trays: USDA/ Flickr / CC-BY-SA-2.0. <https://creativecommons.org/licenses/by-sa/2.0/>
 - m. School lunch grab and go: USDA/ Flickr / CC-BY-SA-2.0. <https://creativecommons.org/licenses/by-sa/2.0/>
 - b. Salad bar: USDA/ Flickr / CC-BY-SA-2.0. <https://creativecommons.org/licenses/by-sa/2.0/>
 - c. What's New sign: Creative Commons Zero, image via pixabay.com
 - d. Apples: Microsoft Clip Art
 - e. School nutrition employees and students: USDA/ Flickr / CC-BY-SA-2.0. <https://creativecommons.org/licenses/by-sa/2.0/>
- 3. Newsletter Images
 - a. Smiling children eating lunch: USDA/ Flickr / CC-BY-SA-2.0. <https://creativecommons.org/licenses/by-sa/2.0/>

- b. Light bulb: Creative Commons Zero, image via pixabay.com
- c. Boy drinking milk: Microsoft Clip Art
- d. Fruit: Microsoft Clip Art
- e. Children with fruit kabobs: USDA/ Flickr / CC-BY-SA-2.0. <https://creativecommons.org/licenses/by-sa/2.0/>
- f. Fruit and vegetable bar: USDA/ Flickr / CC-BY-SA-2.0. <https://creativecommons.org/licenses/by-sa/2.0/>
- g. Child with plate and silverware: Microsoft Clip Art
- h. Children with lunch trays: USDA/ Flickr / CC-BY-SA-2.0. https://creativecommons.org/licenses/by-sa/2.0
- i. Vegetables: Microsoft Clip Art
- j. Veggie wrap: USDA/ Flickr / CC-BY-SA-2.0. https://creativecommons.org/licenses/by-sa/2.0
- k. Children eating lunch: USDA/ Flickr / CC-BY-SA-2.0. https://creativecommons.org/licenses/by-sa/2.0

Lesson 9:

- 1. Lesson Images:
 - a. Student and book: Creative Commons Zero, image via pexels.com
 - b. Apple and books: Microsoft Clip Art
- 2. PowerPoint Images:
 - a. All images are used under Creative Commons Zero via pexels.com
- 3. Newsletter:
 - a. Children selecting fruit: Creative Commons Zero
 - b. Girl with sandwich: USDA/ Flickr / CC-BY-SA-2.0. <https://creativecommons.org/licenses/by-sa/2.0/>
 - c. Children writing: Creative Commons Zero, image via pixabay.com
 - d. School bus and children: Microsoft Clip Art
 - e. Test: Microsoft Clip Art
 - f. Learn: Creative Commons Zero, image via pixabay.com

Lesson 10:

- 1. Lesson Images
 - a. Hands with plant: Microsoft Clip Art
 - b. Children eating lunch: USDA/ Flickr / CC-BY-SA-2.0. <https://creativecommons.org/licenses/by-sa/2.0/>
- 2. PowerPoint Images
 - a. Meeting: USDA/ Flickr / CC-BY-SA-2.0. <https://creativecommons.org/licenses/by-sa/2.0/>
 - b. Checklist:
 - c. Fruit kabobs: USDA/ Flickr / CC-BY-SA-2.0. <https://creativecommons.org/licenses/by-sa/2.0/>

- d. Teacher and students: USDA/ Flickr / CC-BY-SA-2.0. <https://creativecommons.org/licenses/by-sa/2.0/>
 - e. MyPlate and USDA Logo: USDA
 - f. Laptop: Microsoft Clip Art
 - g. What's New: Creative Commons Zero, image via Pixabay.com
3. Newsletter Images:
- a. Children eating lunch: USDA/ Flickr / CC-BY-SA-2.0. <https://creativecommons.org/licenses/by-sa/2.0/>
 - b. Meeting: USDA/ Flickr / CC-BY-SA-2.0. <https://creativecommons.org/licenses/by-sa/2.0/>
 - c. Children writing: USDA/ Flickr / CC-BY-SA-2.0. <https://creativecommons.org/licenses/by-sa/2.0/>
 - d. Broccoli salad: USDA/ Flickr / CC-BY-SA-2.0. <https://creativecommons.org/licenses/by-sa/2.0/>
 - e. School Garden: USDA/ Flickr / CC-BY-SA-2.0. <https://creativecommons.org/licenses/by-sa/2.0/>
 - f. School nutrition employee and students: USDA/ Flickr / CC-BY-SA-2.0. <https://creativecommons.org/licenses/by-sa/2.0/>
 - g. Child playing: USDA/ Flickr / CC-BY-SA-2.0. <https://creativecommons.org/licenses/by-sa/2.0/>
 - h. All other images are credited to Microsoft Clip Art