Introduction to Nutrition: 
Teaching Students Healthy Eating Habits

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Education 200
Curriculum Project
December 15, 2005
Introduction

We have decided to design a curriculum unit on an introduction to nutrition for a first grade class. The unit is intended to teach students the importance of making good nutritional decisions by examining the food pyramid, analyzing nutritional information and categorizing foods as healthy vs. less healthy. After assessing their own eating habits, students will understand how to change these habits by making healthy choices and eating balanced meals. Through the use of various disciplines such as reading, writing, and math, this curriculum project will provide a creative way for students to learn the importance of maintaining a healthy lifestyle as well as provide students with the opportunity to connect school learning with life at home.

Context

This unit is designed for an ethnically diverse class of first graders. Taught over a five day period to a class of 20 students, each lesson will be completed in a 30 to 50 minute time frame, depending on the complexity of the designated activities. We chose to design this unit around the type of class previously mentioned because of our own personal experiences in a Hartford Public School; the context is appropriate as it mirrors the diversity of Hartford’s population.

Objectives

We have identified a variety of objectives that will be met through a range of activities to be completed throughout the unit. The objectives are as follows:

- Students will identify foods as healthy vs. unhealthy and will classify foods in terms of their nutritional value.
• Students will predict the nutritional value of foods consumed at home.
• Students will recognize different food groups from the food pyramid and foods that fit into each group.
• Students will apply basic knowledge of greater than and less than to numerically compare nutritional information.
• Students will create their own definitions of “healthy” eating habits.
• Students will assess their own nutritional habits.

The first reason that these objectives have been selected is that they meet the Connecticut State Department of Education’s Content Standards established for grades K-2. These standards presented emphasize a healthy and active life in which “students will establish and maintain healthy eating patterns” (CT Curriculum Trace Maps).

Specifically, standards that are met by our curriculum design correlate to the State’s objectives that state that students will:

• Identify food groups and classify foods into appropriate food groups; distinguish between nutritious and innutritious snacks (1.K-2.1)
• Recognize and eat a variety of foods for good health, including unfamiliar and culturally diverse foods; identify the components of and be able to plan healthy meals and snacks (1.K-2.3)
• Identify that resources exist for obtaining reliable nutrition information (1.K-2.7)

In addition to meeting the state recognized standards, our objectives also address the nation’s growing problem of childhood obesity. According to the American Obesity Association, approximately 30.3% of children from six to eleven years of age are overweight and 15.3% are obese. Statistics show that an alarming proportion of these children are of Latino descent, similar to the ethnicity of the students making up the population of Hartford’s classrooms. The fact that the USDA has recently translated the
new version of the food pyramid into Spanish evidences that a great number of Hispanics are in fact affected by this epidemic (Gresko). Clearly, these statistics prove that a unit on nutrition would be beneficial to all students and perhaps could eventually help these numbers to decrease.

Another justification for this unit refers to our own personal experiences in the Hartford Public Schools. Having worked with kindergartners and first graders, it has come to our attention that students are bringing unhealthy snacks from home. Snack-time for these students represents a time in which it is appropriate for them to fill their stomachs with cookies, candy bars, and other sugar-filled foods. These observations of the eating choices these students are making show that they are unaware of proper nutrition. In order to point these students in the right direction to maintaining a healthy life, a unit on nutrition is essential.

Finally, the objectives we have chosen for this unit are appropriate because they meet elements of Bloom’s taxonomy, which identifies different levels of intellectual behavior. Beginning with the lowest possible level, knowledge, the taxonomy gradually increases in level of difficulty, ending with the category of evaluation. Activities included in the beginning of the unit require students to use more basic thinking processes such as identifying, classifying, recognizing and applying. As the unit progresses, students will be asked to use more complex levels of thinking such as comparing, predicting, and assessing. This unit’s objectives incorporate components of each of the six levels of Bloom’s taxonomy which include knowledge, understanding, application, analysis, synthesis, and evaluation.
Activities

The objectives will be met through a variety of activities that incorporate both individual and group work along with whole-class instruction. Because the students are so young, it is important to vary the types of activities in order to keep their interest and help them to maintain focus. Included in the activities are ways in which the students can make real-life connections to the material being taught and ways in which the students can include their families in the learning process. Continuing the learning process at home and in the real world is imperative to making learning meaningful for the students.

A defining component of the unit as well as the main source of evaluation is a personal nutrition diary that the students will complete daily (See attached diary). Immediately following snack-time, students will place their food wrappers or a picture of the snack they ate into a teacher prepared journal. Students will complete a short sentence reflecting upon why they ate what they did. Due to the writing capabilities of the first graders, each diary entry will have a prompt to be completed: I ate ____ because ___________. Based on the notion that students are bringing their own snacks from home, the diary activity reflects the eating decisions each individual child makes both in school and at home. With the advancement of the unit, students will become more aware of the types of foods they are eating. Individual reviews of diary entries, food group categorization, and a class discussion will serve as a culmination to the diary assignment and to the entire nutrition unit as a whole.

Day One:

- Teacher reads aloud The Berenstain Bears and Too Much Junk Food
- Teacher introduces categorization chart with categories of more, less, and no fats, calories, and vitamins
• Teacher re-reads story aloud to class
• Students place plastic and/or real food items mentioned in the story into the categorization chart
• Students complete Day One of their Nutrition Diary

On the first day of the unit, students will be introduced to nutrition through the book *The Berenstain Bears and Too Much Junk Food* by Stan and Jan Berenstain. The teacher will read this fun, colorful book aloud to the students as a way of instigating thinking about what kinds of food can be classified as healthy and unhealthy. Next, the teacher will introduce the class to a simplified version of a nutrition label (Appendix 14). Because nutrition labels are so muddled with information too complicated to be understood by the average first grader, we felt it was important that the teacher create a modified version of it for the students. Emphasizing the fact that high amounts of fats and calories cause a food to be considered unhealthy and less nutritious while high amounts of vitamins cause foods to be considered healthy and more nutritious, the modified, color-coded nutrition chart asks students to categorize a food as having more, less or no fat, calories, and vitamins. After introducing these elements of the chart to the students, the teacher will re-read the story aloud. Then, using plastic and/or real food items that parallel some of the food items mentioned in the story, the students will work as a class to place the foods into the nutrition chart; they will be asked to decide, based on intuition, whether a certain food item should be categorized as having more, less or no fat, calories, and vitamins. For homework for the following day, students will bring in nutrition labels from foods they eat at home.
Day Two:

- Teacher reviews with the class the modified nutrition chart from the day before and assigns numerical values to the more, less, and none columns

- Using the nutrition labels that students brought from home and the modified, numerical nutrition chart, students predict the nutritional value of their own foods

- Teacher introduces the USDA’s MyPyramid for kids to the class

- Students construct their own food pyramid by cutting out pictures from magazines and categorizing them into their proper food groups

- Students complete Day Two of their Nutrition Diary

The second day of the unit begins with a review of the nutrition chart introduced the previous day. In order to transform the chart from that of a general categorization to that which is more specific and similar to an actual nutrition label, the teacher will replace the more, less, and none categories with numerical values; more becomes 10-6, less becomes 5-1, and none becomes 0 (Appendix 15). This conversion makes the labels more real and also comprehensible for the first graders. The students will then use these modified, color-coded nutrition charts to predict the nutritional value of the foods they consume at home. They will place a check in the box that they think is most appropriate for their own food, in terms of the range of fat, calorie, and vitamin content. Next, using the United States Department of Agriculture’s version of the food pyramid, called the MyPyramid for kids, the teacher explains the various food groups and the components of a healthy diet (Appendix 16). We chose to use this version of the food pyramid because it is the most recent and up-to-date version and it is specifically designed for students aged six to eleven. After the teacher presentation, students will have the task of individually constructing their own food pyramids by cutting out pictures from magazines and placing them in their proper food groups. This activity assesses whether
or not the students have an understanding of the different components of the food
pyramid.

**Day Three:**

- Teacher hands back student nutrition labels that were brought in the previous day
- Students fill in the modified, numerical nutrition charts using a modified version of their own nutrition labels
- Using greater than/less than, students compare the information from their labels with information from other students’ labels
- Students complete Day Three of Nutrition Diary

Day three of the unit begins with the teacher handing back the nutrition labels that the students brought in on day two. Along with each original nutrition label, each student will receive a more basic version of the same label created by the teacher overnight; the nutrition information on the real label is converted into a simplified, color-coded label based on the numerical nutrition chart (Appendix 17). The teacher uses his/her own judgment to assign a number between zero and ten to the categories of fats, calories, and vitamins based on the actual numbers present on the nutrition label. For example, if a student brings in a label for a granola bar, the teacher would see that it contains 105 calories based on a 2000 calorie diet. Using the zero to ten scale, the teacher would assign the calorie category an appropriate value, such as four. Because the teacher is trying to relay the general idea of what constitutes nutritious and less nutritious foods, it is unnecessary to use an exact conversion from the numbers on the real labels to the numbers on the modified labels; the goal is to have the students understand that a higher number of fats and calories causes a food to decrease in nutritional value while a higher number of vitamins causes a food to increase in nutritional value. Students will use these
modified labels to fill in a blank nutrition chart, placing check marks in the column appropriate to the range in which the numerical values fall (Appendix 15). In teacher assigned groups of two, students will then use the mathematical concept of greater than and less than, with which they are already familiar, to compare the nutrition information of their own foods with that of the other group member. The numerical value of fats, calories, and vitamins of one person’s label will be compared to the numerical value of fats, calories and vitamins of the other person’s label. For example, if one student’s label says that his food’s fat content has a value of six and the food of his partner has a fat content value of four, the first student would be expected to write down that six is greater than four, whereas the partner would write down that four is less than six. This exercise will be repeated for both the calorie and vitamin categories. By making numerical comparisons with one another, the students will gain an understanding of which foods can be considered healthier or less healthy.

**Day Four:**

- Students create posters that portray their own definitions of “healthy” using drawings or cut-outs from magazines, newspapers, etc.

- Students complete Day Four of their Nutrition Diary

On the fourth day of the unit, school and home life are connected. Using information about the food pyramid and nutrition labels garnered throughout the previous lessons, each student will create a poster that represents their own definition of “healthy” eating. They will draw or cut out pictures from magazines to portray what they believe to be healthy yet enjoyable eating habits. The students will bring their posters home to their parents as a means of teaching their parents how they can be healthier and also as a way of showing their parents healthy foods that they like to eat. Making a connection
between school learning and home life ensures that learning will continue outside of the
classroom and will hopefully have a beneficial effect on the entire family’s nutritional
habits.

**Day Five:**

- Students independently review their nutrition diaries and take a tally of the
  number of foods consumed in each category throughout the week

- Each student places his individual tallies into an aggregate class food pyramid

- Students review class food pyramid results and discuss the implications of the
  results:
  - What do your results tell you about your eating habits?
  - Are you eating healthy foods?
  - How can you improve your nutritional habits?

- Students complete Day Five of their Nutrition Diary

On this final day of the unit, after students have completed their final snack-time
diary entry, the students will individually review their records and will count up how
many snacks they consumed from each food group. Using a food pyramid attached to
their diaries, the students will place the appropriate number of check marks into the
corresponding food groups to show how often they ate a snack from a particular food
group. For example, if a student ate apples on two days and cookies on three days, the
student will place two check marks in the fruit section of the pyramid and three check
marks in the oils/fats section of the pyramid. Next, each student will share his personal
food group tallies with the class by adding his individual results to a poster-sized food
pyramid placed at the front of the classroom. This activity is important because it allows
each individual compare his own habits with those of the class as a whole. As a
culmination to the unit, students will be asked to think about their snack time diary
entries along with the food group tallies in order to have a reflective discussion in which they assess their own eating habits. As a group, students will discuss whether or not good eating decisions are being made, will brainstorm ways in which they can improve upon their nutritional habits, and will draw conclusions about the importance of maintaining a healthy diet.

**Extension:**

As a possible extension to the unit, the class will take a field trip to a local grocery store and will have the task of selecting a nutritious food to eat for a snack. This continuation of the unit reinforces the material learned during the five day unit and allows students to apply their new knowledge to the real world. Also, the field trip is an important way to include the community in the learning process; students will have a fun and meaningful learning experience while shop owners will benefit from the business.

**Evaluation**

In order to ensure that students are in fact learning and processing the material, it is necessary to evaluate them. The main source of evaluation is the Nutrition Diary because of its cumulative nature- it incorporates information learned throughout the entire unit and also incorporates elements of writing, counting, and creativity. Students will be assessed on their daily entries, their categorization of their snacks into appropriate food groups, and on their participation in the reflective discussion on the final day of the unit. Each student will receive an evaluation of excellent, satisfactory, or needs improvement based on the amount of effort exhibited by the assignments. Due to the fact
that the students are only in first grade, we felt that it is inappropriate to assign precise, formal letter grades. Objectives met by the Nutrition Diary exercises are as follows:

- Students will recognize different food groups from the food pyramid and foods that fit into each group.
- Students will assess their own nutritional habits.

In addition to the diary, students will be evaluated on the nutrition chart activities completed on days two and three of the unit. These activities, which incorporate elements of mathematics, specifically making numerical predictions and creating sentences using greater than/less than, provide tangible evidence as to whether or not the students grasp the mathematical connection to nutrition. Objectives met by these activities include:

- Students will identify foods as healthy vs. unhealthy and will classify foods in terms of their nutritional value.
- Students will predict the nutritional value of foods consumed at home.
- Students will apply basic knowledge of greater than/less than to numerically compare nutritional information.

Students will also be evaluated on their construction of the food pyramid in which they place pictures of foods into their appropriate food groups. This activity measures student understanding of the specific food groups included in the food pyramid. In addition, evaluation will occur with the posters on which the students portray their own definitions of “healthy.” The effort demonstrated on these posters displays student learning with respect to components of healthy and nutritious lifestyle. The objectives met by these two activities are:

- Students will identify foods as healthy vs. unhealthy and will classify foods in terms of their nutritional value.
• Students will create their own definitions of “healthy eating habits.”

• Students will recognize different food groups from the food pyramid and foods that fit into each group.

Together, all of the activities and means of evaluation previously mentioned will help the students become more aware of their own eating habits and will hopefully affect the ways in which they make nutritional decisions.
Resources

• American Obesity Association: Fast Facts
  http://www.obesity.org/subs/fastfacts/obesity_youth.shtml

• Berenstain, Stan and Jan. The Berenstain Bears and Too Much Junk Food.

• Bloom’s Taxonomy
  http://www.trincoll.edu/depts/educ/depts/educ/resources/bloom.htm

• Connecticut Curriculum Trace Maps: Health K-2
  http://www.state.ct.us/sde/dtl/curriculum/hlthstm2.htm

• Educator’s Reference Desk, The: Nutrition Lesson Plans
  http://www.eduref.org/cgi-bin/lessons.cgi/Health/Nutrition

• Gresko, Jessica. “USDA Releases Spanish-Language Food Pyramid.”
  http://news.yahoo.com/s/ap/20051208/ap_on_he_me/spanish_pyramid

• USDA’s MyPyramid
  http://www.mypyramid.gov/kids/index.html
## Nutrition Chart

<table>
<thead>
<tr>
<th></th>
<th>More</th>
<th>Less</th>
<th>None</th>
</tr>
</thead>
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<tr>
<td><strong>Fat</strong></td>
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<td></td>
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</tr>
<tr>
<td><strong>Calories</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Vitamins</strong></td>
<td></td>
<td></td>
<td></td>
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</table>
# Nutrition Chart

<table>
<thead>
<tr>
<th></th>
<th>10-6</th>
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<tbody>
<tr>
<td><strong>Fat</strong></td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>Calories</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Vitamins</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Appendix

MyPyramid for Kids

*A more detailed version can be seen on the website listed under Resources*
## Modified Nutrition Label

**Snacks, granola bars, hard, chocolate chip**

### Nutrition Facts

**Serving Size**
1 bar (24g/0.9oz)

### Amount per Serving

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<th>Calorie Information</th>
<th>Value</th>
<th>% Daily Value</th>
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</thead>
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<td><strong>Calories</strong></td>
<td>105 kcal</td>
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</tr>
<tr>
<td><strong>Total Fat</strong></td>
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<tr>
<td>Saturated Fat</td>
<td>2.738 g</td>
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<tr>
<td>Polyunsaturated Fat</td>
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<tr>
<td>Monounsaturated Fat</td>
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<tr>
<td><strong>Cholesterol</strong></td>
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<tr>
<td><strong>Sodium</strong></td>
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<tr>
<td>Sugars</td>
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<tr>
<td><strong>Protein</strong></td>
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### Recommended Daily Allowances

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<td>Sat Fat</td>
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<tr>
<td>Sodium</td>
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<td>2400mg</td>
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<tr>
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<tr>
<td>Dietary Fiber</td>
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