

Middle and High School Curriculum

NUTRITION 101

LESSON SIX

FOOD DIET

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NUTRITION 101

LESSON 6 Food Diet

INSTRUCTIONAL OBJECTIVES

Students may use the Outline Note Taking as you present the following information regarding **Food Diet**.

STUDENT-FRIENDLY OBJECTIVES

I will grasp the difference between a processed and whole food, the difference between acute and chronic disease, and how these affect my everyday living.

HANDOUTS

- Optional: Outline Note Taking Handout and Student Notes

MATERIALS

- You may refer to the students' **Food-Mood Journal** Handout
- Socratic Seminar Guidelines Handout

OVERVIEW OF CONTENT

- Examine processed and whole foods, as well as acute and chronic diseases
- Examine how diseases have changed over the last 100 years
- Examine the difference between quality versus quantity of life
- Review, Q&A, conclusion

DIRECT INSTRUCTIONS

Students may use either the Outline Note Taking format or the Student Notes as you present the following information regarding "Food Diet."

QUOTATION

"An apple a day keeps the doctor away." Proverb

We have heard this so many times, but what is so important about an apple and its contributing to your health?

Processed and Whole Foods

PROCESSED FOODS

Processed foods have been altered from their natural state by adding food coloring, preservatives, bleached, and food enhancers. Food processing typically takes whole food crops and uses these to produce attractive and often long shelf-life food products. Processed foods are foods that come in boxes, bags or cans. Processing utilizes large mixing, grinding, chopping and emulsifying equipment in the production process. These processes inherently introduce a number of contamination risks as hygiene.

Processed foods that may be bad for your diet:

- Canned foods
- White breads and pastas
- Packaged snack foods such as chips and candies and cakes and cookies
- Frozen dinners
- Sugary breakfast cereals
- Processed meats

! Teacher's note

- We tend to believe that all processed foods are high-fat and/or high calorie; however, milk, would be considered processed, and it is, but in general, it is an important food (choose organic with no added hormones) group.

! Teacher's note

- People have been processing food for centuries with roasting, smoking and preserving with salt. There are many benefits but as we have evolved, unnatural preservatives - food coloring, MSG, sweeteners, stabilizers - have been introduced in the processing that may be affecting health.

WHOLE FOODS

Whole foods are foods you can pick off trees, bushes, or pull out of the ground. Ask students to give examples of whole foods in the different colored groups.

Red: raspberries, red peppers

Green: broccoli, kale, peas

Orange/yellow: pumpkin, carrots

Purple/Blue: blueberries, eggplant



Teacher side note

Refer back to the lesson on enzymes and discuss raw and cooked foods.

WHEN WERE PROCESSED FOOD INTRODUCED?

1920s

One of the most striking developments in this time was the shift toward processed foods. Housewives had previously prepared food from scratch at home were now introduced to ready-to-cook meals. World War I brought about new methods of food processing as manufacturers streamlined production methods of canned and frozen foods.

Manufactured foods introduced in the 1920s include: Baby Ruth Candy Bar, Wonder Bread, Yoo-Hoo Chocolate Drink, Popsicles, Hostess Cakes, Kool-Aid, Velveeta Cheese

1930s

Frozen foods were introduced: frozen vegetables, fruits, fish and meats.

WHY WERE PROCESSED FOOD INTRODUCED?

Discuss the advantages and disadvantages.

Advantages

- Processed foods reduced the amount of time in the meal preparation: peeling, grinding, and cutting.
- The post-war expansion of international trade allowed diets to be more diverse, and making fresh fruits and vegetables available year round.
- The introduction of refrigerators enabled healthier and longer storage of perishable foods.
- Refrigeration also permitted the transport of perishable foods over much longer distances by road and sea.

Disadvantages

- Smaller farms were absorbed by larger farms who could afford the expensive farm machinery that lowered costs and improved profitability while increasing production.
- Chemical additives and preservatives (sodium and trans fats) may cause long-term health problems.
- Processing decreases the nutrient value of foods.
- There is an increased risk of contamination in manufacturing processing plants.
- Added fats and sugar may cause long-term health problems.

DIFFERENCES BETWEEN ACUTE AND CHRONIC DISEASE

ACUTE DISEASE

An acute disease is a disease that begins rapidly, has unpleasant and intense symptoms (e.g. fever, coughing) but will have a short lifespan (1 to 2 weeks). The symptoms can range from mild to severe and at times, fatal.

- Most acute disease can be prevented from proper hygiene—washing hands.
- Examples of acute disease: colds, flus.

CHRONIC DISEASE

The symptoms of chronic disease and acute disease maybe quite similar; however, chronic disease symptoms will last from 3 months to years and typically do not have a rapid onset.

- Examples of chronic disease: asthma, arthritis, diabetes.



Teacher's note

Begin with asking students what they think the differences are between acute and chronic disease. How the quality of life is affected (short-lived illness versus a long-term chronic illness). How can they make changes in their daily life to avoid either of these diseases (food and activity choices)?



Side note


Research and create a timeline of when acute disease were prevalent, when chronic disease became prominent and the introduction of processed foods.

COMPARING FOOD AND HEALTH IN THE LAST 100 YEARS

What has changed in the last 100 years in the food industry?

Loss of nutrients: According to a recent study at the University of Colorado the nutrient density of food has declined significantly over the past 100 years. In fact, nutrient density has declined approximately 40-60% over the past 100 years. That indicates that food eaten today has up to 50% less nutrients than what past generations ate.

Additives in food: There is an increasing use of chemicals - food additives, flavor enhancers - to create a longer shelf life and convenience to consumers. Some research is showing the negative health impact due to these artificial chemicals additives.



What has changed in the health industry?

A hundred years ago most people died from acute diseases, and most of these diseases were due to poor hygiene (no running water). These days, most people suffer from chronic diseases like heart disease, asthma, diabetes, cancer, arthritis, and obesity.

Discuss with students what difference they can make in their diet.

- Eat a colored food at every meal
- Choose organic when possible - they have less pesticides
- Reduce consumption of processed food

SUMMARY ACTIVITY

- Review general points of about the whole and processed foods, acute and chronic disease and how our health has changed in the last 100 years.
- Lesson 7 presents: *The Unhealthy Truth*. Review Socratic Seminar Guidelines Handout with students
- Present the following quotation to students at the conclusion of Lesson 6. They are to consider its meaning and prepare to make comments in a classroom discussion before beginning Lesson 7.

QUOTATION

"One cannot think well, love well, sleep well, if one has not dined well."

Virginia Wolf

Define "dining well." Did Virginia Wolf imply that dining well is an expensive meal at a fine dining restaurant? Explain.

SUGGESTED HOMEWORK

1. Have the students research a processed food and list the advantages and disadvantages of it (be sure to remind them that added nutrients - fortified - is actually an unnatural source).
2. Have students research environmental chemicals (pesticides) on the quality of soil (mineral content) and our food.
3. Suggested Reading: Michael Pollan's book, *In Defense of Food*.