



## **Food and Your Body -- How to Maintain a Healthy Diet**

Curriculum Unit 02.05.05  
by Mary Elizabeth Jones

### **Introduction**

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After the school day is over, you and your friends may often head for a nearby fast-food restaurant. As you talk with friends, you probably do not pay much attention to what you are eating.

In the past, people gathered at a friendly barn raising or a chatter-quilting bee. Today, most people socialize over food; it's a natural for society. Most business and pleasure is done during meals. This does not mean that you have to eat desserts and other unhealthy foods whenever the opportunity arises. For example, during the holiday season, your relatives may tempt you with home-baked desserts. Your family may also have a tradition of rewarding your achievements with food.

Even though fast-food restaurants are great places to relax after a hard day at school, your food choices in most social places are not usually healthy. It is not exactly easy to say no to a hot dog when everyone else is eating one. By being aware of how socializing influences your eating you are already better off.

These are examples of how your family can influence your eating habits. Since the dawn of time, we have expressed love, sympathy, appreciation, pride and many other emotions and events with food. Some of us grow up thinking food is the answer or reward to everything until we develop a weight problem. It is pretty hard to unlearn such habits, so let's try not to learn them.

Next to friends and family, keep an eye on advertisements, which often encourage the consumer to eat foods that are not necessarily nutritious. Advertising often makes false promises, too, leading you to believe that a product can benefit you more than it actually will.

Although commercials often fade into the background in the American home, their messages often get through to the consumer. We do not think about it much, but we are definitely more aware of products we have seen advertised.

Remember though, that people who produce advertisements are just doing their job: They are getting you to buy a product. They try to make the candy or restaurant or drink look as good as possible. There are many

things they do not tell you, such as the fat content of fast food or the amount of sugar in some breakfast cereals.

More and more nowadays, you will see healthier foods advertised. People are concerned about how foods are marketed-particularly how ad campaigns are meant to influence children and teens. You, however, are the one in control. You have to decide what advertised food is or is not worth eating. The best way to decide is to stay informed. You should read and try to understand food labels. Refer to a Food Guide Pyramid or speak with a Health professional if you have questions about which foods are best for you. Keep aware and you will be fine and healthy. 1

## **Purpose**

The purpose of this unit is to educate middle school students to the different food groups and the importance of choosing wisely from each group.

## **Objectives**

To introduce students to the food pyramid.

To teach students to purchase, prepare and consume healthy foods.

To help students to make good food choices.

To teach students to read and understand product labels.

To raise students awareness of acceptable caloric intake based on their age, height and level of physical activity.

To acquaint students with the US Government weight guidelines.

To teach student to use “moderation” when consuming food that are not healthy.

To answer the question “to be or not to be a vegetarian, is it a healthier food choice?”

## **Strategies**

Many different strategies will be used to teach this unit. To introduce the unit teacher lecture will be used. Students will be lead in a discussion of what they know about such things as daily recommended food amounts, serving sizes and food categories. These probing questions will lead to group discussion. Throughout the unit students will be given assignments that require them to work in cooperate learning groups. When testing for pesticides on raw food, students would work in groups completing a hands-on activity. Students will be taken to the Experimental Station where they will conduct test for pesticides on raw fruits and vegetables.

The unit will include a web site called the “Pyramid Game”. Students can use this sight to test their knowledge if the Food Guide Pyramid. Students will also be directed to another web site where they can plan menus. As many hands-on and interactive strategies as possible will be incorporated in the unit such as, having students guess and then check to determine serving sizes and having students use a fast-food menu to select a healthy meal.

## Unit Design

This unit will be taught to inner city students. The majority of the students have a fair amount of discretionary income and easy access to fast-food restaurants and junk food stores. Many students come from homes where supervision may be absent: in many instances parents are working in the afternoon and evening. In the absence of a prepared meal, students invariably dine on fattening foods or foods that are nutritionally deficient.

One focus of the unit will be the nutritional meal. What constitutes a nutritional meal? Students will be provided a food pyramid. Students will be required to complete an eating log for one week including the weekend. As the unit progresses students will review their eating log for the purpose of suggesting changes based on their new knowledge.

Information from an informal survey of about 50% of my present students indicated that they were meat eaters. More ate beef than any other meat: burgers accounted for most of the beef consumed. This unit will discuss the nutritional value of all kinds of meat, most especially beef and chicken. These are the meats most commonly consumed by my student population. My students eat large amounts of fried and processed foods. They eat very few vegetables, fruits and fresh foods. The Hispanic population consumes more grains, peas and beans than the Anglo population. Students will be challenged to include healthier foods in their daily menu. Snacks are also a big problem for the students. Most of them consume too much salt, sugar and fat. Ways to change their unhealthy habits will be discussed.

One of our first lessons will focus on beef. The discussion will focus on hamburgers. Since I know the majority of my students eat hamburgers, I will try to find out how often they consume burgers and where they are prepared. For demonstration purposes, I will present a meat thermometer. Students will be lead in a discussion of how beef should be handled and how it should be prepared. Cross contamination will be discussed. The unhealthy aspects of eating too much ground meat will be discussed. As a homework assignment, students will be required to go on the Internet to find information from the FDA concerning ground meat. Students will also be given an assignment to come up with substitutes (meat and non-meat) for hamburgers. Students will refer to the food pyramid to get the correct amount required for a serving.

My survey revealed chicken and pork were about equal favorites after hamburgers. Beef rounded out fourth place. The survey revealed that too many students ate too few vegetables, especially fresh ones. Fresh fruit did not fare much better. A large majority of the student's diets consisted of meat (the largest part of the meal), fats and carbohydrates. Some students ate fresh fruits; most only drank fruit juice at school.

This unit is NOT designed to serve as a diet for overweight students. Students who are obese or suffering from illnesses brought on by obesity or aggravated by obesity should be referred to the appropriate health care provider.

The recommendations suggested in this unit are for healthy children who want to eat healthier. Children may decide they want to eat healthier for various reasons such as, being fit to participate in sports, to avoid having to diet in the future, to look more attractive or to ward off illnesses aggravated by excess weight such as high blood pressure and asthma. Some weight loss may occur naturally as a result of food intake being changed from high calorie foods such as sweets, fried food and foods high in fat to healthier food lower in calories.

This unit will help young people to better select meals that are more nutritious and to be aware of foods that should be eaten in moderation such as sugar, salt and fats. They will learn to determine portion size and the

numbers of daily-suggested servings from each food group.

The unit will touch on pesticides, especially the ones found on fresh foods and vegetables that can be consumed raw. Since students will be encouraged to consider eating raw fruits and vegetables as a substitute for some less healthy snacks, cleanliness will become a factor. A trip to the Experimental Test Laboratory will be planned for the purpose of testing for pesticides on selected fruits and vegetables. To find the most effective way to clean food, water, dishwashing detergent and water, and Fit will be used to wash the food after the first test is done. The food will be tested again after it has been washed. Students will be encouraged to use the method that removed more pesticides. Students will record the results of the test that will be used back in class to complete an assignment.

## Daily Calorie Intake

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It is no secret that more students are overweight today than ever before. My student population is no different. For the past seven or eight years, I have had a lunch club for my students. They get their lunch from the cafeteria and bring it back to my classroom. This gives me an opportunity to observe and question students about their food intake. A large majority of the students have no knowledge of a serving size or of a food pyramid. In past years the matter of balanced (healthy) meals and portion size was handled in the Home Economics classes. Presently our school does not have a Home Economics teacher. Students to tally their approximate caloric intake will use the Food Intake Log

that will be completed later. A homework assignment will be for students to find a chart that lists the recommended daily calorie intake depending on their age, height and lifestyle. A chart will be provided in the unit for the teacher.

## Daily Food Intake Log

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Students will be required to keep a daily food log for a week. They will be required to write down everything they consume, including the amount to the best of their ability. The intake log will be broken down into breakfast, lunch, snack, dinner and snack. If they are unable to follow this format, they will be asked to jot down what they ate and at what time. This compromise will be very helpful to students who do not follow a regimented meal schedule.

## The Food Pyramid

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The Food Guide Pyramid was designed as an easy way to show the groups of foods that make up a good diet. It also shows how much of these different groups you need to eat to stay healthy. It is in a pyramid shape to explain the different proportions of foods to one another. The food that makes up the base (widest part)

should provide the bulk (the biggest part) of your diet. As you go up the pyramid, the requirements get smaller as the pyramid gets skinner.

The Food Guide Pyramid also gives the number of servings you should eat from each part of the pyramid each day. It often gives a range of numbers, like six to 11 servings, or two to four servings. Most kids (youth) need to eat at least the small number of servings to get the nutrients they need. Nutrients are the things in food that provide good nutrition. Many kids will need more than the small amount, especially kids who are in sports and need lots of energy<sup>2</sup>

### **Bread, Cereal, Rice, and Pasta Group**

This group is at the bottom of the pyramid. This means that the foods in these groups should make up the biggest part of what you eat all day. That is because bread, cereal, rice and pasta are all great sources of carbohydrate, the nutrient that the body uses as its major source of energy. So if you want lots of power, be sure to hit the bottom of the pyramid!

A carbohydrate isn't the only bonus you'll get from this food group: you'll also get lots of B vitamins and iron.

The Food Guide Pyramid suggests that people eat six to 11 servings from this group each day. Here are some examples of what counts as a serving:

- One slice of bread
- ½ cup of cooked rice or pasta
- ½ cup of cooked cereal
- ½ bagel or English muffin<sup>3</sup>

### **Vegetable Group**

The vegetable group is toward the bottom of the pyramid. This means that lots of daily servings of vegetables are an important part of a healthy diet. Veggies are great because they have tons of vitamins and minerals. Carrots and spinach are good sources of vitamin A, and don't forget tasty tomatoes and cauliflower for vitamin C. Be sure to eat bunches of broccoli and spinach for a little bit of everything.

Vegetables also provide carbohydrates for the energy your body needs, as well as lots of fiber. Fiber is important because it helps your digestive system move things along the way it should; it also protects you from getting sick later in life.

The Food Guide Pyramid suggests that people eat three to five servings from this food group each day. Here are some examples of what counts as one serving:

- ½ cup of chopped vegetables (cooked)
- 1 cup of raw vegetables

$\frac{3}{4}$  cup of vegetable juice<sup>4</sup>

## **Fruit Group**

The fruit group is down near the bottom of the pyramid. This means that many daily servings of fruit are an important part of a healthy diet. Fruits are fabulous because they provide important vitamins that keep you feeling fine and looking good. Vitamin C is a big player in this food group. It's in fruits like oranges, strawberries, and watermelon and lots more. Also, just say "a" for apricot and vitamin A!

Fruits also give you carbohydrates, the body's favorite kind of fuel. Don't forget fiber-fruit is full of it!

The Food Guide Pyramid suggests that people eat two to four servings from this group each day. Here are some examples of what counts as one serving.

1 medium-sized apple, banana, or orange

$\frac{1}{2}$  cup of cooked or canned fruit

$\frac{1}{2}$  cup of fruit juice (like orange, grapefruit or cranberry); you are better off with real fruit than with juice!<sup>5</sup>

## **Milk, yogurt, and Cheese Group**

This food group is high up on the pyramid. This means that even though these foods are important for good health, you don't need to eat as many of them in one day as you do of foods that is lower down on the pyramid. Eating and drinking milk, yogurt, and cheese is the best way for you to catch all your calcium. You'll be sure to have the power of protein when you pick foods from this part of the pyramid.

The Food Guide Pyramid suggests that people eat two to three servings from this group each day. Here are some examples of what counts as one serving:

1 cup of milk

1 cup of yogurt

1  $\frac{1}{2}$  to 2 ounces of cheese<sup>6</sup>

## **Meat, Poultry, Fish, Beans, Eggs, and Nuts Group**

This food group is high up on the food pyramid. This means that even though these foods are important for

good health, you don't need to eat as many of them in a day as you do foods lower down on the pyramid. Meat poultry (this means chicken, turkey and other birds), fish, beans, eggs and nut have one thing in common: they all supply you with the super-important nutrient - protein. This is the perfect part of the pyramid for protein!

The Food Guide Pyramid suggests that people eat two to three servings for this group each day. Here are some examples of what counts as one serving:

2 to 3 ounces of cooked lean meat, poultry, or fish  
1 egg, 1/2 cup cooked dry beans (pinto, black and navy or any type of dry bean), or 2 tablespoons of peanut butter which counts a 1 ounce of meat<sup>7</sup>

### **Fats, Oils and Sweets**

Fats, oils and sweets are a little different from the other parts of the pyramid because they do not make up a "group" in the same way the other foods do. They sit at the very top of the pyramid. This means that even though your body needs them, it only needs a tiny amount. Fat is used for some things in your body but it is smart to avoid eating too much. While sugary foods like candy and cookies are simple carbohydrates and give you quick energy, they do not usually offer too much in the way of important nutrients and are usually loaded with calories

The Food Guide Pyramid suggests that when it comes to fatty, oily or sugary foods, people should "use sparingly." This is another way of saying eat only a little bit and not very often.

These are examples of the food that would be included in this group:

salad dressings and oils  
cream, butter and margarine  
sugars, soft drinks, candies and sweet desserts<sup>8</sup>

The Food Guide Pyramid

A Guide to Daily Food Choices

Source: Federal Consumer Information Center

By following the Food Guide Pyramid, you will be sure to feel and look your best!

## Eating Right and Watching Calories

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The Food Guide Pyramid shows a range of servings for each of the five major food groups. The number of servings you need from each group depends on how many calories you need to maintain a healthy weight.

This table shows approximately how many servings of nonfat, lean foods are needed for three different calorie levels. (1,600, 2,200 and 2,800).

*(table available in printed form)*

## To be or not to be a Vegetarian: Is it a Healthier Diet?

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### Vegetarian Diet

Vegetarian diets can be very healthful and safe provided that foods are balanced, and portions are adjusted for activity, sex and age. The following deficiencies are among the most prevalent among vegetarians, and which result from improper food balancing.

### Healthful Benefits

When foods are balanced and nutrients are combined from a variety of foods, the result is a very healthful vegetarian diet. In many cases, vegetarians benefit from the following favorable aspects of a vegetarian diet:

A lower intake of saturated fatty acids. In many cases, the majority of saturated fats consumed come from animal products. Since vegetarians only consume the dairy and eggs from animals, their diets are almost always lower in overall saturated fat than those who eat red meat.

A higher intake of dietary fiber. Vegetarians usually eat a greater number of high fiber foods, especially legumes, since these are an excellent source of protein. A diet that is high in dietary fiber has been determined to be beneficial for lowering the probability of developing certain cancers, in particular colon cancer.

A higher intake of antioxidant nutrients. Vitamins such as vitamin C and E are antioxidants that are found in certain fruits, vegetables and plant oils. A vegetarian diet focuses on incorporating a wide variety of these fruits, vegetables and plant oils and will always be higher in these nutrients than a diet that does not focus specifically on their intake.

### Potential Complications of a Vegetarian Diet

Iron deficient anemia. Dietary iron is essential to avoid iron deficient anemia, a blood disorder that is more pronounced in females than in males. Females should make certain to obtain an



adequate amount of absorbable iron. Food contains heme iron and non-heme iron; heme iron is more easily absorbed by the body. About 40% of the iron in meat, poultry and fish is heme iron, of which about 15-35 percent is absorbed. The iron in dairy, eggs and plant food is largely non-heme, of which about 2-20 percent is absorbed. Non-heme iron comprises more than 80% of total dietary iron.

Vitamin B12 deficiency. Vitamin B12 is obtained strictly from animal products. A primary symptom of a deficiency is changes in the nervous system (weak limbs, difficulty in walking and speaking, and jerking of limbs).

Vitamin D deficiency or Rickets. The human body can synthesize Vitamin D from sunlight, but this is only possible when the sun reaches a certain intensity level. For many people who live in North America, this mean that for a few months of the year, they must seek other sources of Vitamin D as the sun is not intense enough. Milk is generally fortified with Vitamin D.

Bulky diets. A bulky diet is one which is high in dietary fiber. In some circumstances, this regimen can restrict energy intake in the first few years of life.<sup>12</sup>

This is a very brief overview of the Vegetarian Diet. Much more research should be done before starting a Vegetarian or Vegan Diet. These websites should be very helpful.

<http://www.oldwayspt.org>

<http://google.com>

## Vegetarian Food Guide Pyramid

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*(figure available in print form)*

## Focus on Beef...from Farm to Table

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Since 1910, the first year that statistics were compiled, Americans have been eating an average of 60 pounds of beef yearly. USDA's Food Safety and Inspection Service inspected about 36 million cattle in 1997 alone. This translates into 64 pounds of beef per person in 1997. In calls to the Hotline, beef is the third food category (behind turkey and chicken) callers most ask about.

### What is Beef?

The domestication of cattle for food dates to about 6500 B.C. in the Middle East. Cattle was not native to America, but brought to the New World on ships by European colonists. Americans weren't big meat eaters of fresh beef until 1870, due to the enormous growth of the cattle industry in the West. The introduction of cattle

cars and refrigerated cars on the railroad facilitated distribution of beef.

“Beef” is meat from full-grown cattle about 2 years old. A live steer weights about 1,000 pounds and yields about 450 pounds of edible meat. There are at least 50 breeds of beef cattle, but fewer than 19 make up most cattle produced. Some major breeds are Angus, Hereford, Charolais and Brahman.

“Baby beef” and “calf” are 2 interchangeable terms used to describe young cattle weighing about 700 pounds that have been raised mainly on milk and grass. The meat cuts from baby beef are smaller; the meat is light red and contains less fat than beef. The fat may have a yellow tint due to the vitamin A in the grass.

“Veal” is meat from a calf that weighs about 150 pounds. Those that are mainly milk-fed usually are less than 3 months old. The difference between “veal” and “calf” is based on the color of their meat, which is determined almost entirely by diet. Veal is pale pink and contains more cholesterol than beef.

### **How is Cattle Raised?**

All cattle start out eating grass; three-fourths of them are “finished” (grown to maturity) in feedlots where they are fed specially formulated feed based on corn and other grains.

### **How is Beef Inspected?**

All beef found in retail stores is either USDA inspected for wholesomeness or inspected by state systems that have standards equal to the Federal government. Each steer and its internal organs are inspected for signs of disease. The “Passed and Inspected by USDA” seal insures the beef is wholesome and free from disease.

### **What Does the Grade Mean?**

Inspection is mandatory; grading is voluntary and a plant pays to have its meat graded. USDA-graded beef sold at the retail level is prime, Choice and select. Lower grades (Standard, Commercial, Utility, Cutter and Canner) are mainly ground or used in processed meat products. Retail stores may use other terms that must be different from USDA grades.

USDA Prime beef (about 2 percent of graded beef) has fatter marbling, so it is the most tender and flavorful. However, it is highest in fat content. Most of the graded beef sold in supermarkets is USDA Choice or USDA Select. The protein, vitamin and mineral content of beef are similar regardless of the grade.

### **Nutrition**

Nutrition data on beef can be found in the USDA Agricultural Research Service’s composition Database at [www.nal.usda.gov/fnic/foodcomp/index.html](http://www.nal.usda.gov/fnic/foodcomp/index.html)

### **Nutrition Labeling**

Nutrition claims such as “lean” and “extra lean” are sometimes seen on beef products. Here are their definitions:

“Lean” -- 100 grams of beef with less than 10 grams of fat, 4.5 grams or less of saturated fat, and less than 95 milligrams of cholesterol.

“Extra Lean” -- 100 grams of beef with less than 5 grams of fat, less than 2 grams of saturated fat, and less

than 95 milligrams of cholesterol.

### **What does Natural Mean?**

All fresh meat qualifies as “natural.” Products labeled “natural” cannot contain any artificial flavor or flavoring, coloring ingredients, chemical preservatives, or any other artificial or synthetic ingredients; and the product and its ingredients are not more than minimally processed (ground, for example). All products claiming to be natural should be accompanied by a brief statement that explains what is meant by the term “natural.”

### **Foodborne Organisms Associated With Beef**

There are many organisms (E. coli, Salmonella, Staphylococcus aureus and Listeria) that may be present in or on raw beef. If ingested these organisms can cause serious illness. Through cooking of your beef will destroy these microorganisms.

### **Safe Cooking**

For safety the USDA recommends cooking hamburgers and ground beef mixtures such as meat loaf to 160°F. Whole muscle meat such as steaks and roasts may be cooked to 145°F (medium rare) 160°F (medium), 170°F (well done). Outdoor grills and appliances can vary in heat so a meat thermometer should always be used to check for safe cooking and doneness of beef.

### **How to Handle Beef Safely**

Raw Beef. Select beef just before checking out at the register. Put packages of raw beef in disposable plastic bags, if available, to contain any leakage which could cross-contaminate cooked foods or produce. Beef a perishable product. It is kept cold during store distribution to retard the growth of bacteria.

Take beef home immediately and refrigerate at 40°F; use within 3 to 5 days. If continuously frozen it will be safe indefinitely.<sup>13</sup>

## **Focus on Ground Beef**

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According to the Food Safety and Inspection Service, questions about “ground meat” or “hamburger” have always been in the top five food topics of calls to the USDA’s Meat and Poultry Hotline. It is also the most consumed meat of the students in my survey of the types of meats consumed.

### **What is the Difference between “hamburger” and “ground beef”?**

Beef fat may be added to “hamburger,” but not “ground beef,” if the meat is ground and packaged at a USDA-inspected plant. A maximum of 30% fat by weight is allowed in either hamburger or ground beef. Both hamburger and ground beef can have seasonings, but no water, phosphates, extenders, or binders added. They must be labeled in accordance with Federal Standards and Labeling Policy and marked with USDA-inspected label.

Most ground beef is ground and packaged in local stores rather than in food processing plants under USDA

inspection. Even so, the Federal labeling laws on fat content apply. Most states and cities set standards for store-packaged ground beef which, by law, cannot be less than Federal standards. If products in retail stores were found to contain more than 30% fat by weight, they would be considered “adulterated” under Federal law.

### **Is Ground Beef Inspected and Graded?**

All meat transported and sold in interstate commerce must be federally inspected. The larger cuts are usually shipped to local stores where they are ground. The Food Safety and Inspection Service carries out USDA’s responsibilities under the Federal Meat Act. These laws protect consumers by ensuring that meat products are wholesome, unadulterated, and properly marked, labeled, and packaged.

Beef grades are USDA Prime, Choice, Select, Standard, Commercial, Utility, Cutter and Canner. These are set by the USDA Agricultural Marketing Service. Most ground beef, however, is not graded.

### **What Kind of Bacteria can be found on Ground Beef; are they Dangerous?**

Bacteria are everywhere in our environment. Any food of animal origin can harbor bacteria. Pathogenic bacteria such as Salmonella, E. coli, Campylobacter jejuni, Listeria monocytogenes and Staphylococcus Aureus cause illness. These harmful bacteria cannot be seen or smelled.

When meat is ground, most of the meat is exposed to harmful bacteria. Bacteria multiply rapidly in temperatures between 40 and 140°F. To keep bacterial levels low, store ground beef at 40°F or less or use within 2 days. To destroy harmful bacteria, cook ground beef to 160°F. A meat thermometer should always be used to check temperature.

### **Can Bacteria Spread from One Surface to Another?**

Yes. It is called cross-contamination. Bacteria in raw meat juices can contaminate foods that have been cooked safely or raw foods that won’t be cooked, such as salad ingredients. Bacteria can also be present on equipment, hands and even in the air.

To avoid cross-contamination, wash your hands with soap and hot water before and after handling ground beef to make sure you don’t spread bacteria. Don’t reuse any packaging materials. Use soap and hot water to wash utensils and surfaces which have come in contact with the raw meat. Don’t put cooked hamburgers on the same platter that held the raw patties.

### **Is It Dangerous to Eat Raw or Undercooked Ground Beef?**

Yes. Raw and undercooked meat may contain harmful bacteria. USDA recommends not eating or tasting raw or undercooked ground beef. To be sure all bacteria are destroyed, cook meat loaf, meatballs, casseroles and hamburgers to 160°F.

## Pesticides in Food

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The average American now eats 26 pounds more fresh fruits and vegetables per year than ten years ago. The typical produce section currently stocks over five times the number of items displayed a decade ago: The increased availability and variety of fresh fruits and vegetables is, in part due to the extensive use of chemical fertilizers and pesticides. Yet residues of these agricultural chemicals can remain in our food. The fruits and vegetables in your supermarket may contain invisible hazards to your health in the form of residues of pesticides.

To minimize exposure to pesticide residues on food the following steps would be helpful to follow:

- Scrub vegetables and fruits before eating to remove dirt, bacteria and pesticides
- Select and buy produce without damaged surfaces or holes
- Remove outer leaves of leafy vegetables
- Eat a variety of produce and foods to reduce exposure to any one pesticide<sup>15</sup>

Buying and consuming organic fruits and vegetables can avoid the risk of consuming foods that have been sprayed with pesticides.

## Sugars

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Choosing a diet low in fat is a concern for everyone: Choosing one low in sugars is also important for people who have low calorie needs. Sugars include white sugar, brown sugar, raw sugar, corn syrup, honey and molasses: these supply calories and little else nutritionally.

To avoid getting too many calories from sugar, try to limit your added sugars to 6 teaspoons a day if you eat about 1,600 calories, 12 teaspoons at 2,200 calories, or 18 teaspoons at 2,800 calories. These amounts are intended to be averages over time.<sup>11</sup>

Added sugars are in foods like candy and soft drinks, as well as jams, and sugars you add at the table. Some added sugars are also in foods from the food groups such as fruit canned in heavy syrup and chocolate milk.<sup>16</sup>

## Salt and Sodium

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Do I have to give up salt? No. But most people eat more than they need. Some health authorities say that sodium intake should not be more than 2,400 mg. Nutrition labels also list a Daily Value (upper limit) of 2,400 mg per day of sodium. Much of the sodium in people's diets comes from salt they add while cooking and at the table. One teaspoon of salt provides about 2,000 mg of sodium.

Go easy on salt and foods that are high in sodium including cured meats, luncheon meats, and many cheeses, most canned soups and vegetables, and soy sauce. Look for the lower salt and no-salt added versions of these products at your supermarket.<sup>17</sup>

## Do You Drink Enough Water?

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No diet is complete with the proper amount of water consumption . Try to consume 9 to 12 cups of fluid a day depending on how much you weigh and how much you exercise. You can get water from beverages and solid food. Your water consumption should, however, include at least five 8-ounce cups of water itself.

## Eating Healthy in a Fast Food Restaurant

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Eating healthy does not mean giving up all the foods you enjoy. A change in preparation or using moderation in consuming your favorite foods will allow you to enjoy the foods you like and still eat healthy.

### A Fast Food Sampler

Food	Calories
McDonald's Big Mac	541
Burger King Whopper	606
Taco Bell Taco	186
Pizza Hut Pepperoni Pizza (1/2 10-inch pie)	560
Kentucky Fried Chicken Original Recipe Dinner)	830
Kentucky Fried Chicken (Extra Crispy Dinner)	950
Burger King Fries	214
McDonald's Egg McMuffin	352

## **Fitness Jumpsite: Calorie Calculator**

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This Activity Calorie Calculator will calculate the number of calories you burn for 158 activities. Fill in your weight and the average amount of time you spend working out. Fitness Jumpstart will do the math and return an activities page personalized just for you. Print the activities page using the print function on your web browser and keep it with your exercise log or tape it on your refrigerator for reference. It's a great reminder of all the various activities you can participate in and use cross training to stay healthy,

To get started go to <http://www.primusweb.com/fitnesspartner/jumpsite/calculat.htm>

Have fun!

### **Lesson Plan 1**

Objective: Students will prepare a food intake record for one week

Procedure:

Each student will be given a tally sheet divided into sections for breakfast, lunch snack, dinner, and snack. This sheet may be changed to meet the needs of the students.

Students will record everything they eat from the time they wake until they go to bed.

Students will record their intake of all liquids.

Students will note where they were when they consumed all foods and liquids.

Students will return their completed intake sheet at the end of the week.

During the course of the week the teacher will be discussing calorie intake and serving sizes.

### **Lesson 2**

Objective: To review student food intake log [this will not be the second lesson taught. Lessons will be being taught during the week while student are completing their intake log].

Procedure: [This lesson will take will take more than one day.]

Each student will select one day to present to the class.

The teacher will lead the students in a discussion on what constitutes a serving size.

Teacher will provide the students with a list of servings suggested for each food group. (no need to give each student a food pyramid yet).

Students can work in groups to compare what they actually consumed to the daily recommended

foods.

Students will decide from which food group most of their food came from.

### **Lesson Plan 3**

Objective: To test raw fruits and vegetables for pesticide residue.

Procedure:

- 1) Teacher will explain the objective of the lesson.
- 2) Teacher will review Lab rules.
- 3) Teacher and Class will arrive at the Agricultural Experiment Station at the appointed time.
- 4) Student will follow the instructions of the lab person in charge of conducting the tests.
- 5) Teacher will assist by keeping the kids in task and orderly.
- 6) Teacher will monitor students to insure that they are recording data correctly.
- 7) Students will make appropriate notes in their journal.

Materials Needed:

- 1) A pencil, highlighter and science journal for each student.
- 2) Fruits and vegetables
- 3) Graph Paper

Homework: Students will complete a double bar graph of the data and a narrative of the Activity.

Note: Prior to today the teacher and students would have decided which fruits and vegetables will be tested.



(figure available in printed form)

## Bibliography

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### Teacher Reading List

Wargo, John, *Our Children's Toxic Legacy* . How science and law Fail to Protect us from Pesticides. 1996, Yale Press, New Haven, CT. Provides an excellent overview of pesticide use. The book traces the history of pesticide law and science with a focus on the special hazards faced by children.

Wise, Laura J, Kegley, Susan S. *Pesticides in Fruits and Vegetables* , 1998. University Science Books, Herndon, VA. This book explains how to extract pesticide residues from fruits and vegetables. It will be very useful for teacher background information. Could be used to assist in setting up the Experiment Station visit.

### Teacher Resources

<http://www.fsis.usda.gov>. This site provides information on the safe handling of meat and poultry.

[http://www.oldwayspt.org/html?p\\_veg2.htm](http://www.oldwayspt.org/html?p_veg2.htm) This site contains the Official Vegetarian Diet Pyramid. It discusses the complications and health benefits of a Vegetarian diet.

<http://www.hacres.com> This site is a vegetarian site.

<http://Google.com> This is an excellent site for researching any topic. You can find growth charts, weight charts, food games ethnic food pyramids and so much more. It is a good site to familiarize the students with.

### Student Reading List

Orlandi, Mario; Prue. Donald. *Encyclopedia of Good Health, Nutrition* , 1988. Michael Friedman Publishing Group, New York City. This is one in a series of *The Encyclopedia of good Health* . It covers health concerns of teens and young adults using an information/action approach. Lots of pictures and examples make it an interesting read for the young. Other titles in the series include: Exercise Stress and Mental Health, Substance abuse, Human Sexuality and Maintaining Good Health.

Antonacci, R.J; Barr, J. *Physical Fitness for Young Champions* , 2nd Edition. 1975. McGraw Hill, New York, NY. Easy reading. Challenges students to rate their fitness level using the Kraus -- Weber test and the President's Youth Physical Fitness Test. Exercises are given to help students raise their score if desired or to maintain good physical fitness.

Baldwin, D. *Your Health, Health and Food* , 1987. Rourke Enterprises, Vero Beach. FL. This is one in a series of books written for youth that discusses the importance of food in keeping the body healthy. Other books include Health and Exercise, Health and Hygiene, Health and feelings and Health and Friends.

<http://www.filebox.vt.edu/users/ifentres/import/pyramid.htm> This site features a very interesting and interactive game that aids students in becoming familiar with the foods included at each level of the pyramid.

<http://www.usda.com> This home page will lead students to many links relating to eating and good health.

- 1 Orlandi, M; Prue, D. *Encyclopedia of Good Health* 1984, Friedman Publishing, New York City.
- 2 [www.kidshealth.org/kid/stay\\_healthy/food/vitamin\\_p7.html](http://www.kidshealth.org/kid/stay_healthy/food/vitamin_p7.html)
- 3 same as 2
- 4 [kidshealth.org/kid/stay\\_healthy/food/pyramid\\_2.html](http://kidshealth.org/kid/stay_healthy/food/pyramid_2.html)
- 5 same as 4
- 6 [kidshealth.org/kid/stay\\_healthy/food/pyramid\\_3.html](http://kidshealth.org/kid/stay_healthy/food/pyramid_3.html)
- 7 [kidshealth.org/kid/stay\\_healthy/food/pyramid\\_p4.html](http://kidshealth.org/kid/stay_healthy/food/pyramid_p4.html)
- 8 same as 7
- 9 these are the calorie levels if you choose nonfat, lean foods from the five major food groups and use food
- 10 teens, young adults and women concerned about osteoporosis prevention need at least 4 servings (or
- 11 the lower number is 20% of daily calories from fat; the higher number is 30%. If you are really
- 12 [www.oldwayspt.org/html/p\\_veg7.htm](http://www.oldwayspt.org/html/p_veg7.htm)
- 13 <http://www.fsis.usda.gov/oa/pubs/focusbeef.htm>
- 14 <http://www.fsis.usda.gov/oa/pubs/focusgb.htm>
- 15 <http://www.karmanos.org/answers/nutrition/pesticides.html>
- 16 [http://www.pueblo.gsa.gov/cic\\_text/food-pyramid/main.htm](http://www.pueblo.gsa.gov/cic_text/food-pyramid/main.htm)
- 17 same as 16
- 18 Orlandi, M., Prue, D. *Encyclopedia of Good Health* Michael Friedman Publishing Group, New York,

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