Unit: The Multicultural Food Guide Pyramid

Grade 2/3 Health
Mainstream Classroom with Integrated English Language Learners

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FLA 518
Spring 2003
Introduction
The Multicultural Food Guide Pyramid
Grades 2/3
For ESL Learners
The Multicultural Food Guide Pyramid

Introduction to the Unit

This unit was developed for a mainstream classroom with ELL students. The grade that it was geared for is second/third grade. The source of the reading materials are mainly www.askeric.org and www.nal.usda.gov. Ask Eric lesson plans had a lot of nutrition materials as well as the USDA web site. The book that is used in lesson 5 is Gregory, the Terrible Eater by Mitchell Sharmat
Unit Goals and Objectives
### Teaching Objective

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<th>Goal</th>
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<th>Content</th>
<th>Strategies</th>
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<tbody>
<tr>
<td>Improve language skills</td>
<td>Teach nutrition</td>
<td>Students will use The Food Guide Pyramid to learn about nutrition.</td>
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#### Learning objectives:

**Awareness and Attitude**

By the end of this unit, students should be aware that:

1. Different cultures use similar vocabulary for the five food groups.
2. Language helps us express our appreciation of food preferences.
3. Written language is used to express knowledge of food enjoyment.
4. Oral and written language helps us express our likes and dislikes of foods.
5. Vocabulary helps us understand the five food groups.

**Knowledge**

By the end of this unit, students should know:

1. How to present an oral discussion about meal planning.
2. Use a variety of nutritional terminology in written and oral form.
3. Communicate effectively orally and in writing what they have learned about healthy eating.
4. The five foods group.
5. What a balanced meal is.
8. Why it is important to eat a balanced diet.
9. Healthy eating offers diversity as well as nutrition.

By the end of this unit, students should know that:

1. There is diversity in eating a balanced diet.
2. Exploring foods from other cultures enriches and extends our food choices.
3. Although the foods may be different, healthy eating is the same in different cultures.
4. Individuals can make better decisions by being better informed about healthy eating.
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<thead>
<tr>
<th>Language</th>
<th>Content</th>
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<tbody>
<tr>
<td>By the end of this unit, students should be able to:</td>
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<td>By the end of this unit, students should be able to:</td>
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<tr>
<td>1. Create their own group or individual meal plan using appropriate language structures.</td>
<td>1. Name the five food groups.</td>
<td>1. Use brainstorming techniques as a learning tool.</td>
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<tr>
<td>2. Explain/discuss what a Food Guide Pyramid is.</td>
<td>2. Read “Gregory The Terrible Eater”.</td>
<td>2. Use KWL Chart to organize information about what one knows, wants to learn and learned about the food groups.</td>
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<tr>
<td>3. Discuss the similarities between different food guide pyramids from different countries.</td>
<td>3. Be able to re-tell the story of “Gregory The Terrible Eater.”</td>
<td>3. Compare food guides pyramids from other cultures.</td>
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<tr>
<td>4. Write in response journal about healthy eating using appropriate nutrition vocabulary.</td>
<td>4. Use a story map to summarize the story of “Gregory...”.</td>
<td>4. Use information from diverse cultural food pyramids to assemble a multicultural children’s cookbook.</td>
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<tr>
<td>5. Express their own personal likes/dislikes regarding food choices orally and/or in writing.</td>
<td>5. Demonstrate class personal food preferences using a Venn diagram.</td>
<td>5. Make conclusions about healthy food choices.</td>
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<tr>
<td>6. Convince an audience using persuasive language why healthy eating is beneficial.</td>
<td>6. Know to use a KWL chart to learn about the food groups and healthy eating.</td>
<td>6. Use many and varied sources to learn about healthy eating across cultures such as library, multicultural cookbooks and magazines.</td>
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</table>
In making the necessary adaptations for this lesson, I took into consideration the grade level and age of the students. Since these students are 2/3 grade level and intermediary ELL level, the content objectives and language objectives are appropriate in that they follow a second/ third grade curriculum. Students at these grade levels are learning how to write a simple sentence that includes subject, verb and adjective. In math, they are learning about grouping and regrouping when they do addition and subtraction operations. This lesson allows for the ELL student to use his math knowledge (past knowledge) as well as personal knowledge and experience (food choices from his ethnic and cultural background) to help him understand the concept that foods are categorized into food groups and the food guide pyramid helps us see what healthy eating looks like. In addressing the issue of discourse, slow and clearly spoken speech especially when using key vocabulary is used. Repeating and restating sentences that use key vocabulary and phrases are also used to teach lesson objectives. I have created opportunities for the ELL and mainstream students to interact thus allowing the ELL student peer learning as well as socialization opportunities. This occurs when the class works in small groups to sort and classify foods into food groups and create food journals or booklets. I have also used instructional conversation that allows the teacher and student to break into a smaller less intimidating group and work and discuss their homeland food favorites. Often ELL students feel awkward and even embarrassed when another student remarks or simply inquires about their bagged lunch. “What is that?” or “That smells funny!” This teacher time can occur when the mainstream students are working on writing about their food group favorites.
To *enhance interaction* in this lesson, I have suggested using small heterogeneous groups as well as teacher conferencing with 3-4 in a group to review key vocabulary as well as facilitate discussion about healthy food choices in our diet. This conversation could take place in their L1 (for my class, it would be Spanish). Repetition, restating of key concepts and respecting students respond time is so important. Some students need extra thinking time. This often seems like “dead airtime” when in effect, that student may be very busy thinking in his L1 and organizing his thoughts before he responds.

Communicating to the student that you respect and appreciate his effort is part of setting a tone that helps all students feel save in your learning environment. The students also needs feedback from the teacher that lets him know she is supportive and encouraging. *Sheltered strategies* in this lesson include the use of supplementary materials such as highlighting tape, sentence strips, word walls in two languages, use of heterogeneous grouping as well as hands on materials such as wooden pyramid model, use of pictures labeled with key vocabulary, use of slow, clearly pronounced speech when repeating or restating phrases, modeling saying and writing simple sentence, engaging students in working with new vocabulary and using it orally and in writing, using background and personal experience to hook on to learning about the food guide pyramid. Creating food booklets or journals allows for feedback as well as assessing students’ comprehension of lesson.

The adaptations I have made to the original lesson have taken into account the SIOP Model and its suggestions for providing the ELL student with the support he needs in learning about the Food Group Guide Pyramid.
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<tr>
<td></td>
<td>pyramid serving group healthy food group food pyramid fruit bread meat vegetable wide narrow</td>
<td>classifying expressing simple sentences orally and in writing brainstorming comparing listing webbing paraphrasing</td>
<td>It is..... I like... I do not like... My favorite is... I think it is.... A pyramid is...</td>
<td>common nouns the predicate &quot;is&quot; and &quot;are&quot; adjectives from color word use of capital letter at beginning of sentence use of period at end of sentence</td>
<td>sort/classify writing explaining comparing working in small heterogeneous us groups discussing in L1 reviewing</td>
</tr>
</tbody>
</table>

**ELL Language Function for Lesson 1**  
**Food Pyramid Book and Game**  
**Level: ELL Intermediate**
Lesson Plan Checklist for Lesson 1 Food Pyramid Book and Game
The Sheltered Instruction Observation Protocol (SIOP)

1. Preparation
1. content objectives:
   - Today we will learn that there are five food groups.
   - Today we will learn the names of the five food groups.
   - Today we will learn that healthy eating looks like a pyramid.

2. language objective:
   - Today we will use food vocabulary in a simple sentence.
   - Today we will write a simple sentence using adjectives that describe our favorite foods.
   - Today we will talk about eating healthy foods.

3. content concept:
   - Students will understand that healthy eating looks like a pyramid.
   - Students will understand what a food serving is.
   - Students will understand what a food group is.
   - Students will learn that there are five food groups.

4. supplementary materials: food chart, pictures of ethnic foods from the five food groups, food pyramid chart, student generated word wall in two languages, high lighting tape for key vocabulary sentence strips to record student responses for bulletin board display, working with words center activities that compare English vocabulary words with Spanish words-example: "group-grupo", "serve-servida".

5. adapt content: (e.g.text, assignment) to all levels of student proficiency.

ideas for adaptation: modifications for Anticipatory Set part of lesson
- For intermediate ELL students, introduce key vocabulary on word wall-"group", "serving", "pyramid", "food pyramid".
- Use of the mnemonic expression "Healthy eating looks like a pyramid!".
- Small heterogeneous grouping (3-4) to make the food guide pyramid booklets using pictures from different ethnic cuisines.
- Overhead projector with large pyramid displayed and labeled "pyramid".
6. Plan meaningful activities: modifications for Modeling part of original lesson
   • Heterogeneous grouping of 3 to 4 students to discuss how to design food booklet. Sort food items by appropriate food group such as proteins or breads or fruits. Show examples of what a serving is along with the word “serving”.
   • Set up a food center for students to construct a pyramid using wooden blocks and talk about how pyramid was constructed.

II Instruction

Building Background—modifications for Purpose part of original lesson

7. Link past learning to students’ background and experiences
   • In small group discussion encourage students to word web their food favorites.
   • Record their responses in their native language. Questions should encourage students to elaborate their response- Why do you like...? Tell me more. Do you like other foods besides...? Often ELL students find “American” food strange and hesitate to try it because it is not familiar food.
   • Encourage students to share their experiences orally and or in writing.

8. Link past learning and new concept
   • Have students connect sorting and grouping activities and the commonality things share when they are a group.
   • Model for students a food grouping or sorting activity. Explain using key vocabulary how items were sorted. Have class sort and label for practice.

9. Emphasis key vocabulary
   • Introduce key vocabulary on chart paper alongside shape of pyramid.
   • Have students practice serving a “serving” of something to understand the difference between the verb and the noun.
   • For the word “group”, write the word, say the word and show the word “group” as you point to a group of pencils, a group of ... Each time making sure you slow down your speech and emphasize the key vocabulary.
   • Have class do a real activity of forming into groups by gender, by color of hair, by color of eyes, by height, etc.
Comprehensible Input-modifications for Input part of original lesson

10. Appropriate speech:

- Key vocabulary should be introduced in a clear slow manner and not used in isolation but in context. For example, the word “group”. Point to the word on the word wall—say the word “group” as you point to it. Have students repeat the word. Show students how the word is used in a simple sentence.

- Say it as you write it on a sentence strip. Show a model of something in a group. Give various examples of item that are in a group. An example of a sentence might be:” The girls are in a group.”

- Another activity would be to encourage students to engage in discussion about their ideas about foods from their country. Find commonality. How are they the same? This instructional conversation can help students express any concern they may have regarding the American culture and the many and various foods found in this country.

- Model writing a simple sentence on a sentence strip. Use highlighting tape to color code the key word in the sentence. Say it slowly and clearly. Point to each word as they say it.

- Restate it to be sure they are hearing each word clearly. An example of a sentence: “Mangos are fruits.” Say it! Write it! Show it!
Lesson 2
### ELL Language Function for Lesson 2

**Planning a Healthy Menu Using the Food Pyramid**

**Level: ELL Intermediate**

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<td>of......</td>
<td>telling</td>
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<td>belong in the.......</td>
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<td>Healthy eating</td>
<td>cooperatively</td>
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<td>orally /written</td>
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</table>

**I observed...**

**I noticed that.....**
Lesson Plan Checklist for Lesson 2
Planning a Healthy Menu Using the Food Pyramid

The Sheltered Instruction Observation Protocol (SIOP)

1. Preparation
1. **content objectives:**
   - Today we will learn how to combine food groups to plan a meal.
   - Today we will learn what a healthy meal consists of.
   - Today we will learn how to make a healthy menu.

2. **language objectives:**
   - Today we will use prepositions of place. (next to, to the right, etc)
   - Today we will talk about ethnic foods we like to eat.
   - Today we will use imperative verbs orally or in writing.
     (make, put, etc.)

3. **content concept:**
   - Students will understand what a menu is.
   - Students will understand what a healthy meal consists of.
   - Students will learn about vitamins and minerals found in foods.
   - Students will learn what an ingredient is.
   - Students will understand how the food pyramid can help us plan healthy meals

4. **supplementary materials:**
   - Copies of sample menus in Spanish.
   - Visuals of Food Pyramid in Spanish and other languages that reflect classroom’s ethnic and cultural background.
   - A variety of ethnic cookbooks such as Italian, Chinese, Mexican, etc.

5. **adapt content:** modifications for Building Background part of original lesson.
   - Interview family for meals they like and write about it.
   - Have students make a visual representation of their findings using a slit booklet. This would show the relationship of each meal component to the daily guidelines for vitamins, minerals, etc.
   - Have students “share and tell” about their meal booklet. This might be uncomfortable for some students to get up in front of the class and speak. For those students that are shy, telling one thing about their booklet would be fine.
6. **Plan meaningful activities: modifications to Independent Practice in original lesson**

- Heterogeneous grouping of 3 to 4 students to discuss how to design the food booklet.
- Sort food items by appropriate food group such as protein or grain or fruit.
- Show and model examples of what a serving of food is along with the word "serving".
- Set up a food center for students to construct different types of pyramids made from assorted materials such as wooden blocks, sugar cubes. Have students write about the shape of the pyramid. Have students use descriptive words such as adjectives and adverbs. For example, “A pyramid is wider at the bottom.” “A pyramid is smaller at the top.”

II Instruction

**Building Background- modifications for Procedure** part of the original lesson

7. **Link past learning to student’s background and experiences.**

In small group discussion, encourage students to talk about their families’ traditional food customs. This discussion should focus on the richness of diversity and variety when meal planning. Some questions to ask would be “What would happen if we ate the same food every day?” “Tell a different way your family prepares chicken.” “What kind of special seasonings does your family use in cooking?” “How does your family use these seasonings?” Encourage students to look for many and varied examples for each food group. Refer to samples of multicultural food pyramids and cookbooks as a resource. Often students from other cultures will feel uneasy sharing the traditional foods that reflect their culture. Have class break into small heterogeneous groups to discuss the richness in having a variety in healthy menu planning versus eating the same foods every day. Have group record different ways to cook a food from a food group such as eggs. Have students record their findings on chart paper labeled “Many and Varied Ways to Cook Eggs.”

8. **Link past learning and new concept modification to Procedure point 2 and 3**

Model for students how to choose foods from other cultures to design a meal with all the food groups. For example, in designing a Tex-Mex meal, you would use from the grains group, a tortilla. From the vegetable group, you could pick pinto beans. From the meat group, you could pick chicken fajita. Encourage the students to suggest variations of this meal. Ask students if they can classify each food into a food group. Many dishes will have a combination of foods from the different food groups such as a taco. Whole group or in small groups, ask students to analyze and record the different food groups found in dishes that have a combination of foods such as salads, soups, and sandwiches. Keep a visual of the food pyramid for the students to use as a reference.
9. **Emphasis key vocabulary**  
Have students keep a log of new vocabulary in their journals or have them make flash cards with key vocabulary such as “recipe”, “menu”, “entrée”, and “side dish”. Use highlighting tape to highlight key vocabulary in sample menus and recipes. Have students write sentences using key vocabulary.

**Comprehensible Input**

10. **Appropriate speech:**
- Key vocabulary should be introduced in a clear slow manner and not used in isolation but in context. Have students repeat vocabulary to help with pronunciation of words.
- Use simple sentences whenever possible.
- Encourage students to discuss in small group setting how they will put together their menus.
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<td>speaking</td>
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<td>por ciento</td>
<td>list</td>
<td>I like...</td>
<td>first person</td>
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<td>I don’t like..</td>
<td>use food</td>
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<td>vocabulary</td>
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<td>pyramid</td>
<td>contrast</td>
<td>I choose…</td>
<td>in context of</td>
<td>tasting</td>
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<td>100%</td>
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<td>My favorite</td>
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<td>fruit juice</td>
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<td>the same as</td>
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<td>This juice is/</td>
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</table>
Lesson Plan Checklist for Lesson 3 Is It Fruit?
The Sheltered Instruction Observation Protocol (SIOP)

1. Preparation and modifications objectives

1. content objectives: Today we will learn that 100% means the “whole thing”.
   Today we will learn when juice is considered a fruit.
   Today we will learn what “extra” means.

2. language objective: Today we will use a Venn diagram to compare fruit juice and
   fruit.
   Today we will compare and contrast orally and in writing
   the difference between juice and fruit.
   Today we will list ingredients found in fruit juice that is not
   100%.
   Today we will find key vocabulary in a nutritional label.

3. content concept:
   Students will understand that 100% mean the whole thing.
   Students will understand that fruit juice is considered a fruit serving.
   Students will understand that fruits are part of the five food groups.
   Students will decide and make choices regarding healthy eating.

4. supplementary materials: food chart, assortment of fruit juice labels reflecting a
   multicultural variety, such as mango juice, coconut milk juice, tamarind juice, guava
   juice, etc.

5. adapt content: (e.g.text, assignment) to all levels of student proficiency.
   ideas for adaptation: modifications for Procedure part of original lesson
   • For intermediate ELL students, introduce key vocabulary
     on word wall—“100%”, “serving”, “ingredient”, “food pyramid”
     “fruit juice”, “the same as”, “label”, “percentage”
   • Small heterogeneous grouping (3-4) to work on juice jug worksheet.
   • Overhead projector with drawing of the worksheet Is It Fruit?
6. **plan meaningful activities**: *modifications to Standard 6 of original lesson*

- Small heterogeneous groups of 2 or 3 to work on sorting frozen and bottled containers with some fruit juice versus the ones that contain 100% fruit juice.
- Graph results of sorted cans and bottles activity. Use the Is It Fruit? graph provided with this lesson.
- Have the class design their own Is It Fruit? Activity sheet to reflect their home fruit juice preferences. Activity sheet should include vocabulary such as “100%”, “fruit juice”, “healthy”, “extra food”
- Have a “Fruit Juice party”. Have students taste and write about their favorites.
- Have students do a 3 to 5 minute class presentation justifying why 100% is a healthier choice as a way to practice using food and nutrition vocabulary.
- Heterogeneous grouping of 2 to 3 students to graph % of juice
- Model on overhead how to find first ingredient on nutritional label.
- Show on overhead an example of a fruit juice that is 100% fruit.
- Show on overhead an example of a fruit juice that is not 100%.
- Have students find first ingredient on food labels and highlight.

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**II Instruction**

**Building Background**

7. **Link past learning to students’ background and experience**: *modifications to description part of original lesson*

- Whole group will brainstorm things that are 100%. Record on board or large chart paper for display. Facilitate group discussion on what this means in math and how math helps us to understand percentages. Refer to Is It Fruit activity sheet.
- Write the words “percent” and “por ciento”, “fruit” and “fruta”, “juice” and “jugo”. Display on word wall.
- Have students analyze Spanish fruit juice labels. Record their findings in their writing journals.
- In small group discussion, ask students ways they and their families stay healthy. Record responses on chart paper. Elicit as many responses as possible. For example, ask students what kind of exercise they do as a family and by themselves. Questions and discussion should generate a variety of ways one maintains good health such as exercise, diet and rest.
- Often students do not think that what we drink is just as important as what we eat. Have students write about their favorite beverages.
8. **Link past learning and new concept modifications to Procedure part of the original lesson**
   - Do a KWL chart about what the students know about fruit juice, what they want to learn and what they learned about food nutrition in fruit juice. (What they learned will be completed as part of a culminating activity for this lesson)
   - Display overhead transparency of food pyramid.
   - Refer to the fruit group section. Explain that fruits are nutritious because they provide us with vitamins such as vitamin C.

9. **Emphasis on key vocabulary**
   Introduce key vocabulary on large drawing of a can of juice. (You can enlarge a picture of a can of juice) Set up a nutrition listening center with an explanation of the food guide pyramid and vocabulary clearly stated. Make sure tape allows student time to repeat each vocabulary word. This will reinforce vocabulary pronunciation and meaning. Vocabulary tape could include the following words:

   - per cent
   - container
   - label
   - fruit
   - percent juice
   - frozen
   - extra food
   - fruit juice

   Other nutrition vocabulary words can be added to tape as unit develops. Display a food guide pyramid picture and examples of each vocabulary word to reinforce meaning.

**Comprehensible Input**

10. **Appropriate speech**: Key vocabulary should be introduced in a clear slow manner in context and not in isolation. However, to insure that pronunciation is clear to the student, it should be said once in isolation, then in a sentence and finally repeating the vocabulary word one final time. Example would sound like this: “*Label*” “The *label* fell off the can.” “*Label*.” Care must be given that the vocabulary word is clearly announced.
Is It Fruit?

Juice name __________________

_____ % fruit

Is it fruit? ____yes ____no

Juice name __________________

_____ % fruit

Is it fruit? ____yes ____no

Juice name __________________

_____ % fruit

Is it fruit? ____yes ____no
FOOD IS FUN and learning about food is fun, too. Eating foods from the Food Guide Pyramid and being physically active will help you grow healthy and strong.
Lesson 4
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<td>sorting</td>
<td>“The food groups are...”</td>
<td>simple sentences</td>
<td>sorting</td>
</tr>
<tr>
<td>more and less</td>
<td>practicing food vocabulary orally and in writing</td>
<td>“To be healthy I need to eat more of..”</td>
<td>using the verb “belongs”</td>
<td>writing</td>
</tr>
<tr>
<td>protein</td>
<td></td>
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<td>adjectives</td>
<td>justifying</td>
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<td>dairy</td>
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<td>writing in the first person</td>
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<tr>
<td>fruits</td>
<td>dictionary skills</td>
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**ELL Language Function for Lesson 4**
The Food Groups: Food Pyramid
Level: ELL Intermediate
Lesson Plan Checklist for Lesson 4 The Food Groups: Food Pyramid
The Sheltered Instruction Observation Protocol (SIOP)

1. Preparation
   1. content objectives:
      Today we will learn what a food pyramid is.
      Today we will learn about the shape of a pyramid.
      Today we will learn how to sort foods into groups.
      Today we will become aware of differences in the food groups.

   2. language objective:
      Today we will practice food vocabulary in conversation.
      Today we will express opinions about food clearly and with correct vocabulary.
      Today we will write about good nutrition using descriptive language.

   3. content concept:
      Students will understand the importance of each food group.
      Students will understand what basic means.
      Students will understand the concept of more and less as it relates to eating more of certain foods and less of others.

supplementary materials:

Spanish-English dictionaries, word wall with picture and definition of food vocabulary, poster of food guide pyramid, food guide pyramid displayed in sections.

5. adapt content: (e.g. text, assignment) to all levels of student proficiency.
   ideas for adaptation:

   • Display of word wall with words such as “more” and “less” along with picture examples.
   • Model how to sort food into proper food group.
   • Model how to justify or explain why certain foods belong in certain groups.
   • Have students use highlighting tape to look up dictionary words.
   • In small heterogeneous groups, have students write one simple sentence about food definitions found in dictionary.
   • Introduce key vocabulary on word wall—“example”, “serving”, “basic”, and “group”
6. Plan meaningful activities: modifications to Objectives part of original lesson
   • Have student keep a food diary for a week.
   • Have student record number of mixed foods in their food diary.
   • Have student sort the entries in their food diary by food group.
   • Using the food diary information, have students organize their diary entries into individual food pyramids. (They may not reflect foods from all food groups but this would help student to see areas in the food pyramid that he/she needs to balance. For example, a student may have too many carbohydrates and not enough protein.)

II Instruction

Building Background

7. Link past learning to students’ background and experiences
   • In small group discussion, do a KWL chart of Healthy Bodies. A KWL chart is a chart that records what we know about the topic being discussed, what we want to learn and what we learned, thus the initials KWL. modifications to Procedure 1 of original lesson
   • Use KWL information as a way to discuss why healthy children need to think about what they put in their bodies. modification to Procedure 2 of original lesson

8. Link past learning and new concept modification to Procedure 3
   • Have students interview each other about what they like to eat. Have interviewer write or record on tape student’s responses.
   • Explain that healthy eating does not mean never eating from the top of the pyramid, that is, the Sweets and Fats group. It just means that we should it less of them.
   • Have students review their food journals to see if improvements could be made. (For the child that is overweight, this topic can be very uncomfortable for them. Too often other students in the class will point them out by name and make unkind and embarrassing remarks. In the Hispanic culture, it is often the parents that feel their child is fine carrying extra weight. Their child is “gordito/gordita”, literally it means fat or chubby but in this context it means a term of endearment. Parents think that the child is fine and in time he/she will thin out. This makes it harder for the child that has parents that although they may not be indifferent are not educated about healthy eating choices at fast food restaurants like “Chucky Cheese”, “Burger King”, “McDonald’s”, etc.
   • Have students practice reading food labels from school cafeteria food items in their hot lunch tray as well as snacks they bring from home.
9. **Emphasis key vocabulary modifications to Procedure 5**
- Model how to analyze a nutrition food label on an overhead transparency or other visual. Mark key vocabulary with color marker.
- Use red highlighter marker for calories.
- Use yellow highlighter to mark sugar content in food label.
- Use green marker to mark fat content in food label.
- In small heterogeneous groups, have students identify caloric content as well as fat and sugar content in food labels from fast food restaurants and other establishments.

**Comprehensible Input**

10. **Appropriate speech:**
Key vocabulary should be introduced in a clear and slow manner. Highlight written vocabulary in food labels and if print is too small as is often the case, enlarging text will make it easier for the student to read as the ingredients are analyzed and discussed in whole group or small group setting. Repeating key vocabulary in different formats and contexts helps students become familiar with the pronunciation and its meaning. For example, the word “fat” can mean one thing in one sentence and another in another sentence. “The cat is fat.” And “The fat content in a candy bar is...”
The Food Guide Pyramid

A Guide to Daily Food Choices

Select a section of the pyramid for details

The Food Guide Pyramid is an outline of what to eat each day based on the Dietary Guidelines. It's not a rigid prescription but a general guide that lets you choose a healthful diet that's right for you.

The Pyramid calls for eating a variety of foods to get the nutrients you need and at the same time the right amount of calories to maintain healthy weight.

Use the Pyramid to help you eat better every day...the Dietary Guidelines way. Start with plenty of breads, cereals, rice, pasta, vegetables, and fruits. Add 2-3 servings from the milk group and 2-3 servings from the meat group. Remember to go easy on fats, oils, and sweets, the foods in the small tip of the Pyramid.

What Counts as One Serving?

The amount of food that counts as one serving is listed below. If you eat a larger portion, count it as more than 1 serving. For example, a dinner portion of spaghetti would count as 2 or 3 servings of pasta.

Be sure to eat at least the lowest number of servings from the five major food groups listed below. You need them for the vitamins, minerals, carbohydrates, and protein they provide. Just try to pick the lowest fat choices from the food groups. No specific serving size is given for the fats, oils, and sweets group because the message is USE SPARINGLY.

### Milk, Yogurt, and Cheese

| 1 cup of milk or yogurt | 1 1/2 ounces of natural cheese | 2 ounces of process cheese |

### Meat, Poultry, Fish, Dry Beans, Eggs, and Nuts

| 2-3 ounces of cooked lean meat, poultry, or fish | 1/2 cup of cooked dry beans, 1 egg, or 2 tablespoons of peanut butter count as 1 ounce of lean meat |

### Vegetable

| 1 cup of raw leafy vegetables | 1/2 cup of other vegetables, cooked or chopped raw | 3/4 cup of vegetable juice |

### Fruit

| 1 medium apple, banana, orange | 1/2 cup of chopped, cooked, or canned fruit | 3/4 cup of fruit juice |

### Bread, Cereal, Rice, and Pasta

| 1 slice of bread | 1 ounce of ready-to-eat cereal | 1/2 cup of cooked cereal, rice, or pasta |

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**ELL Language Function for Lesson 5**

*Gregory, the Terrible Eater*

*Level: ELL Intermediate*
Lesson Plan Checklist for Lesson 5 Gregory, The Terrible Eater
The Sheltered Instruction Observation Protocol (SIOP)

1. Preparation
   1. content objectives:

      Today we will learn about food sources of protein, fats, vitamins and minerals.
      Today we will learn what a food ad is.
      Today we will learn how to plan a healthy menu of three meals for one day.

   2. language objective:

      Today we will practice nutrition vocabulary in small group discussion.
      Today we will write about Gregory, The terrible Eater.
      Today we will do a story map about Gregory, The Terrible Eater.
      Today we will identify adjectives in the story.

3. content concept:

   Students will understand the importance of a well-balanced meal.
   Students will understand the importance of meal planning.
   Students will learn about healthy eating habits.

4. supplementary materials:

   the Spanish version of Gregory, the Terrible Eater, newspaper food ads of ethnic foods such as mangos, different kinds of melons, etc. Samples of restaurant menus that the ethnic background of the students in the class.

5. adapt content: modifications to Activities and Procedures part of original lesson

   • Read Gregory, The Terrible Eater, in Spanish.
   • Have students do a story web.
   • Discuss characters, problem, beginning of story and how it ends. How is the problem solved.
   • Conference with groups about menu preparation.
   • Menu presentation to the class may be stressful. Give class presentation options such as defend your menu choices as appears in original lesson or for the ELL students list the healthy foods in their menu.
   • Use overhead transparency of newspaper food ads.
   • Review value of American currency.
6. Plan meaningful activities: **modifications to Activities and Procedure**
   - Heterogeneous grouping to work on menu for one day.
   - Brainstorm other adjectives to describe Gregory’s eating habits besides “terrible”.
   - Using highlighting tape, find food vocabulary in story. Tally how many are found.
   - Record food vocabulary found in story about Gregory on word wall.
   - Write a letter to Gregory. Tell him how you feel about his eating habits.

II Instruction

Building Background

7. **Link past learning to students’ background and experiences modification to Procedure 2**
   In small group discussion, read **Gregory, The Terrible Eater**. Ask students to share their families’ food traditions. Sample questions to ask might be, “Are there any special dishes that your family prepares during the holidays?”

8. **Link past learning and new concept modification to Procedure 2**
   Discuss with students what the term “fuzzy eater” means. Ask if they like certain things more than others. Ask students to write about an experience when their parents tried to get them to try a new food. How did they feel about it? What was the outcome?

9. **Emphasis key vocabulary**
   Use words such as “terrible”, “habit”, “entice” in simple sentences to illustrate their meaning. Display on word wall for students to use as a resource during writing activities. A word wall is a list of words generated by the students during a discussion of a certain topic. These words are posted around the room in clear view of all students. The words are listed in alphabetical order and the list is added to as new words are introduced to the students during reading or writing activities. Word walls should be displayed in L1 as well as L2. The same standard of listing words in alphabetical order holds true. Word walls could be displayed at opposite sides of the room. If space doesn’t permit more than one word wall to be displayed in the room, students could have their own individual “word wall” on a sheet of paper and kept in their writing journal to be used as needed. This practice is used in dual language classrooms where the students are reading and writing in their L1 until they are ready to go into the L2.
Comprehensible Input
10. Appropriate speech:
   • Key vocabulary should be introduced in a clear slow manner.
   • Read *Gregory, the Terrible Eater*. During reading, be sure to use a clear and slow voice.
   • Have the Spanish version of *Gregory, the Terrible Eater* read to ELL students. Encourage students to comment on what part was their favorite.
   • Retell the story using the five elements of retelling, that is characters, setting, problem, events and solution. Retelling may be done in L1 or L2.
   • Have students view a food show on the food channel. Ask them to listen for familiar food vocabulary. Have them keep a tally of how many words they understood during the time they were watching the food show.
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But Gregory was not an average goat. Gregory was a terrible eater. Every time he sat down to eat with his mother and father, he knew he was in for trouble.
Mother Goat.

"Well, I think this is a meal fit for a goat," said Mother Goat, as she chewed on an old shoe.

"It certainly is," said Father Goat, as he ate a shirt, buttons and all. "I don't know why you're such a fussy eater, Gregory."
Think about your book. Answer the questions by drawing pictures or writing sentences.

Who?  

Who?  

Where?  

What?
Checklists
## Functional Check List
### The Multicultural Food Guide Pyramid Unit
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  - Lesson 1

- **Intermediate**
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  - Lesson 3
  - Lesson 1
  - Lesson 2
  - Lesson 3

- **Advanced**
  - Use adjectives to describe
  - Write a simple sentence
  - Analyzing
  - Story mapping
  - Graphing
  - Estimating
  - Drawing conclusions
  - Planning
  - Interviewing family members
  - Do oral presentation
  - Expressing opinions
  - Working cooperatively
  - Compare and contrast
  - Sort
  - Record data
  - Organize information using graphic organizers
  - Classify
### Grammar Check List
**The Multicultural Food Guide Pyramid Unit**
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- Adjectives
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- Simple Sentence
- Imperative verbs
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- First person
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Original Lessons
Nutrition - Food Pyramid Book and Game

An AskERIC Lesson Plan

Submitted by: Christina Ulrich
Endorsed by: Don Descy, Mankato State University

Date: May 15, 1997

Grade Level(s): 2, 3, 4, 5, 6

Subject(s):
- Health/Nutrition

Materials:
- 1. Construction Paper
- 2. Notebook Paper
- 3. Magazines or Newspapers
- 4. Ribbon
- 5. Scissors
- 6. Glue
- 7. Overhead Picture of the Food Pyramid

Objectives:
1. Classify different food items into the correct categories of the Food Pyramid
2. Identify foods that keep our bodies healthy
3. Create a Food Pyramid booklet

Anticipatory Set:
Display a variety of foods on a table. Display an overhead picture of the Food Pyramid.

Purpose:
Today we are going to learn about the Food Pyramid, and learn which foods keep our bodies healthy.

Input:
Using the overhead display, explain to the students that the Food Pyramid shows us the variety of foods we need to eat each day to keep our bodies healthy.

http://www.askeric.org/Virtual/Lessons/Health/Nutrition/NU10005.html
1. The bottom level of the pyramid is the bread, cereal, rice, and pasta group. These foods help to give us energy. We should eat 6-11 servings from this group a day.

2. On the second level of the pyramid, we have two categories - the vegetable group and the fruit group. The vegetable group gives us vitamins and minerals our bodies need to stay healthy. We should eat 3-5 servings a day. The fruit group also gives us vitamins and minerals. We should eat 2-4 servings a day.

3. The third level of the pyramid includes the milk yogurt, and cheese group, and also the meat, poultry, fish, eggs, nuts and beans group. The milk group gives us calcium to keep our teeth and bones strong. We should eat 2-3 servings a day. The meat group gives us protein to help build new cells and tissues in our bodies. We should eat 2-3 servings from this group a day.

4. The top of the pyramid is the fats, oils, and sweets group. Although our bodies need a little bit of food from this group, eating too much is not good for us. We should eat foods from this group only once in a while.

**Modeling:**

Show the students an example of the booklet they will be making. Explain the following procedures:

1. Choose two pieces of construction paper, and six sheets of notebook paper.
2. Place the notebook paper between the sheets of construction paper. Punch 3 holes along the left edge. Tie pieces of ribbon through the holes.
3. On each page, write the name of a Food Pyramid section, and the number of servings suggested. Glue the appropriate pictures of food items, cut from magazines or newspapers, to the pages of your booklet.
4. Decorate the cover of your Food Pyramid booklet!

**Check for Understanding:**

Hold up each of the food items displayed on the front table. Ask the students to identify its place on the Food Pyramid.

**Independent Practice:**

Each of the students will work independently to cut out food pictures from magazines and newspapers, and construct a Food Pyramid booklet.

**Closure:**

Summarize the information covered in the lesson, and play a game of Name That Food.

**Name That Food:**

Divide the class into several small teams. Each team will need a pencil and a piece of paper. The teacher selects a section from the Food Pyramid, and a letter of the alphabet. For example, foods from the bread and cereals group that start with the letter "B." The student shall have one minute to record a list of foods. When the minute is up, each group reads their list. The teacher records the number of items on each group's list, and another category and letter are selected. The game continues until all sections of the pyramid have been covered. The group with the highest score wins.

http://www.askeric.org/Virtual/Lessons/Health/Nutrition/NUT0005.html

3/1/03
Planning a Healthy Menu Using the Food Pyramid

An AskERIC Lesson Plan

Submitted by: Melissa M. Embacher
Endorsed by: Dr. Don E. Descy, Mankato State University

Date: November 5, 1996

Grade Level(s): 3, 4, 5, 6, 7, 8

Subject(s):
- Health/Nutrition

Description:
This lesson requires students to use their knowledge of the food groups to plan a healthy meal. The meal needs to include an entree, at least one side dish, and beverage. This lesson is an excellent culminating activity for a nutrition unit.

Goal: The students will understand how the food pyramid can help to plan healthy meals.

Objectives:
1. The students will use their knowledge of the food pyramid to plan a full meal that incorporates at least one serving of food from each group.
2. The students will be able to classify their ingredients according to the food groups.

Background Information:
The menus that the students design can be bound together into a book. This would be great to set out at conference time. If using this activity with older students you may want to have the students analyze the nutritional value of the meal in relation to the daily guidelines for vitamins, minerals, etc.

Materials:
- Copies of Sample Menu
- Writing Paper
- Writing Utensils
- Visual of the Food Pyramid (optional)

http://www.askeric.org/Virtual/Lessons/Health/Nutrition/NU10009.html 3/1/03
Procedure:

1. Review the food groups with the students.

2. **Tell the students that they are going to design a menu for one meal that includes at least one serving of food from each food group.**

3. The menu must include an entree, or main dish, at least one side dish, and a beverage.

4. Write the requirements of the assignment in a highly visible area of the room, such as on the chalkboard.

5. Pass out the sample menu located at the end of this lesson, and discuss it with the class. Does it meet the requirements? How?

6. Encourage the students to get creative with the assignment.

7. Provide time for the students to work. Help as little as possible, if this is an end of the unit assessment.

8. As students finish, look over the assignment with them. Have the students identify which of the food groups each of the ingredients belongs to.

9. Closure: Discuss the menus as a class. Have students share their meal ideas.

10. Send this assignment home with the students. Have them write out the recipe and directions with the help of an adult.

11. Making the Cookbook: When all menus and recipes are returned, proofread them and hand them back to the students.

12. Have the students make a final copy and turn it in to you.

13. Design an interesting cover and bind the pages together.

14. Keep the cookbook in your classroom for students to review. Display the cookbook for parents to see at conference time.

Assessment:

1. Have the students write out which food group each ingredient in their menu belongs to.

2. Does each menu include at least 1 item from each of the food groups?

******************************************************************

Chef __________________________

http://www.askeric.org/Virtual/Lessons/Health/Nutrition/NUT0009.html 3/1/03
Tuna Casserole
Lettuce Salad
Milk

**Tuna Casserole**

**Ingredients:**
- 1 can of tuna in water
- 2 cups egg noodles
- 1 can Cream of Mushroom soup
- 1 can of peas

**Directions:**
Preheat oven to 350 degrees. Boil noodles for 8 minutes, then drain. Also drain tuna and peas. Combine all ingredients in a casserole dish and mix by hand until ingredients are evenly distributed. Bake for 20-25 minutes.

**Lettuce Salad:**

**Ingredients:**
- variety of lettuce
- grated carrots
- cherry tomatoes
- low-fat salad dressing

**Directions:**
Rinse lettuce and tomatoes in cold water. Put the lettuce on the salad plate first, then top with grated carrots and tomatoes. Add dressing sparingly.

**Serving Hints:**
If you put the salad together while the tuna casserole is baking, it will still be fresh and crisp when the tuna casserole is ready.

**Enjoy!**

**Useful Internet Resources:**

American Heart Association
http://www.americanheart.org/

Food and Nutrition Information Center (FNIC)
http://www.nal.usda.gov/fnic

ERIC Clearinghouse on Teaching and Teacher Education – Health, Physical Education, Recreation and Dance Division
http://www.ericsp.org/pages/healthpe/index.html

http://www.askeric.org/Virtual/Lessons/Health/Nutrition/NUT0009.html 3/1/03
Tufts University Nutrition Navigator
http://navigator.tufts.edu/
Lesson Plan #: AELP-NUT0201

Is it Fruit?

An AskERIC Lesson Plan

Submitted by: Kathleen M. Falls-Williams
Email: kmfalls_williams@yahoo.com
School/University/Affiliation: Mary Peacock Elementary School, Crescent City, CA

Date: March 17, 2002

Grade Level: 2, 3, 4

Subject(s):  
- Health/Nutrition
- Mathematics/Process Skills

Duration: 45 minutes

Description: This lesson is best used as part of a nutrition unit, specifically for a discussion related to the fruit group. In this activity, students learn that 100% means the "whole thing." If a fruit juice is not 100% juice, then it is not a fruit -- it is an "extra" food. It is helpful if students have had prior experience with nutrition labels. Prior knowledge about the "extras" group would also be helpful for this lesson.

Goals: National Health Education Standards:

- Standard 3: Students will demonstrate the ability to practice health-enhancing behaviors and reduce health risks.
- Standard 6: Students will demonstrate the ability to use goal-setting and decision-making skills to enhance health.

Objectives:

1. Students will be able to read a nutrition label to determine the percent juice contained in a fruit juice.
2. Students will recognize that 100% is the whole thing and that if something is not 100%, then it is not the whole thing.
3. Students will be able to graph the % juice contained in 3 or more types of fruit juice.

Materials:

- collection of empty frozen and bottled drink containers that claim to contain some fruit juice, varied so that some do not contain 100% juice
http://www.askeric.org/Virtual/Lessons/Health/Nutrition/NU10201.html 3/1/03
• overheads of two nutrition labels, one from a 100% juice item and one that is not (overheads need to be teacher-created)
• copy of the Food Pyramid (see Internet site below)
• pencils or crayons
• student journals
• Juice Jug Graph Worksheet

Click the icon to obtain the free Reader.

Procedure:
(As part of a nutrition unit, have students collect juice containers to use for this activity.)

Share an overhead of a nutrition label from a juice that is 100% fruit or juice. Explain that 100% means the whole thing -- 100% means it is the same as eating the fruit. Also point out the ingredient section and how the first ingredient is the thing there is the most of in a food. Talk about other percentages listed such as vitamin C and how some ingredients are added to make foods appear more healthy. Share a second overhead from a juice that is not 100%. Explain that if it is not 100% juice, it is not fruit -- it is an "extra" (refer to the Food Pyramid).

Pass out a juice jug graph worksheet to each student. Use another overhead to show how to write in the label for the name of the juice, graph the % juice, and indicate whether it is fruit or not. Pass out juice containers -- students may work in pairs or in small groups to locate the information on the containers to complete the jug graphs. Afterwards, lead a discussion about what was discovered and how to make better choices for choosing drinks that contain fruit juice.

Assessment: Collect students' completed juice jug graphs. In their journals, have students list three things that they learned from the activity.

Useful Internet Resources:
* The Food Guide Pyramid

* National Health Education Standards - Abbreviated Version

http://www.askeric.org/Virtual/Lessons/Health/Nutrition/NU10201.html 3/1/03
Lesson Plan #: AELP-NUT0016

The Food Groups: Food Pyramid

An AskERIC Lesson Plan

Submitted by: Tara van Heumen
Email: tvh17@bellatlantic.net
School/University/Affiliation: Felician college, NJ
Date: December 3, 1998

Grade Level(s): 3, 4, 5

Subject(s):
- Health/Nutrition

Duration: Two 40-minute sessions

Description: In this activity, students learn about the five food groups and how to use the food pyramid as their guide.

Goals: To learn the basics of good nutrition.

Objectives: The student will be able to:

1. List the 5 food groups that make up the food pyramid.
2. Explain orally and in writing the purpose of the food pyramid.
3. Define and give an example of each food group.
4. Separate a group of mixed food into the proper food groups.

Materials:
- poster of food pyramid
- dictionaries

Procedure:

1. Teacher will hold up a candy bar and an apple and ask students which do they think is better and healthier for their bodies.
2. Teacher will then ask the students if they ever think about what they are putting in their bodies before they eat something.
3. Teacher will then explain that in order to be healthy children should be eating more of certain foods and less of others.
4. Teacher will then list the six categories shown on the food pyramid (5 food groups: grains, http://ericir.syr.edu/Virtual/Lessons/Health/Nutrition/NU10016.html)
5. Teacher will then ask six students to get a dictionary and look up each word, the definitions will then be put on the board.
6. Teacher will then provide many examples and explain why they are examples of each group.
7. Teacher will then display the food pyramid poster located at the front of the room.
8. Teacher will explain to the class the purpose of the food pyramid and tell how many servings of each food should be eaten.
9. Teacher will then hold up more examples and ask what food groups they should be in, either asking if they are in a certain group, or asking what group they should be in and why. (for example: hold up a bagel and ask if it is in the protein group and why or why not.)
10. Teacher will then restate the definitions and ask the children what they think should be added to the definition and why.
11. The students will then write each definition with 2 examples in their notebooks.

Assessment: Teacher will divide the class into 3 groups and give them each a box of assorted food products; the groups will then divide the products into the correct 6 categories and list them on a separate sheet of paper.

Useful Internet Resource:
* The Food Guide Pyramid

http://ericir.syr.edu/Virtual/Lessons/Health/Nutrition/N010016.html 2/2/03
Gregory, The Terrible Eater

An AskERIC Lesson Plan

Author: Margaret Sornenson
School or Affiliation: Holy Rosary School, ID
Endorsed by: These lesson plans are the result of the work of the teachers who have attended the Columbia Education Center's Summer Workshop. CEC is a consortium of teacher from 14 western states dedicated to improving the quality of education in the rural, western, United States, and particularly the quality of math and science Education. CEC uses Big Sky Telegraph as the hub of their telecommunications network that allows the participating teachers to stay in contact with their trainers and peers that they have met at the Workshops.

Date: May 1994

Grade Level(s): 3, 4

Subject(s):

- Health/Nutrition

Overview:

This is an evaluation project for a Science or Health unit on the basic food groups. Students review good nutrition and food sources for proteins, carbohydrates, vitamins, and minerals.

Purpose:

The purpose of this activity is for the students to review and demonstrate their understanding of the need for balanced meals and an understanding of the food sources for proteins, carbohydrates, fats, minerals, and vitamins.

Objectives:

1. Students will demonstrate an understanding of the five basic food groups.
2. Students will construct a balanced menu.
3. Students will use food advertisements to determine the best buys for their menu selections.
4. Students will present their menu orally to the class and be able to defend their selections.
5. Students will construct a graph to illustrate the total cost differences in their menus.

Materials:

- Newspaper food advertisements
- Graph paper

http://www.askeric.org/Virtual/Lessons/Health/Nutrition/NUT0002.html

3/1/03
Appendix
Nutrition educators, as well as the 1995 Dietary Guidelines Advisory Committee, have identified a need for nutrition guidance specifically for children. Because of the variation in children’s nutrient needs and eating practices, it is impractical to adapt one food guide for all children. The purpose of the present study, therefore, was to identify the best age group to target for an adapted Food Guide Pyramid for Children. Three potential subgroups between the ages of 2 and 18 were identified: preschool-age (2 through 6 years), school-age (7 through 11 years), and adolescents (12 to 18 years). Subgroups were ranked by reviewing the literature to determine whether the Food Guide Pyramid meets each subgroup’s dietary needs, to consider each subgroup’s specific nutritional or health problems that an adapted food guide could help address, and to examine user demand for a new food guide. A food guide adapted for use with parents and caregivers of preschool-age children was identified as the greatest need based on children’s specific dietary requirements (higher fat intakes as recommended by the 1995 Dietary Guidelines and their need for smaller serving sizes) and user demand (requests from parents, caregivers, and nutrition educators).

The USDA’s Food Guide, designed to help all healthy Americans 2 years old and over use the Dietary Guidelines for Americans (38), and its graphic representation, the Food Guide Pyramid (Pyramid), have been distributed widely since the Food Guide was first introduced in the mid-1980’s. The Pyramid has been used widely in a variety of materials (including posters, textbooks, school curricula, and computer software) by nutrition educators and has also been used by industry on food labels. In materials accompanying the Pyramid, USDA recommends that preschool-age children obtain at least the minimal number of servings from the five major food groups, but this age group can have smaller servings from all food groups except the milk group (38). Nevertheless, nutrition educators have identified a need for nutrition guidance regarding the dietary needs of children, and the 1995 Dietary Guidelines Advisory Committee has recommended that the development of separate dietary guidelines for children be considered (7). Adaptation of the Pyramid and its accompanying nutrition guidance materials specifically for children is an important component of the effort to help children apply the Dietary Guidelines for Americans.

The term “children,” in this article, refers to children and adolescents ages 2 through 18 years.
The purpose of this study was to define the target audience for a food guide that would be adapted for children by recommending subgroups within the 2- to 18-year age range and ranking the subgroups in order of greatest need based on dietary requirements and user demand for nutrition education materials. Materials reviewed for this study included journal articles, reference materials (including the Recommended Dietary Allowances and nutrition textbooks), and published and unpublished reports from government agencies. Criteria used to define and rank the subgroups included the following:

- nutrient needs of children,
- nutrition recommendations for children by authoritative bodies, such as the Dietary Guidelines Advisory Committee,
- nutritional status of children, including macronutrient and micronutrient intake and anthropometric measurements, and
- children’s knowledge and attitudes regarding nutrition.

These criteria were used to define subgroups and to list facts in favor of and against adapting a food guide for each subgroup.

**Nutrient Needs of Children**

The Recommended Dietary Allowances (RDA) provide information concerning children’s nutrient needs, as well as the nutritional needs of the rest of the population (23). The 1989 RDA are expressed for the following age-gender groups:

- children, ages 1 to 3 years;
- children, ages 4 to 6 years;
- children, ages 7 to 10 years;
- males, ages 11 to 14 years;
- females, ages 11 to 14 years;
- males, ages 15 to 18 years;
- and females, ages 15 to 18 years.

The National Academy of Sciences’ Food and Nutrition Board, however, is in the process of replacing these RDA with new dietary recommendations: Dietary Reference Intakes (DRI). DRI were released recently for calcium, phosphorus, magnesium, fluoride, vitamin D, thiamin, riboflavin, niacin, vitamin B6, folate, vitamin B12, pantothenic acid, biotin, and choline (31,32). Reference intake values were published for the following age groups: 1 to 3 years, 4 through 8 years, 9 through 13 years, and 14 through 18 years.

The current RDA (or AI for calcium, fluoride, vitamin D, pantothenic acid, biotin, and choline) for children were

(a) extrapolated from infant or adult research results (vitamins A, K, C, B6, B12, riboflavin, niacin, folate, biotin, choline, pantothenic acid, selenium, iodine, and manganese),

(b) based on growth and consumption data (energy, protein, iron, phosphorus, and potassium),

(c) estimated based on weight (fluoride and vitamin E),

(d) based on studies on balance in children, but not necessarily with all the above age groups (thiamin, zinc, copper, sodium, calcium, and magnesium), or

(e) estimated based on biochemical markers (vitamin D) (23,31,32).

Because the RDA/AI for children were largely extrapolated or calculated rather than determined directly from studies of children, there is no overriding reason for using the RDA age-gender cutoffs for a children’s food guide. Information on children’s dietary intakes, nutritional status, and dietary recommendations—as well as information on their attitudes, knowledge, and behavior—must also be considered when determining which groups of children are most in need of nutrition guidance.

**Nutrition Recommendations for Children**

**Recommendations of the U.S. Government**

A number of recommendations indicate what constitutes a healthful diet for children. The Dietary Guidelines for Americans, the basis of Federal nutrition policy (39), provide advice about food choices that promote health and prevent disease among healthy Americans 2 years old and older. The Guidelines advise Americans to eat a varied diet with plenty of grain products, vegetables, and fruits, while moderating their intakes of fat, saturated fat, cholesterol, sugars, salt and sodium, and alcoholic beverages. In addition to emphasizing the benefits of physical activity, the Guidelines provide some specific advice for children: they should be taught to eat grain products; vegetables and fruits; lowfat milk products or other calcium-rich foods; beans, lean meat, poultry, fish or other
protein-rich foods; and to participate in vigorous physical activity. The Guidelines caution that fat should not be restricted for children younger than age 3, that major efforts to change a child’s diet should be accompanied by monitoring of growth at regular intervals by a health professional, and that children should not consume alcoholic beverages. The Guidelines also recommend that children between the ages of 2 and 5 should gradually adopt a diet so that it contains no more than 30 percent of calories from fat by the time children are about 5 years old (39).

The report Healthy People 2010 outlines a national strategy for improving significantly the health of Americans during the 2001 to 2010 decade (42). Included in the 2010 report is a recommendation to reduce fat intake to an average of 30 percent of calories or less and saturated fat intake to an average of less than 10 percent of calories among people 2 years old and older. The National Cholesterol Education Program recommends that total fat intake averages no more than 30 percent of calories (24). These recommendations are consistent with the advice given in the 1990 Dietary Guidelines; the 1995 Dietary Guidelines amended this advice, stating that children between the ages of 2 and 5 should gradually reduce their total fat intake so that by age 5, they are consuming no more than 30 percent of calories from fat.

Recommendations of Other Organizations
Several organizations provide dietary advice for children that is consistent with the basic principles of the Dietary Guidelines for Americans. The American Academy of Pediatrics, for example, recommends that children eat a wide variety of foods and consume enough calories to support growth and development and to reach or maintain advisable body weight. The Academy also recommends that children over the age of 2 consume, on average, 30 percent of total calories from fat, less than 10 percent of calories from saturated fat, and less than 300 mg of cholesterol per day. However, the Academy cautions that “recommendations that call for ‘less than’ 30 percent of calories from fat may lead to the inappropriate use of more restrictive diets” (3).

The American Heart Association (AHA) concurs with the recommendation of the Dietary Guidelines that children between the ages of 2 and 5 gradually adopt a diet containing 30 percent or less of calories from fat. The AHA also agrees with the Dietary Guidelines’ recommendation that diets of young children should maintain the primary emphasis on providing adequate calories and nutrients for normal physical activity, growth, and development (17).

Some disagree about the age at which children should adopt a lower fat diet. A joint working group of the Canadian Paediatric Society and Health Canada recommended a longer transition period to a diet lower in fat, compared with that recommended by the Dietary Guidelines. The joint working group advised that the transition from the high-fat diet during infancy (about 50 percent of calories from fat) to a diet that includes no more than 30 percent of calories as fat and 10 percent of calories as saturated fat take place between the age of 2 and the end of linear growth (about age 14 for females and 15 for males) (14). The rationale for the working group’s recommendation was based on (1) lack of...

Other studies have also concluded that it is safe to recommend that fat intake be limited to 30 percent of calories and saturated fat intake to less than 10 percent of calories for children 5 years old and older . . . .
would either reduce illness in later life or provide short-term health benefits and (2) concerns that some children consuming a diet with low fat intakes have lower energy intakes and low intakes of some nutrients.

To support their position, the Canadian Paediatric Society and Health Canada cited a publication from the Bogalusa Heart Study in which 24-hour recalls were obtained from about 870 10-year-olds whose diets were stratified by fat intake: those with less than 30 percent of calories from fat had lower intakes of many nutrients than did children with higher fat intakes. The children with the lower percentage of calories from fat also had higher intakes of simple carbohydrates (25). The children enrolled in the Bogalusa Study had not been exposed previously to any dietary intervention programs. Therefore, it cannot be concluded, on the basis of the Bogalusa Study, that children—whose parents and caregivers have been instructed on how to moderate dietary fat intake—will be unable to meet their nutrient requirements on a diet containing 30 percent of calories from fat.

Other researchers have concluded that children can safely follow diets containing 30 percent of calories from fat. The Dietary Intervention Study in Children (DISC) is an ongoing, randomized study that is a controlled clinical trial of diets containing lowered fat, saturated fat, and cholesterol. About 660 children ages 8 to 10 who were enrolled in 6 centers, located around the country, were assigned randomly to either control groups or groups receiving behavioral intervention to promote their following a diet providing 28 percent of calories from total fat, less than 8 percent of calories from saturated fat, and less than 150 mg of cholesterol (less than 75 mg/1,000 calories) per day. After 3 years, dietary levels of total fat, saturated fat, and cholesterol and blood levels of low-density lipoprotein cholesterol (LDL-C) decreased significantly in the intervention group, compared with the control group. The two groups, however, did not differ significantly on measures of growth and development: Height, red-blood-cell folate values, serum zinc, retinol and albumin levels, sexual maturation, and psychosocial health.

The DISC study found that children grew and developed normally after being instructed on consuming a lower fat diet. The children in the intervention group had lower LDL-C levels than the controls. The researchers concluded, therefore, that the diet was effective as well as safe (19). Other studies have also concluded that it is safe to recommend that fat intake be limited to 30 percent of calories and saturated fat intake to less than 10 percent of calories for children 5 years old and older (26,29,35).

Another recommendation regarding children’s diets addresses their requirements for dietary fiber. The Dietary Guidelines recommend that individuals 2 years and older choose a diet with plenty of grain products, vegetables, and fruits to provide adequate fiber. But the Guidelines do not set specific numerical goals for fiber intake. The American Health Foundation published a recommendation that a child’s fiber intake be equivalent to his or her age plus 5 grams (g) a day ("age + 5"), with the recommendation ranging from 8 g a day for a child age 3 to 25 g a day for a person age 20 (44).

### Nutritional Status of Children

#### Dietary Intake—Energy

Data on children’s food consumption are provided by several national surveys: DHHS’s National Health and Nutrition Examination Survey (NHANES III), USDA’s Continuing Survey of Food Intakes by Individuals (CSFII), and the Market Research Corporation of America (MRCA) (1,10,16,37). Median energy intakes below 100 percent of the RDA for several age-gender groups were reported in NHANES III results (10). The CSFII 1994-96 reported that about half of the children 5 years old and younger had energy intakes below the RDA, and about 20 percent had energy intakes below 75 percent of the RDA. About 60 percent of males and 75 percent of females 6 to 19 years old had energy intakes below the RDA (37).

Rather than a reflection of actual low intakes of energy by children, these low intakes of energy could be the result of underreporting the foods eaten or of low energy expenditures by children. Several studies have reported that preschool-age children have energy expenditures lower than the RDA (6,11,12). In contrast, the prevalence of overweight among children has been increasing (36). According to CSFII 1994-96, about 5 to 10 percent of all children have energy intakes at or above 150 percent of the RDA (37).

#### Dietary Intake—Macronutrients and Fiber

Food consumption surveys report that, on average, children are consuming more than 30 percent of calories from total fat and more than 10 percent of calories from saturated fat (fig. 1) (1,10,16,37). Kennedy and Goldberg, using CSFII 1989-91 data, reported that over three-fourths of all children exceeded...
Figure 1. Percent of calories from total fat and saturated fat in children’s diets exceeds recommendations

recommendations for total fat and saturated fat (15). Improvement was slight by 1994, when roughly two-thirds of all children exceeded the recommendation for total fat and saturated fat (16). Because of the Guidelines’ recommendation for gradual adoption of a diet low in fat, concern is greater for children 5 years and older than it is for children 2 to 5 years old. The CSFII 1994-96 also reported that adolescent males are consuming more than 300 mg/day of cholesterol, the upper limit of cholesterol intake listed on the Nutrition Facts label (37).

Other studies have confirmed the findings regarding children’s fat intake: most are consuming more than the recommended levels. About ninety 3- to 5-year-old children enrolled in the Framingham Children’s Study4 consumed an average of 33 percent of calories from fat (28). Albertson and Tobelmann, analyzing 1986-88 MRCA data, reported that among 825 children ages 7 to 12, those who frequently ate ready-to-eat cereal (7 or more times in 14 days) consumed a lower percentage of calories from fat, compared with others who consumed ready-to-eat cereals less frequently: 2 to 6 times in 14 days or less than 2 times in 14 days. However, all three groups consumed more than 30 percent of calories from fat (2).

Data from the CSFII 1994-96 showed that young children’s mean intakes of dietary fiber met the “age + 5” recommendation of the American Health Foundation. Children 5 years old and younger had mean fiber intakes of about 11 g a day. However, older children began to fall short of the fiber recommendations: males and females 6 to 11 years old consumed about 14 g and 12 g of fiber per day, respectively; their counterparts 12 to 19 years old consumed about 17 g (males) and 13 g (females) per day (37).

Dietary Intake—Micronutrients

American children are more likely to get adequate amounts of vitamins and minerals than they are to meet Dietary Guideline recommendations for total fat and saturated fat intake. However, some nutrients are consumed at levels below recommended amounts by some groups.
in the U.S. population. For example, vitamin E and zinc are consumed at levels below 100 percent of the RDA by most children 2 to 19 years old (37). According to CSFII 1994-96, on the days surveyed, only about 60 percent of children 5 years and younger, 60 percent of children 6 to 11 years old, and only 28 percent of females 12 to 19 years old consumed 100 percent or more of the RDA for iron. Only about one-third of males and females 12 to 19 years old consumed 100 percent or more of the RDA for vitamin A (37).

Calcium is another nutrient that children consume at levels below recommendations. Average calcium consumption is below the 1989 RDA for children 12 to 19 years old (fig. 2). In 1994-96, about half of the children 11 years old and younger consumed 100 percent or more of the 1989 RDA for calcium; just over one-third of males 12 to 19 years old and about 15 percent of females 12 to 19 years old consumed 100 percent or more of the calcium RDA (37). Even fewer children ages 9 and older would meet the new Adequate Intake for calcium, which increased to 1,300 mg (31).

Compared with other children, adolescents, particularly adolescent females, had the greatest problems in meeting their nutrient requirements. Adolescent females reported the lowest energy intakes in proportion to their energy requirement (37). Findings of MRCA data from 1991-94 show that most adolescents ages 11 to 17 consumed less than 2 servings (the minimal number recommended) of fruits a day. Twelve percent of adolescents consumed no fruits in a given day (43). Krebs-Smith et al. examined 3-day data from CSFII 1989-91 for children and adolescents 2 to 18 years old. Even after foods were separated into their component ingredients (e.g., credit is given for vegetables in mixed dishes, such as on pizza or in sandwiches), only one in five children consumed the recommended 5 servings of fruits and vegetables a day. One-quarter of all vegetables that were consumed were French fries. Children from families with higher income consumed more servings of fruits and vegetables, compared with children from families with lower income (18).

Data from the CSFII 1994-96 also showed that children’s intake of fruits and vegetables was low. Only about one-fourth of children 2 to 11 years old consumed the minimal 3 servings of vegetables a day that are recommended by the Pyramid, and only about 40 percent of females and 55 percent of males 12 to 19 years old met the minimal number of servings. About half of all 2- to 5-year-olds consumed the minimal 2 servings of fruit a day recommended by the Pyramid, but this dropped to about one-fourth for males and females 11 to 19 years old (37). Low intakes from one food group could explain some of the low nutrient intakes, particularly for vitamins A and C and folate.

Sodium intakes for many children are higher than 2,400 mg a day, its upper limit (listed on the Nutrition Facts label). Children 6 years old and older had median sodium intakes greater than 2,400 mg a day according to NHANES data (which includes allowances for salt added at the table and sodium in water and medications) (10). In the CSFII 1994-96 (which reports only sodium intake from food), the mean sodium consumption for all children 3 years old and older exceeded 2,400 mg a day. Mean sodium consumption for males ages 12 to 19 years was 4,407 mg a day (37).

**Anthropometric Indices**

Weight and height indicators from NHANES III show that underweight is a concern for about 5 percent of 2- to 17-year-olds (only 2 percent of 12- to 17-year-old females) (10). Overweight, when defined as a weight for height greater than the 95th percentile, occurred in 10.9 percent of children ages 6 through 17 (36). When overweight was defined as a weight for height greater than the 85th percentile, the incidence of overweight increased to 22 percent (36). The prevalence of overweight increased between 1963-65 and 1988-91 among all age-gender groups, with the greatest increase occurring between 1976-80 and 1988-91 (36).

A study of the prevalence of overweight among preschool-age children 2 months through 5 years old found that overweight among 4- and 5-year-old females increased from 5.8 percent in 1971-74 to 10 percent in 1988-94. Overweight was defined, in this study of NHANES data, as being above the 95th percentile of the appropriate measures of the National Center for Health Statistics: weight-for-stature, weight-for-length or weight-for-stature growth curve. The prevalence of overweight did not increase among younger children. However, the increase in prevalence of overweight in children as young as 4 years old suggests that efforts to prevent overweight should begin in early childhood (27).

The increase in obesity is surprising, because many children are reporting energy intakes below the RDA. Lack of physical activity may be responsible for the increase, and the number of hours children watch television has been linked to obesity in this age group (8).
Consumer Research—Children’s Knowledge and Attitudes About Nutrition

When adapting a food guide for children, USDA staff believe it is useful to find out what children know about nutrition, what their attitudes are about foods and nutrition, and what nutrition education programs have been successful. Children have been the target audience for some qualitative and quantitative studies; however, information about their knowledge and attitudes regarding nutrition is far more scarce than information about adult’s knowledge and attitudes.

Qualitative Studies

In late 1991, in preparation for developing nutrition labeling materials for children, KIDSNET, Inc., an organization working on children’s educational issues (in cooperation with the U.S. Food and Drug Administration [FDA]), sponsored mini-focus groups (3 children in each group) with children 6, 8, and 12 years old. The focus groups were designed to examine children’s attitudes and behavior regarding food, as well as their awareness and knowledge of the relationship between nutrition and food. Six focus groups (with a mixture of racial and income groups) were conducted in the Washington, DC, area. The children reported having some influence over the foods they eat, particularly breakfast cereals, snack foods, and lunches. Some 6-year-olds even reported making their own lunches.

Results from the mini-focus group showed that the children’s age influenced their knowledge of nutrition. Twelve-year-old children could name food groups and were aware that carbohydrate, protein, fat, vitamins, and minerals are found in food. Younger children did not have a clear understanding of food groups, and many children thought of vitamins as products that come in a bottle from the drugstore. However, even though the 12-year-old children were fairly knowledgeable about nutrition, their knowledge did not carry over to their own dietary patterns. Taste, instead, was their primary consideration in making food choices. In the words of one 12-year-old participant: “We hear ‘Eat right. Don’t do drugs.’ It’s getting boring, like a broken record, so we just tune it out” (30).
The increase in prevalence of overweight in children as young as 4 years old suggests that efforts to prevent overweight should begin in early childhood.

The FDA sponsored two focus groups, each consisting of six to eight females 13 to 15 years old from various racial and ethnic groups. The purpose of the focus groups was to determine the types of nutrition messages the participants would find compelling and to determine which format(s)—for messages about calcium—the participants would most likely pay attention to. These focus groups were held in the Washington, DC/Baltimore, MD, metropolitan area.

The results revealed that the participants had a fairly good knowledge of nutrition; they could name nutrients and make associations between a nutrient and its function, for example, “calcium makes your bones strong.” Participants said they tended to pay more attention to eating a healthful diet when they were actively involved in a sport. (Most were active in at least one sport.) A frequently mentioned barrier to healthful eating was related to school lunches: lunch periods were often rushed and at odd hours of the day. Participants expressed a preference for educational materials that contained bold, bright colors and little or no text.

The International Food Information Council sponsored one focus group with 9- to 12-year-old children and another with 13- and 14-year-olds to evaluate a prototype nutrition brochure. All of the participants had seen the Food Guide Pyramid, and all said they already knew about the importance of eating vegetables, fruits, and grain products. The participants, however, believed these concepts were “boring, because everyone knows that,” and they believed that information about eating breakfast, smart snacking, and balance was important. They also thought information about physical activity was important but believed that activities portrayed should be relevant to their age group. Activities such as golf and racquetball were perceived as “adult” sports.

Because these studies were conducted using locally available samples and were conducted in urban areas, the results must be interpreted cautiously and cannot be generalized to all children.

Quantitative Studies
The Kellogg Company surveyed children about their nutrition knowledge, attitudes, and behavior. A nationally representative school-based survey was conducted in 1988-89 with 5,000 students in Grades 3 through 12. Over half of the respondents in this survey believed nutrition is “very important”; however, nutrition was considered less important by older children than by younger ones. Almost three-quarters of elementary school students considered nutrition “very important,” compared with about half of junior high school students and only about one-third of high school students.

The Kellogg survey also found that the positive attitudes of many children did not always translate into appropriate behavior, confirming the results of the qualitative studies referred to earlier in this paper. Only about one-third of all school-age children responded “often” (rather than “sometimes” or “rarely”) to the statement “I eat the right foods.” Children who agreed strongly with the statement that too much cholesterol and saturated fat are bad for health reported eating foods high in these components as often as did other children, thus demonstrating that their knowledge did not change their behavior. The authors of the Kellogg survey suggested that lack of sufficient knowledge could be partially responsible for this disconnect—the children might know that excessive...
dietary cholesterol and saturated fat are unhealthful, but they may not know which foods are rich sources of these components (13).

Lack of adult supervision could also account for some of the poor eating habits reported by the participants of the Kellogg survey. About 60 percent of children reported coming home to an empty house at least once a week, with more than one-third coming home alone three or more times a week. These “latchkey” children were more likely to report that they, rather than their parents, have more control over what they eat (60 percent of “latchkey” children; 35 percent of all elementary schoolchildren).

Eating away from home frequently could influence children’s diets. According to USDA’s CSFII 1994-96, about 40 percent of children 5 years old and younger and over two-thirds of children 6 to 19 years old reported eating at least one food item away from home on the day of the survey. The most frequently mentioned sources of food away from home were fast-food restaurants, school or day care, someone else or gift, and stores (37).

The Kellogg Survey also found that almost one-third of school-age children believed they were overweight (13). This figure is somewhat higher than the 22 percent of children 6 to 17 years old who were found to be overweight by NHANES III. This difference raises a possibility: some children whose weight is normal think they are overweight. Thus dieting is a common behavior among children; about 40 percent of all school-age children participating in the Kellogg Survey reported having been on a diet. More females than males reported dieting, and most of the children who reported dieting did so for cosmetic reasons rather than for health (13).

Lack of physical activity has been cited as a possible reason for the increase in the percentage of children who are overweight (6,8,11,12). The Kellogg Survey, on the other hand, found that schoolchildren do consider exercise to be important. Elementary schoolchildren reported taking part in physical activity over five times a week; high school students reported being involved in physical activity about four times a week (13).

The Youth Risk Behavior Survey, a component of the Youth Risk Behavior Surveillance System (Centers for Disease Control and Prevention), is a national school-based survey of students in Grades 9 through 12. It contains a series of questions, parts of which are nutrition- or diet-related. Male students responding to this survey were significantly more likely than female students to consider themselves the “right weight” or “underweight” (86 vs. 66 percent). Female students were significantly more likely than male students to report trying to lose weight at the time of the survey (44 vs. 15 percent). Over one-fourth of female students who considered themselves the “right weight” reported trying to lose weight. And female students were significantly more likely than their male counterparts to report either currently or ever having used inappropriate practices to lose weight: such as, skipping meals, taking diet pills, or inducing vomiting (40).

The Youth Risk Behavior Survey asked students in Grades 9 through 12 how often they participated in vigorous activity in the 2 weeks preceding the survey. Vigorous activity was defined as “at least 20 minutes of hard exercise that made you breathe heavily and made your heart beat fast” (41). About one-third of all students reported being vigorously active three or more times a week, but female students were half as likely than male students to report regular vigorous activity (25 vs. 50 percent), and African American students were less likely than White or Hispanic students to report regular vigorous activity (30 vs. 40 and 35 percent, respectively) (41).

Studies of Nutrition Education Programs—What Works
USDA conducted research to evaluate adults’ comprehension and perceived usefulness of its food guide and to develop a graphic presentation of the food guide (43). USDA also conducted research to determine the effectiveness of the resulting graphic of the Food Guide Pyramid with three target audiences: children, consumers with less than a high school education, and low-income consumers. USDA, in 1991, collaborated with DHHS and contracted with private industry (4) to develop and test graphic alternatives (including a bowl, shopping cart, and dinner plate) to the Food Guide Pyramid for conveying the key concepts of variety, proportionality, and moderation.

Qualitative findings indicated that children preferred the Pyramid graphic to the alternatives tested. They, as well, learned the most information from the Pyramid. Teachers also preferred the Pyramid as a teaching tool, compared with the alternatives (4). For the quantitative phase of the research, interviewers questioned 3,017 individuals, including 1,523 children in Grades 2 through 10. The children’s responses to the 60-item questionnaire indicated that the Pyramid graphic conveyed the concepts of variety, proportionality, and moderation. Younger children (Grades 2 to 3),
The Center selected the preschool-age group (2 to 6 years) as the target audience for an adapted food guide.

However, understood variety more so than proportionality and moderation (4).

**Effectiveness of Nutrition Education Programs**

The Food Guide Pyramid adapted for children needed to integrate relevant findings from a recent comprehensive review on the effectiveness of methods used in nutrition education. This review revealed that programs using educational methods directed at behavioral change as a goal were more likely than other programs to be successful—that is, they were more likely to result in some behavioral change than were programs that focused on only distributing information (5).

Contento et al. recommended that programs be behaviorally based and appropriately designed for the child’s stage of cognitive development (5). Preschool and early elementary school-age children (4 to 7 years) need activities that allow them to modify their environment. Providing food-based activities and having adults model eating behavior are appropriate for this age group. Also, parents’ or other caregivers’ involvement with children in this age group is an important factor contributing to success. Older elementary school-age children (8 through about 11 years) still need to have information presented in concrete terms. Food-classification activities and modeling by adults are appropriate for this age group, and involvement with parents and the community is still important for programs targeted for this age group.

Adolescents (second decade of life) move from concrete to abstract thinking and are able to comprehend more abstract information, such as the relationship between diet and health—present and future. They need activities that encourage critical thinking, such as exploring the influence of diet on health and the environment. With this age group, parents’ involvement becomes less important, because adolescents are more likely to be influenced by their peers than by their parents or caregivers (5).

The quantity and quality of existing nutrition education materials for specific age groups of children must also be considered when selecting a target audience. Recently, Swadener reviewed research related to nutrition education for preschool-age children (33), and Lytle reviewed research related to nutrition education for school-age children (20). Both found that while many nutrition education materials are directed toward children, improvements and follow-up are needed to determine whether the materials are really effective.

Swadener found that many nutrition education materials developed for preschool children did not include an evaluation component, many programs were not conducted for a sufficient time to result in changes in attitudes or behavior, and few programs were designed for use with children from dysfunctional or marginally functional families. Lytle concluded that more tools are needed for assessment of change in children’s and adolescents’ eating behavior and that adolescents, in particular, could benefit from exposure to strategies that modify behavior. Lytle also found that more programs are needed: ones that target multi-ethnic groups as well as involve families of school-age children.
## Pros and cons of adapting the Food Guide Pyramid for use with three groups of children

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<tr>
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<th>Pros</th>
<th>Cons</th>
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<tbody>
<tr>
<td><strong>Preschool age (2 through 6 years)</strong></td>
<td>Have special needs, re: fat, smaller serving sizes</td>
<td>Educational materials must target parents and caregivers, not child directly</td>
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<tr>
<td></td>
<td>Peer pressure not a problem</td>
<td>Fat message (children this age need more fat) may confuse parents, because this need is temporary</td>
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<td>Can reach them through the Special Supplemental Feeding Program for Women, Infants, and Children and the Child and Adult Care Feeding Program</td>
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<td>Developmentally a good time to reach (e.g., when food habits are still being formed)</td>
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<td></td>
<td>Can counteract exposure to television advertising of high-calorie foods</td>
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<td></td>
<td>Not as many materials targeting this age group as for older children</td>
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<tr>
<td><strong>Elementary school age (7 through 11 years)</strong></td>
<td>Think nutrition is important but don’t act on it; they are “reachable”</td>
<td>Already a large amount of nutrition education material available for this audience (however, not all of it is relevant or appropriate)</td>
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<td></td>
<td>Beginning to take more responsibility for their own food choices</td>
<td>Current food guide already meets nutrient needs</td>
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<td></td>
<td>Easier to reach (through a single classroom teacher) than younger or older children</td>
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<tr>
<td></td>
<td>(where nutrition education may be provided by a diverse group of individuals)</td>
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<tr>
<td><strong>Adolescents (12 to 18 years)</strong></td>
<td>More problems meeting nutrient needs</td>
<td>Current food guide already meets nutrient needs</td>
</tr>
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<td></td>
<td>Not many materials targeting this audience</td>
<td>Difficult audience to reach—need different ways to communicate food guide, not necessarily different food guide</td>
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<td></td>
<td>Make many of own food choices</td>
<td>Need more individualized messages—e.g., for athletes vs. nonathletes</td>
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<td></td>
<td>Perhaps can turn weight concerns into motivation for change</td>
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Decision Point—Target Audience for the Food Guide Pyramid for Children

Because of differences in nutrient needs (23,31,32), current food consumption patterns (10,16,37), and stages of educational development (5), a single food guide cannot meet the needs of all children 2 to 18 years old. Based on children’s nutrient needs and developmental level, staff of the Center for Nutrition Policy and Promotion identified three age groups for which a Pyramid could be developed:

• Preschool and early elementary age (2 through 6 years)
• Elementary school age (7 through 11 years)
• Middle and high school age (12 to 18 years)

The Center staff considered several factors when deciding which age group should be targeted for an adapted food guide:

• Does the existing food guide meet this group’s dietary needs, or does this group have specific nutritional and health problems that an adapted food guide could help to address?

• If the existing food guide meets the group’s dietary needs, has it been successful in influencing the group’s behavior? Is there a need for an alternate presentation of the existing food guide to better reach this group?

• What nutrition education materials exist for this audience?

• What are the educational considerations for this group? Will children be able to use the new food guide directly? Will they use the materials with guidance from a parent or caregiver? Or will the materials be developed for the parent or caregiver?

• Is there user demand for a new food guide for this group?

• What is the social effect of the decision? Will different food guides for different ages create confusion?

Based on these factors, Center staff listed pros and cons for developing an adapted food guide for each age group (table) and considered these issues when making the decision regarding the target audience.

Implications and Recommendations for a Food Guide for Preschool-Age Children (2 to 6 Years)

The Center selected the preschool-age group (2 to 6 years) as the target audience for an adapted food guide because there is a greater need for verifying the scientific basis of the food guide, both from a physiological and developmental viewpoint for 2- to 6-year-olds than for older children. The rationale for this conclusion follows:

• Nutrient needs of preschool-age children differ from those of older children. The Dietary Guidelines for Americans recommend that the level of dietary fat be gradually decreased from current levels (about 34 percent of calories from fat) to 30 percent of calories by the time the child is about 5 years old (39). Concerns about undue food and fat restrictions for children in this age group, leading to “failure to thrive,” have been expressed by the American Academy of Pediatrics (3). Because the current Food Guide Pyramid assumes a dietary fat intake of 30 percent of calories, Center staff concluded that additional guidance is needed for parents and caregivers of children less than 5 years old.

Adaptation of the food guide for this age group uses the same framework of food groups as the original food guide. Thus the framework blends into later learning activities in school where concepts are added, for example, nutrient content of different types of foods; how foods are grown, processed, and delivered; how different food items are used in different cultures; and how “new” foods have been historically introduced into the American diet. Using the same framework of food groups also makes the new food guide more practical for family food managers to use. The process used to adapt the food guide for the preschool and early elementary-age audience is described elsewhere in this issue (22,34).
Food Guide Pyramid

Ethnic/Cultural

- Asian Diet Pyramid
- Bilingual Food Guide Pyramids in over 30 different languages
  (Georgia State University)
- Comparison of International Food Guide Pictorial
  Representations - PDF format
  (American Dietetic Association)

Cultural Food Pyramids
Created by SEMDA members and dietetic students
(Southeastern Michigan Dietetic Association)
- Arabic Food Pyramid
- Chinese Food Pyramid
- Cuban Food Pyramid
- Indian Food Pyramid
- Italian Food Pyramid
- Mexican Food Pyramid
- Portuguese Food Pyramid
- Russian Food Pyramid
- Thai Food Pyramid
- Japanese Food Pyramid

- Mediterranean Diet Pyramid

- Native American Food Guide
  (California Adolescent Nutrition and Fitness Program)

- Spanish Daily Food Guide Flyer ("Guia Diaria de Alimentos")
  (Cooperative Extension/University of Illinois)

Special Audience

- Activity Pyramid
- Interactive Food Guide Pyramid
  (KidsHealth)
- Food Guide Pyramid Quiz for Preschool Nutrition
  (Virginia Cooperative Extension)
- Pyramid Tracker for Kids age 7 - 10
  (Virginia Cooperative Extension)
- Food Guide Pyramid Concentration Game
  (Virginia Cooperative Extension)


3/2/03
Food Guide Pyramid for People Over 70 Years
(Tufts Nutrition Commentator)

USDA's Food Guide Pyramid Booklet -Spanish Version

Vegetarian Diet Pyramid

Actual Consumption Pyramid (Color Image)

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This page was last modified on February 2003.
Nutritional Education for New Americans Project

Downloadable Materials

At present, we have materials in 37 languages, which are available to anyone. Language sets contain Food Pyramids plus four handouts for healthy adults, mothers and babies, mature adults, and children, which may be used individually or as a package. All are bilingual and copyright free. We encourage you to make copies and distribute these materials freely.

Click on the language links below to go to a page where you can view each individual page or a Adobe PDF file of all pages.

Amharic
Arabic
Bengali
Bosnian
Cambodian (Khmer)
Chinese
English
Farsi
French
German
Greek
Gujarati
Haitian Creole
Hebrew
Hindi
Hmong
Igbo
Japanese
Korean

Kurdish (Bahdiny or Bahdinani)
Kurdish (Sorany or Swrany)
Laotian
Oromo
Polish
Portuguese
Romanian
Russian
Somali
Spanish
Swahili
Thai
Tigrinian
Turkish
Ukrainian
Urdu
Vietnamese
Yoruba

http://monarch.gsu.edu/nutrition/download.htm

3/2/03
Useful Internet Resources:

American Heart Association
http://www.americanheart.org/

Food and Nutrition Information Center (FNIC)
http://www.nal.usda.gov/fnic

ERIC Clearinghouse on Teaching and Teacher Education -- Health, Physical Education, Recreation and Dance Division
http://www.ericsp.org/pages/healthpe/index.html

Tufts University Nutrition Navigator
http://navigator.tufts.edu/

http://www.askeric.org/Virtual/Lessons/Health/Nutrition/NU10005.html
Personal Word Wall

Make a tri-fold from two file folders. Staple each sheet of the Personal Word Wall to each side of the tri-fold. Make a Personal Word Wall for each student. At the center, have student's record words from text they have read. During writing time, encourage students to use the Personal Word Wall as a resource for spelling and word choice.

Notes:
• Words on the Personal Word Wall may be individualized for each student
• Words may include: high frequency words, hard-to-spell words, interesting words or phrases etc.