

"Diet Wars"

ABOUT THE FILM:

Americans spend \$40 billion a year on books, products, and programs designed to do one thing: help us lose weight. From Atkins to Ornish and Weight Watchers to the South Beach Diet, today's dieters have a dizzying array of weight loss programs from which to choose -- yet the underlying principles of these diets are often contradictory. Is low fat better than low carb? Is Atkins the answer? And has the USDA food pyramid done more harm than good? FRONTLINE examines the great diet debate.

A NOTE TO TEACHERS:

For classes in Science, Health, Social Studies, Language Arts and Current Events; grade level 9th-12th

According to Health and Human Services Secretary Tommy Thompson, "We're just too darn fat, ladies and gentlemen, and we're going to do something about it." Americans are getting fatter and are looking for quick ways to lose weight. However, there are no easy answers and many conflicting diet theories. For example, two popular diets offer very different approaches. The Atkins diet allows fats but few carbohydrates, while the Ornish diet allows carbohydrate but almost no fats.

Despite the numerous popular diets, schools still look to the USDA food pyramid as a model for proper diets. In 1992, the USDA revised the food pyramid, which limited the amount of fat and emphasized carbohydrates as the basis of a healthy diet; yet Americans continue to gain weight. "Diet Wars" provides provocative coverage of what one expert calls "one of the biggest public health failures in history." It creates a frightening picture of health issues in America today in which:

- Two-thirds of American women and half of American men want to lose weight
- Obesity now rivals smoking as a major cause of death
- More than half of Americans are overweight
- 30 percent of Americans are clinically obese
- Greater numbers of children are suffering from type 2 diabetes -- which used to be called "adult-onset" diabetes -- a disease associated with diet and lifestyle
- 40 billion dollars per year is being spent, with very poor results, on the diet industry
- 90 percent of dieters gain back everything they have lost

within a year

This program encourages students to:

- Learn about health issues facing Americans today
- Examine the USDA food pyramid and the impact that it may have had on weight gain
- Question their own diet habits
- Explore the impact of body image on young people

LESSON PLANS:

PRE-VIEWING LESSON PLAN:

Examining Medical Terms

Students will take a pre-test to determine their understanding of medical terms and key ideas in the documentary and compare their definitions to those in a glossary

VIEWING LESSON PLAN:

True and False Viewing Guide

While viewing, students will correct and expand on their pre-viewing test of health issues.

Analyzing Factors that Affect Health

As the students watch the documentary, they will identify positive and negative influences on health.

POST-VIEWING LESSON PLAN:

Learning About My Eating Habits

Students will learn about and evaluate their own food consumption. They will also examine their school lunch program.

Food in America

Students will examine the diets of early Americans, compare and contrast various diets in the U.S. and explore the impact that immigrants and technology have had on American diets.

EXTENDING THE LESSON:

What Is My Body Mass Index?

Students can calculate their body mass and read about why this is a good measure of their weight and health.

The Creation of the Federal Food and Drug Administration

Students can examine how and why the Food and Drug Administration was created.

Staying Fat for Sarah Byrnes

Students can read this novel about how two high school students deal with "terminal uglies" by forming a bond that allows them to finally stand up for themselves.

Purchasing the Video

"Diet Wars" can be purchased from **ShopPBS for Teachers**.

[<http://teacher.shop.pbs.org/home/index.jsp>] Note: The film is also being streamed in full on the "**Diet Wars**" **Web site**.

[<http://www.pbs.org/wgbh/pages/frontline/shows/diet/>]

Credits

This teacher's guide was developed by Simone Bloom Nathan of Media Education Consultants. It was written by Pat Grimmer, chair of the Social Studies Department at Carbondale Community High School in Carbondale, Ill. Ellen Greenblatt of University High School, San Francisco was an adviser.

PRE-VIEWING LESSON PLAN: **Examining Medical Terms**

Lesson Objectives:

In this lesson students will:

- Evaluate their understanding of medical terms
- Discuss the meanings of these terms with their classmates
- Compare their definitions to a glossary of terms

Materials Needed:

- A computer with Internet access
- Copies of the two student worksheets

Time Needed:

The lessons will take 15–60 minutes, depending upon the number of options that are selected.

Procedure:

This lesson is divided into two steps:

Step One

1. Ask students to define as many of the terms on the **Evaluation of Medical Terms** as possible.
2. After completion, students should compare their definitions with those of their classmates.

Step Two

1. Students should read the **Glossary of Medical Terms** and compare it to their answers on the **Evaluation of Medical Terms** worksheet.
2. Teachers of science and health classes might prefer to have students create more complete glossaries by adding information to **Glossary of Medical Terms** or **Evaluation of Medical Terms**.

Additional information can be found at:

<http://www.medterms.com/script/main/hp.asp>

This site, created through a network of United States Board Certified Physician and Allied Health Professionals, provides a comprehensive search engine for medical knowledge. It provides information on all aspects of health and medicine.

Method of Assessment:

Students should turn in their two pre-viewing worksheets.

"Diet Wars": Student Worksheet
Evaluation of Medical Terms – Previewing Sheet #1

Note to students: You will be viewing a documentary that deals with a national health crisis. To understand the issues, it is important for you to know the meaning of terms used in the discussion. Try to write a definition for each of the following. You are not expected to know precise scientific definitions. These will be provided for you later.

1. Body Mass Index

2. Calorie

3. Cholesterol

4. Glucose

5. Glycogen

6. Glycemic Index

7. Insulin

8. Obesity

9. Pancreas

10. Saturated Fats

11. Unsaturated Fats

12. Trans Fats

"Diet Wars": Student Worksheet
Glossary of Medical Terms – Previewing Sheet #2

Note to Students: Read the following definitions and compare them to your answers. Underline the terms that you feel you correctly defined.

Body Mass Index

A measure of body fat that is calculated based on your height and weight.

Calorie

A measure of energy that is created by foods and used by the body. It is recommended that girls between the ages of 14–18 should consume about 2200 calories a day, while boys between 14-18 should consume about 3000 calories a day. You can find more about the amount of calories recommended for young people going to the following site:

<http://www.bcm.tmc.edu/cnrc/consumer/archives/percentDV.htm>

Cholesterol

A fat-like substance that is found in certain foods and is also produced in the body. Cholesterol travels through the bloodstream in different packages called lipoproteins. Low-density lipoproteins (LDL or "bad" cholesterol) deliver cholesterol to the body, while high-density lipoproteins (HDL or "good" cholesterol) take cholesterol out of the bloodstream. There is a correlation between high blood-cholesterol levels and heart disease.

Glucose

A simple sugar that is the main source of energy for the body.

Glycogen

A starch that is stored in the muscles and liver that maintains blood sugar levels between meals. It is the form in which carbohydrates are stored in animals and humans.

Glycemic Index

Shows how different types of carbohydrate-containing foods can raise the blood glucose levels within two hours. Carbohydrates that raise the blood sugar the fastest, such as potatoes, have the highest glycemic index.

Insulin

The body manufactures this natural hormone to control the level of sugar glucose in the blood.

Obesity

A condition of being more than 20 percent over one's recommended weight.

Pancreas

This organ creates juices and hormones, including insulin, that help digest food.

Saturated Fats

Fats contained in dairy products, meat, poultry and vegetables. These fats, such as butter, are solid at room temperature. Saturated fats have been found to raise cholesterol levels.

Unsaturated Fats

Fats that are liquid at room temperature. They are contained in fish and plant products. Unsaturated fats have been found to lower cholesterol levels.

Trans Fats

Fats that are artificially created through a chemical process of the hydrogenation of oils. This solidifies the oil and limits the body's ability to regulate cholesterol. These fats are considered to be the most harmful to one's health. The Federal Drug Administration has mandated that the amount of trans fats be labeled on food products by 2005.

VIEWING LESSON PLAN: **True and False Viewing Guide**

Lesson Objectives:

In this lesson students will **either**:

- Identify issues in the documentary by answering the true and false questions prior to viewing "Diet Wars"
- Watch the documentary "Diet Wars" and correct the true and false answers

OR

As the students watch the documentary they will:

- Identify things that **positively** influence health
- Identify things that **negatively** influence health

Materials Needed:

- The film "**Diet Wars**"
- Enough copies of either Student Viewing Guide #1 or #2 for each student

Time Needed:

Students will need one hour for viewing the documentary.

Procedure for Viewing Guide #1: True and False

Tell students that they will be answering questions on the viewing guide to identify key issues in the documentary and test their knowledge of health issues. They will answer the questions before viewing and correct them as they view the film.

Procedure for Viewing Guide #2: Analyzing Factors that Affect Health

Assign each student to one of two groups. Tell students that one group will take notes on people, practices and products in the film that may be **harmful** to good health while the other group will take notes on people, practices and products in the film that may be **beneficial** to good health.

Method of Assessment:

Participation in class discussion that focuses on:

- What is the state of our nation's health today?
- What has caused this?
- What can be done to change this situation?

Completed viewing guide

"Diet Wars": Student Worksheet
Student Viewing Guide # 1: True and False

Note to Students:

Answer the following questions as true or false prior to viewing the documentary. You are not expected to know all of the answers. However, you may know much more about health issues than you realize! Make corrections as you view the documentary.

1. December is the most common time for people to go on diets. _____
2. One way to determine if people are overweight is to measure their Body Mass Index (BMI). _____
3. Blood glucose checks are made to determine if people are overweight. _____
4. Approximately one-third of Americans are overweight. _____
5. Animal fats are considered to be very healthy. _____
6. The Atkins diet encourages people to eat fat. _____
7. The USDA food pyramid encourages people to eat pasta, bread and potatoes. _____
8. Most popular diets today are very similar to one another. _____
9. Low-fat foods are not fattening. _____
10. You gain more weight eating 3,000 calories in fat than eating 3,000 calories in carbohydrates. _____
11. A baked potato increases levels of blood sugar more quickly than an equal amount of pure table sugar. _____
12. Some people believe that the Atkins diet contributed to Dr. Atkins' death. _____
13. Some fats are good for your health. _____
14. Generally only about 30 to 50 percent of the people who have lost weight regain it. _____
15. People consume food when it is not mealtime. _____
16. People in England are starting to develop weight problems. _____
17. Children born in the year 2000 have a 50 percent chance of developing diabetes over the course of their lifetime. _____
18. Many school menus are filled with artery-clogging fats. _____
19. Children today are more physically active than children in the past. _____
20. Walking does not provide sufficient exercise to lose weight. _____
21. McDonald's has a new healthy Happy Meal. _____
22. Obesity will soon surpass smoking as the leading cause of death. _____

ANSWER KEY

1. False - Most diets begin in January.
2. True
3. False - Blood glucose tests check for diabetes.
4. False - Two-thirds of Americans are overweight.
5. False - Animal fats are unhealthy.
6. True
7. True
8. False - Most diets are quite different in their approach to weight loss.
9. False - Calories are the basis for weight gain. Low-fat foods can be very high in sugar.
10. False - You would gain the same amount of weight.
11. True
12. True
13. True
14. False - Around 90 percent of people gain back their weight losses.
15. True
16. True
17. True
18. True
19. False - Children were more physically active in the past.
20. False - Walking is an excellent way to lose weight.
21. True
22. True

"Diet Wars": Student Worksheet

Analyzing Factors that Affect Health Viewing Guide #2

Note to Students: You will be viewing a documentary that examines a major health problem that is facing our nation. It explores how diets have changed over time and the impact this has had on health. The documentary identifies a number of people, practices and products that have influenced health in America. You will be assigned to take notes on either positive or negative health practices that are presented in the film. At the end of the film you will contribute to a class discussion, that will examine major points in the documentary.

Circle which of the following you have been assigned to take notes on:

Positive Health Influences

Negative Health Influences

People or Organizations:

Practices (Diets, Activities, Lifestyle, etc.):

Products (Foods, Additives, Production Techniques etc.):

POST-VIEWING LESSON PLAN: Learning About My Eating Habits

Lesson Objectives:

This lesson is divided into two parts.
In this lesson students will:

Part I

- Estimate what they eat on an average day
- Compile a list of everything they eat and drink for one day

This part will not be turned in for a grade. This is a private exercise for the student to consider their own eating habits.

Part II

- Examine what constitutes a serving of food
- Compare their food choices to the foods on the USDA food pyramid
- Analyze their school lunch program

This part will be turned in for a grade.

Materials Needed

- Computers with Internet access
- Copies of student worksheets:
 1. What Constitutes a Serving?
 2. What Do I Think I Eat? What Do I Eat?
 3. The USDA Food Pyramid
 4. "Let me introduce you to lunch at my school"

NOTE: Teachers may need to supply examples of food serving sizes. Sometimes it is helpful for students to think of serving sizes as something more tangible, such as a deck of cards or the size of a fist.

Time Needed:

- Students will need to keep records of their food intake for one day. **This will not be turned in.**
- They will need 30–60 minutes in class to complete the Internet exercises.
- Students will need to have two days of homework assignments to complete the paper.

Procedure:

Tell students that they will be looking at their dietary habits and comparing them to national guidelines. Students should not be required to turn this in. However, you should emphasize that this

will help them to understand what impact their consumption of certain kinds of foods has on their health.

- Ask students to read the worksheet: "What Is a Serving?"
- Have students keep a daily list of everything they eat and drink
- Have students compare their diet with the food pyramid

Students will then complete the worksheet: "Let me introduce you to lunch at my school."

Method of Assessment:

Students should turn in

- Completed worksheet on the food pyramid (Worksheet #3)
- Student Paper: "Let me introduce you to lunch at my school"

"Diet Wars": Student Worksheet
POST –VIEWING SHEET #1
What Is a Serving?

Note to Students

You are going to estimate the amount of food that you eat and drink each day. In order to do this, you need to know what constitutes a serving. Please read the following chart carefully so you can accurately complete the worksheet.

What is a Serving?

Serving sizes are listed below. If you choose to eat double the amount of a serving size then you will need to list this as two servings. It is not necessary to have exact measures, but try to accurately estimate the amount of food you eat. The USDA suggests that you look at the main ingredients in your foods and then break it into food groups. As an example, a generous serving of cheese pizza, would be divided into the grain group (crust), the milk group (cheese) and the vegetable group (tomato).

This chart is found on:

http://www.pueblo.gsa.gov/cic_text/food/food-pyramid/main.htm

WHAT COUNTS AS A SERVING?		
<i>Food Groups</i>		
Breads, Cereal, Rice and Pasta		
1 slice of bread	1 ounce of ready to-eat cereal	1/2 cup of cooked cereal, rice, or pasta
Vegetable		
1 cup of raw leafy vegetables	1/2 cup of other vegetables, cooked or 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
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 or 1 egg counts as 1 ounce of lean meat. 2 tablespoons of peanut butter or 1/3 cup of nuts count as 1 ounce of meat.	

"Diet Wars": Student Worksheet

POST-VIEWING SHEET #2

Note to students: You will not be required to turn this in. It is to help you understand your eating habits.

Today: What Do I Think I Eat?

Think about an average day in your life. What do you think you generally consume in a 24-hour period? Use the chart on the "What Is a Serving?" worksheet to help you approximate the amounts that you consume. Many things you eat and drink may not be on the chart. That is fine. Try to be as honest as possible.

Tomorrow: What Do I Eat?

Tomorrow you will be recording everything you eat and drink. Be sure to write down the amount of servings using the above chart. Try to be as careful as possible so that you can learn about your eating habits.

Self Evaluation

How does what I think I eat compare with what I actually eat? How do my serving sizes compare with suggested serving sizes?

"Diet Wars": Student Worksheet
POST-VIEWING SHEET # 3
The USDA Food Pyramid

Note to students: The "Diet Wars" program discussed many kinds of diets. It looked closely at the USDA food pyramid. How does your diet compare to the pyramid? To find the answer go to the following Web site: http://www.pueblo.gsa.gov/cic_text/food/food-pyramid/main.htm

You will be turning this section in for a grade. Read the information that examines the food pyramid and answer the following questions:

The Food Guide Pyramid: A Guide to Daily Food Choices

Food Group: Bread, Cereal, Rice and Pasta

How many servings does the pyramid recommend? _____

Did you eat more or less of them? _____

Food Group: Vegetable Group

How many servings does the pyramid recommend? _____

Did you eat more or less of them? _____

Fruit Group: Fruit

How many servings does the pyramid recommend? _____

Did you eat more or less of them? _____

Food Group: Milk Yogurt and Cheese

How many servings does the pyramid recommend? _____

Did you eat more or less of them? _____

Food Group: Meat, Poultry, Fish, Dry Beans, Eggs and Nut Group

How many servings does the pyramid recommend? _____

Did you eat more or less of them? _____

Looking At Pieces of the Pyramid

Fats, Oils and Sweets

Continue to read the information in this section of the Web site.

- What foods do you eat that are found in the small tip of the pyramid?
- Compare the foods that you eat in this part of the pyramid to foods that you eat in the five food categories?
- What percent of your foods are in the fat, oils and sweet category?
-

How to Make the Pyramid Work for You

Continue reading the information in the section "How to Make the Pyramid Work for You." If you feel you would like to change your eating habits, discuss this with your parents, doctor or teacher. The documentary "Diet Wars" pointed out that there is great confusion about the kinds of diets available. Some diets may actually hurt your health. This exercise was an attempt to help you think about what you eat and how it may influence your body, not to recommend a particular diet.

"Diet Wars": Student Worksheet
Post-Viewing Sheet #4
"Let me introduce you to lunch at my school"

Note to students: You have looked at some of the diet issues that face our nation. Some of you have examined your own diet and compared it to the food pyramid. However, healthy eating is not just about what you consume, but the amount of pleasure that you receive from your meals. How food is presented and the environment in which you eat it is also part of a healthy diet. You are going to write a two-page (500-word) paper that examines lunch at your school. Please include the following:

- What were the lunch choices for the last week?
- What did most people choose?
- Why did they choose this?
- Why do some students choose to bring their lunch from home?
- Describe the lunchtime environment.
- Were the foods attractively presented?
- Did the food choices fit into the recommended amounts suggested in the food pyramid?
- What would you change if you were in control of the lunchroom?

POST-VIEWING LESSON PLANS:

A History of Changing Foods

Lesson Objectives:

This lesson is divided into two parts.

In this lesson students will:

- Examine how and why foods have changed over time
- Have an opportunity to look at specific food changes and recipes from different time periods

Materials Needed:

- Computers with Internet access
- Student worksheet: "Food In America"

Time Needed:

- 15 – 20 minutes to read the Web site **Food in America** and complete the questions. More time will be necessary to complete the lesson extension.

Procedure:

Ask the students to go to the following Web site and answer the questions on the student worksheet **Food in America:**

<http://www.digitalhistory.uh.edu/historyonline/food.cfm>

Lesson Extension: Food History Lessons

The following Web site has listings of the kinds of foods consumed from prehistory to the modern time. It also includes recipes. There are many wonderful charts, graphs and discussion about food changes.

Ask the students to go to the following site:

<http://www.gti.net/mocolib1/kid/food.html>

They should select one of the following options:

- Students should choose a favorite food and look at how it has been prepared in different time periods.
- Students can add information to the information that they researched on the worksheet **Food in America.**
- Students could compare diets from prehistory to the 21st century.

Method of Assessment:

Students should turn in their completed worksheets

"Diet Wars": Student Worksheet

Food in America

Complete this worksheet by finding information at the following Web site:

<http://www.digitalhistory.uh.edu/historyonline/food.cfm>

1. What kinds of foods did Europeans eat before the Age of Exploration?
2. What foods were introduced from the New World?
3. Compare and contrast the diets in various regions of the United States.
4. Summarize the impact that immigrants and technology have had on American diets.

EXTENDING THE LESSON:

A. *Staying Fat for Sarah Byrnes* by Chris Crutcher

This is an excellent book that explores weight issues and friendship. The National Council of Teachers of English say that Crutcher "assures his audience that his writing is not sensationalism or an attempt to tease with words, but rather, an attempt to record accurately the way life is." Language arts teachers in 9th and 10th grades will find that students enjoy reading and discussing this book.

B. What is my Body Mass Index?

Students can use the following Web sites to calculate their body mass and read why this is important to their health.

About Teens Health

<http://kidshealth.org/teen/misc/about.html>

This site is easy for teenagers to use.

Calculate your BMI – American BMI Calculator

<http://nhlbisupport.com/bmi/bmicalc.htm>

This is a more extensive site, which can be used by teenagers and adults. It was prepared by the National Institute of Health.

C. The Creation of the Federal Food and Drug Administration

Students can examine how and why the Food and Drug Administration in this lesson plan from the FRONTLINE teacher's guide, "**The Alternative Fix.**"

[<http://www.pbs.org/wgbh/pages/frontline/teach/altmed/postviewing1.html>]

Click on: "Regulating Drugs: The Creation of the Food and Drug Administration"

D. The Edible Schoolyard

<http://www.edibleschoolyard.org/homepage.html>

"The Edible Schoolyard, in collaboration with Martin Luther King Junior Middle School in Berkeley California, provides urban public school students with a one-acre organic garden and a kitchen classroom. Using food systems as a unifying concept, students learn how to grow, harvest, and prepare nutritious seasonal produce." Lesson plans can be found at this site that gives students hands-on opportunities to understand nutrition.

ADDITIONAL RESOURCES

Information on health and diets:

Nutrition Information and Resource Center

<http://nirc.cas.psu.edu/index.cfm>

The Nutritional Information and Research Center, created by Penn State, is an excellent source for nutritional information. It has many excellent links and will answer questions via e-mail.

Consumer Corner

<http://www.nal.usda.gov/fnic/consumersite/justforyou.htm>

This site on the Food and Nutritional Information Center at the National Agricultural Library has many links to answer health questions.

Food & Nutrition Information Center

<http://www.nal.usda.gov/fnic/>

This is the homepage for the Food and Nutritional Information Center at the National Agricultural Library. It has a wide range of information about food safety, food composition and dietary guidelines.

Nutritional value of fast food:

Fast Food Facts – Interactive Food Finder

[http://www.olen.com/food/](http://www olen.com/food/)

This site, created by Olen Publishing, allows you to check on the nutritional value of foods served in fast food restaurants. You can even set criteria for fat and have a search conducted to find sandwiches in the various restaurants that fit your needs. It allows you to create a menu based on your nutritional needs so that you can find healthy choices when you are eating at fast food restaurants.

Getting soft drinks out of schools:

Taking the Fizz out of Soda Contracts: A Guide to Community Action

<http://www.californiaprojectlean.org/consumer/takingfiz.asp>

This site is designed to help people get soft drinks out of public schools. It contains materials to help create action groups. The guide provides an array of resources that can be utilized when discussing school district policy on soda and other sugary drinks

with parents, students, community members and school decision-makers. The guide includes fact sheets on youth soda consumption and the related health consequences.

History and foods:

The Food Timeline – teacher resources for food history lessons

<http://www.gti.net/mocolib1/kid/food.html>

This site provides "K-12 Teacher Resources for Food History Lessons." It includes a Food Timeline tracing the development of foods and historic recipes. There is a Culinary History Timeline, which examines customs, menus and manners. This is an excellent site with very extensive information on all aspects of food.

Food History Timeline

<http://www.geocities.com/foodedge/timeline.htm>

Twentieth Century Timeline: Edibles and Quaffables looks at commercial foods that were developed during the 19th, 20th and 21st centuries in America.

Dining Through the Decades: One Hundred Years of Glorious American Food

<http://www.leitesculinaria.com/features/dining.html>

This site looks at how food in America has changed during the last 100 years. It includes the history of the changes as well as the recipes. The information is divided into the 10 decades of the 20th century.