

Nutrition

Overview

Students are confronted with some basic realities and facts about nutrition and diet.

Background

The scientific study of human nutrition seems shifting and inexact. It is really more a science of setting limits, in that the effects of too much are known, as are the diseases of deficiencies of certain nutrients. The idea for all of us is to find a balance. With that in mind, the USDA developed and required the currently available food labels. These labels indicate the nutrients that should be limited in the diet—total fat, saturated fat, cholesterol, trans fats, and sodium. They also show the nutrients that should be consumed in adequate amounts—dietary fiber, vitamins A and C, Calcium, and Iron. In general the % Daily Value amounts indicate a low amount (under 5%) or high values (over 20%) for the particular food item. One way that food providers manipulate the system is by adjusting the portion size related to what people usually consume. For example a 20 oz soft drink bottle actually contains 2.5 servings with regard to the nutrient values listed on the label.

Materials

Materials for the whole class

- Hamburger model
- Overhead of student nutritional requirements (blackline master below)
- Overhead of hamburger nutritional label (blackline master below)
- Overhead of *Understanding the New Nutrition Facts Label* (blackline master below)

Materials for small groups

- Nutritional information packets for 5 restaurants
- Calculators

Materials for individual students

- 1 student meal nutritional data sheet (blackline master supplied for photocopying)

Preparation

- Make overheads and copies of student meal nutritional data sheets

Procedure

- The day before this unit starts tell students that they will be treated to lunch at any of the 5 restaurants listed (McDonalds, Subway, Arby's, Burger King, KFC). Have them write down their order, including everything they will have. Tell them that it is ok to get food from different restaurants and to remember that you are treating. Have them write down their complete meal.

- The next day ask students to write about why we need food (energy, growth, repair, etc.).
- Hold up the plastic burger and ask the students to comment on what foods or food groups are in the burger.
- Have the students read the nutrition section of the text, then analyze the burger with regard to the different types of nutrients that they think it contains. In other words, what is in the burger nutritionally and what does the body use it for?
- Pass out the nutritional label for our burger and ask the students to read the label and talk about what it shows. Teachers should probably take the time to go over a nutrition label and ask students what kinds of information it contains. Answer any questions and point out things like serving size and other tricks. It is also an opportunity to talk about percent and how it is calculated. Show the students the nutritional requirements of an 11-14 year-old and compare it to the label for the burger. Ask for what they notice. This is a time to start the discussion of nutrition as related to health. What are the results of under-consumption or over-consumption of some nutrients?
- Ask the students to use the nutritional data tables from the various restaurants to calculate the nutritional data on the lunch menu they designed. Have them compare their results to the daily requirements. What is the result?
- Ask them to look for ways to modify their menu to get it within the guidelines.
- Assign the students the task of using the different menus to design a meal that they would eat, and that would fill about a third of their daily requirements. Ask them to justify their choices compared to their original menu.
- Finally, ask them to mine the tables of fast food nutrition data and write down at least three things that were surprising to them.

Reflection/Discussion

- Spend some time discussing what the students found surprising in the restaurant nutrition data sheets.
- Assign students the task of keeping a food log for a week (or less) and use this to discuss diet, nutrition, and their choices.

Assessment

Ask students to develop dietary recommendations for unusual jobs (astronaut, someone who works in a cold environment) or activities (a 3 day 30 mile hike) and to justify their choices.

DAILY ENERGY AND NUTRIENT REQUIREMENTS FOR 11 TO 14 YEAR-OLDS

	Calories	Total Fat	Sat. Fat	Protein	Carbs	Calcium	Sodium	Iron
Boys	2220	74.0 g	22.2 g	83.3 g	305.3 g	1000 mg	6 g	11.3 mg
Girls	1845	61.5 g	18.5 g	69.2 g	253.7 g	800 mg	6 g	14.8 mg

Calories in Hamburger, Regular, Single Patty

With Condiments And Vegetables

Nutrition Facts

Serving Size 1 sandwich (110.0 g)

Amount Per Serving

Calories 279 Calories from Fat 121

% Daily Value*

Total Fat 13.5g **21%**

Saturated Fat 4.1g **21%**

Polyunsaturated Fat 2.6g

Monounsaturated Fat 5.3g

Cholesterol 26mg **9%**

Sodium 504mg **21%**

Total Carbohydrates 27.3g **9%**

Protein 12.9g

Vitamin A 2%

Vitamin C 3%

Calcium 6%

Iron 15%

* Based on a 2000 calorie diet

<http://caloriecount.about.com/calories-hamburger-regular-single-patty-i21109>



Understanding The New Nutrition Facts Label

The new Nutrition Facts label makes it easier for people to know what is in the food they eat. Comparing these labels will help you to know which foods have lower fat or fewer calories, which foods make healthy snacks, and which are acceptable for special diets. As a parent, use the new label to make informed food choices that will benefit your entire family.

Nutrition Facts
This is the new label heading.

Calories
Allows you to compare the calorie content per serving. When comparing similar foods be sure to check that the serving sizes are the same.

Nutrition Panel
The nutrients required to appear on the nutrition panel are those most important to the health of people today, most of whom need to worry about getting too much of certain items (fat, for example), rather than too few vitamins or minerals, as in the past.

Conversion Guide
Reveals the calorie value of the energy-producing nutrients.

Serving Size Information
Serving sizes are given in both household and metric measures, and reflect the amounts people actually eat.

% Daily Value
Shows how a food in the specified amount fits into the overall daily diet.

Reference Values
This section helps you learn good diet basics. These figures can be adjusted, depending on a person's calorie needs.

Nutrition Facts			
Serving Size 1 cup (228g)			
Servings Per Container 2			
Amount Per Serving			
Calories 260		Calories from fat 120	
		% Daily Value*	
Total Fat 13g			20%
Saturated Fat 5g			25%
Cholesterol 30mg			10%
Sodium 660mg			28%
Total Carbohydrate 31g			10%
Dietary Fiber 0g			0%
Sugars 5g			
Protein 5g			
Vitamin A 4%		Vitamin C 2%	
Calcium 15%		Iron 4%	
* Percent Daily Values are based on a 2,000 calorie diet. Your daily value may be higher or lower depending on your calorie needs:			
	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g
Calories per gram: Fat 9 * Carbohydrate 4 * Protein 4			

<http://www.fns.usda.gov/tn/Parents/nutritionlabel.html>

