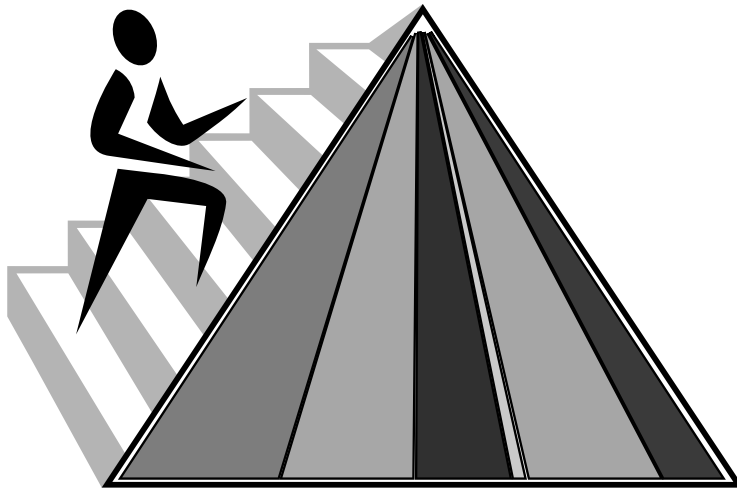


Essential Nutrition



Editors:

Brian A. Jerome Ph.D.
Stephanie Zak Jerome

Assistant Editors:

Louise Marrier
Lyndsey Canfield
Heidi Berry

Graphics:

Fred Thodal
Dean Ladago

Reviewers:

Stephen Trombulak Ph.D.
Professor of Biology
Middlebury College

Gary Meffe Ph.D.
Professor of Biology
Editor, *Conservation Biology*

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Student Learning Objectives

Upon viewing the video and completing the enclosed activities, students will be able to do the following:

- Understand that living things need energy to survive. Plants obtain the energy they need through the process of photosynthesis. But, most other organisms must consume other once-living things.
- Define nutrition as the process by which living things get food and break it down so it can be used for metabolism. Nutrition is also the study of how the body interacts with food to maintain health.
- Describe the general chemical make-up of a carbohydrate.
- Differentiate between monosaccharides, disaccharides, and polysaccharides.
- List examples of foods that contain fiber, and describe the important role of fiber in the diet.
- Understand that there are hundreds of different proteins in the body used in a wide variety of body functions.
- Explain that the body assembles proteins from twenty different amino acids. Many of these amino acids need to be obtained by eating protein-rich foods.
- List some examples of foods that are protein-rich.
- Differentiate between unsaturated and saturated fats. List some types of food that contain these different fats.
- Explain the role vitamins and minerals play in the body, and describe how these are obtained.
- Understand that hunger and malnutrition are the gravest threats to the world's public health.
- Generally discuss the health implications of so many people being overweight and obese in industrialized countries.
- Describe the condition of atherosclerosis and its possible negative health effects.
- List some of the things people can do to avoid atherosclerosis.
- Understand that a healthy diet consists of a wide variety of foods from the six major food groups: the fruits group, the vegetable group, milk group, the meat and bean group, and the oils group.
- Understand that a person's diet should be individually designed based on their age, gender, health, and activity level.

Assessment

Preliminary Assessment (p. 14-15):

The Preliminary Assessment is an assessment tool designed to gain an understanding of students' preexisting knowledge. It can also be used as a benchmark upon which to assess student progress based on the objectives stated on the previous pages.

Post Assessment (p. 16-17):

The Post Assessment can be utilized as an assessment tool following student completion of the program and student activities. The results of the Post Assessment can be compared against the results of the Preliminary Assessment to assess student progress.

Video Review (p. 18):

The Video Review can be used as an assessment tool or as a student activity. There are two sections. The first part contains questions displayed during the program. The second part consists of a ten-question video assessment to be answered at the end of the video.

Introducing the Program

Before showing the video program to students, ask them to list some of their favorite foods. Write them on the board. After completing the list ask them if some of the foods are healthier than others. Decide which foods are the healthiest and which are the least healthy.

Most students know that some foods are healthier than others. But, they may not know why. Ask them what makes up food. Write the term “nutrients” on the board. Explain that nutrients are substances in food that provide energy to the body and help it carry out processes. Discuss the fact that the body needs several different types of nutrients on a regular basis. List the major nutrients on the board.

Discuss the fact that foods contain different types and concentrations of nutrients. Tell students to pay close attention to the video to learn about the different types of nutrients, and to see how to eat a healthy diet.

Program Viewing Suggestions

The student master “Video Review” (p. 19) is provided for distribution to students. You may choose to have your students complete this master while viewing the program or do so upon its conclusion.

The program is approximately 20 minutes in length and includes a ten-question video assessment. Answers are not provided to the Video Assessment in the video, but are included in this manual on page 13. You may choose to grade student assessments as an assessment tool or to review the answers in class.

The video is content-rich with numerous vocabulary words. For this reason you may want to periodically stop the video to review and discuss new terminology and concepts.

Video Script: Essential Nutrition

1. If you are like most people you enjoy eating.
2. You probably have certain foods that you love to eat.
3. Even though you eat everyday chances are you usually don't think about why you need to eat.
4. Why does the body need food?
5. What does the body do with the food we eat?
6. What does food contain?
7. How are foods different from each other?
8. And why are some foods better for the body than others?
9. During the next few minutes we are going to answer these questions and others, ...
10. ... as we explore the essentials of nutrition.

11. Graphic Transition- Energy and Nutrition

12. Living things need energy to survive.
13. From the tiniest microorganisms, ...
14. ... to large vertebrate animals, all living things need energy. Energy is used by living things to grow, move, reproduce, and carry out other important functions.

15. You Decide! How does this plant obtain energy?

16. Plants and other plant-like organisms obtain the energy they need via the process of photosynthesis.
17. Photosynthesis involves a series of reactions in which light energy from the sun along with carbon dioxide and water is converted into simple sugars that the plant uses to carry out processes.
18. With a few exceptions, organisms that do not carry out photosynthesis need to eat other living things or once living things to meet their energy needs.
19. What is in food that makes it vital to living things?
20. All food contains nutrients. Nutrients are substances that provide energy and help carry out other body processes.
21. Nutrition is the process by which living things get food and break it down so it can be used for metabolism.
22. Nutrition is also the study of how the body interacts with food to maintain health.

23. Graphic Transition – Nutrients

24. As you are well aware, not all foods look, feel, or taste the same. This is due in part to the fact that different foods contain various types of nutrients.
25. There are several types of nutrients that the body needs to carry out activities. Let's take a look at them.
26. Chances are you occasionally enjoy eating foods that are high in sugar.
27. Sugar is a type of nutrient called a carbohydrate.
28. Most of the cells in the body obtain their energy from carbohydrates.
29. Carbohydrates are compounds made of carbon, hydrogen, and oxygen in a 1:2:1 ratio.
30. There are several types of carbohydrates.
31. Monosaccharides are single sugars. Glucose is an example.
32. Disaccharides, or, "double sugars", such as sucrose, maltose, and lactose consist of single sugars bonded together in a process called dehydration synthesis.

Video Script: Essential Nutrition

33. Polysaccharides are made of long chains of single sugars, and are sometimes referred to as complex carbohydrates.
34. Starches are a type of polysaccharide abundant in pasta, potatoes, and breads.
35. Cellulose, found in the cell walls of plants, as well as glycogen stored in the human liver are polysaccharides.
36. Fiber, also known as roughage, is another type of carbohydrate. Fiber consists of the parts of grains and plant foods that cannot be digested. It is recommended that you eat whole grains and other fiber-rich foods to promote digestion and decrease your risk of heart disease.
37. Proteins are a critical nutrient used for many, different body functions. There are hundreds of different proteins in the body.
38. Proteins are found in skin, muscle tissue, enzymes, blood, genetic material, and many other body structures.
39. The body assembles proteins from twenty different amino acids, which are often referred to as the building blocks of proteins.
40. The body makes twelve of these amino acids. Eight amino acids called essential amino acids must be obtained by eating protein-rich foods.
- 41. You Decide!** Which groups of foods are rich in proteins?
42. Meats, dairy products, and beans tend to be rich in protein.
43. Whereas pasta, bread, and fruit are rich in carbohydrates.
44. Lipids, another group of nutrients includes substances commonly referred to as fats, oils, and waxes.
45. While lipids are made up of carbon, hydrogen, and oxygen they contain less oxygen than do carbohydrates and are more complex.
46. Lipids are found in various cell structures, nerves, and serve as a reserve energy supply.
47. Lipids are classified as either saturated or unsaturated fats.
48. Saturated fats such as those found in red meats, fried food, and dairy products, can present health problems in some people if over consumed.
49. Unsaturated fats such as those derived from plant products and certain types of fish are encouraged as substitutes for saturated fats whenever possible.
50. When vegetable oils are processed into solid fats via a process called hydrogenation, substances called trans-fatty acids are produced.
51. Trans fatty-acids are common in many processed foods and can elevate blood cholesterol levels which could lead to health problems.
52. Vitamins are another important group of nutrients that the body needs.
53. There are two main types of vitamins: fat-soluble vitamins and water-soluble vitamins.
54. Fat-soluble vitamins dissolve in fat and can be stored in the body.
55. Water-soluble vitamins dissolve in water and can't be stored by the body.
56. Vitamin C, abundant in citrus fruits is an example of a water-soluble vitamin.
57. Vitamins do not provide energy to the body but they help the body use energy, and help carry out other body processes.
58. It may be hard to believe, but rocks such as these containing calcium also provide the body with very important nutrients.

Video Script: Essential Nutrition

- 59. You Decide!** What group of nutrients do they contain?
60. They contain minerals. Minerals are nutrients that don't provide energy, but do help the body regulate chemical reactions and keep the body healthy.
61. For example, iron is an important component in hemoglobin which carries oxygen in the bloodstream.
62. Calcium is a major component in bones.
63. If you eat a well-balanced diet, you probably get the minerals and vitamins that your body needs.
- 64. Graphic Transition – Nutrition-related Health Problems**
65. Hunger and malnutrition are the gravest threats to the world's public health.
66. But, just as hunger and malnutrition can cause problems, eating too much food, and the wrong kinds of foods can cause problems as well.
67. The number of people that are obese or overweight in North America and Europe is at record proportions.
68. This combined with sedentary lifestyles involving little physical activity are linked to many health problems some of which are fatal.
69. Heart attacks and strokes, two of the leading causes of death in industrialized countries are examples of these health problems.
70. In many cases these problems are linked to a condition called atherosclerosis.
71. Atherosclerosis is a condition in which plaque, made of fatty substances along with other materials, is deposited on the inner walls of arteries. As plaque deposits form, the diameter of the artery becomes smaller, decreasing the flow of blood and increasing the person's blood pressure.
72. When coronary arteries, those that supply blood to the heart, become clogged with fats it is more difficult for blood to nourish heart muscle.
73. When blood flow gets cut off or is greatly reduced to the heart muscle, a heart attack may occur, and the heart can be damaged.
74. When blood vessels supplying blood to the brain become obstructed, a stroke may occur resulting in temporary or permanent brain damage.
75. Eating a diet low in salt and saturated fats, getting regular exercise, quitting smoking, and reducing blood pressure are things adults and even teenagers can do to help prevent these circulatory problems and their potentially damaging effects.
76. Type II diabetes is another serious health problem on the rise that is thought to be largely diet related.
- 77. Graphic Transition – Staying Healthy**
78. It's important to realize that there's no ideal body and in fact, there are dozens of different body shapes – all of them normal.
79. However, there are some body shapes that are healthier than others.
80. Having too much body fat, or in some cases too little can lead to health problems.
81. If you are uncomfortable about your body shape, discuss your concerns with family members, the school nurse, your doctor, or other medical professionals.

Video Script: Essential Nutrition

82. Let's briefly review some things you can do to maintain a healthy body before we discuss nutritional specifics.
83. Regular exercise is vital to maintaining a healthy body.
84. It is recommended that you vigorously exercise for 45 to 60 minutes at least five times a week .
85. If you smoke, use unprescribed drugs, illegal drugs, or alcohol; stop immediately.
86. It is also recommended that you obtain a regular physical examination by a medical professional at least once a year.
- 87. Graphic Transition – Eating Well!**
88. As you know, one of the most important things you can control, in terms of your health, is what you eat.
89. Fortunately, scientists and registered dietitians have developed ways to help us figure out the type and quantity of food that we should consume.
90. A healthy diet consists of eating a wide variety of foods from the five major food groups: the fruits group, vegetable group, milk group, grain group, and the meat and beans group.
91. The food pyramid, seen here, illustrates the five major food groups with each group represented by a different color.
92. A person's diet should be individually designed based on their age, gender, and activity level.
93. You can figure out exactly how much you should eat from the five food groups by looking it up on the Internet, or in a current reference book.
94. While it is really important to eat the right kinds of foods,...
95. ...it is equally important to avoid certain types of foods.
- 96. You Observe!** Generally describe this food.
97. You can describe this food as junk food.
98. Junk food gets its name from the fact that it does not contain the types of nutrients that are found in healthier food choices.
99. It is food that is not worth much nutritionally.
100. Junk foods such as chips, soda, candy, and other sweets should be eaten sparingly. But junk food is just one type of food that you should try to avoid.
101. Let's start with breakfast. First of all, try not to skip breakfast. But do try to avoid sugary cereals, donuts, and juices that contain a lot of sugar.
102. Healthier breakfast choices include eggs, as well as whole grain muffins, cereals, and toast.
103. Healthy lunch choices include salads, lean cuts of meat, sandwiches made with whole grain breads, fruit, and healthy soups.
104. Drinking water instead of soda is also a good choice.
105. When you get the munchies between meals, eat low-salt pretzels, a piece of fruit, or easy to eat vegetables such as peas. These foods contain a much better mix of nutrients.
106. For dinner eat a wide variety of foods from the main food groups.
107. Eat vegetables, fruit, some kind of lean meat or dried beans, and something from the grains group. Throughout the course of the day, eat five to seven servings of fruits or vegetables.
108. Avoid regularly eating foods such pizza, chips, and fried foods for dinner.

Video Script: Essential Nutrition

109. But, eating the right foods and the right amount of healthy foods is not only good for your short-term health; it is good for your long-term health as well.

110. Graphic Transition – Video Review

111. During the past few minutes we've highlighted some of the aspects of nutrition in the body.

112. We began by discussing why the body needs energy.

113. We then investigated the major groups of nutrients in food including carbohydrates, lipids, proteins, vitamins, and minerals.

114. Briefly, we explored some of the major nutrition-related health problems such as malnutrition, atherosclerosis, and Type II diabetes.

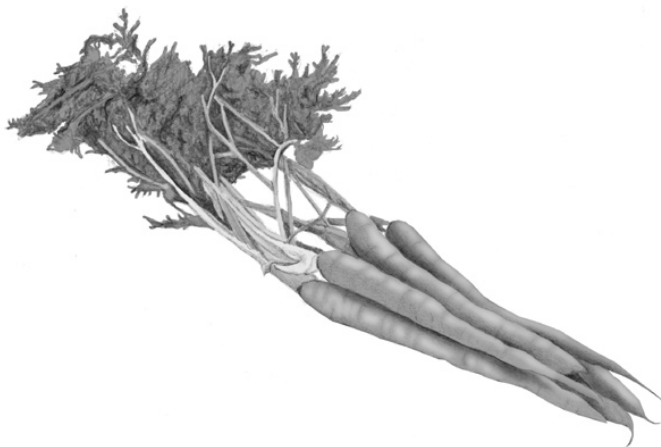
115. Information was provided on how to stay healthy, and eat a well-balanced diet.

116. Last, we gave specific suggestions on healthy food choices that can enable you to improve your long-term health.

117. Graphic Transition – Video Assessment

Fill in the correct word to complete the sentence.

1. Living things need _____ to survive.
2. All food contains _____ that provide energy and other materials needed for metabolism.
3. _____ is the process by which organisms get food and break it down into useable forms.
4. Sugar is a type of nutrient called a _____.
5. Proteins are nutrients made up of building blocks called _____ _____.
6. Red meats, fried foods, and some dairy products are high in _____ fats.
7. Hunger and _____ are the gravest threat to world public health.
8. _____ is a condition in which plaque deposits build up on the inner walls of arteries.
9. A person's diet should be _____ designed based on several factors.
10. _____ food is not worth much nutritionally.



Answer Key to Student Assessments

Preliminary Assessment (p. 15-16)

1. a - nutrients
2. d - nutrition
3. b - carbohydrates
4. a - amino acids
5. c - cholesterol
6. d - vitamins
7. b - a balanced diet
8. a - atherosclerosis
9. d - high blood pressure
10. d - low fat
11. b - Type II diabetes
12. b - smoke
13. d - all the major food groups
14. c - individually designed
15. a - junk food
16. Nutrients are substances in food that provide energy and other substances needed by the body.
17. The major nutrients include carbohydrates, fats, proteins, vitamins, and minerals.
18. Carbon, hydrogen, and oxygen are in a 1:2:1 ratio in carbohydrates. Candy, bread, pasta, and fruits are carbohydrate-rich.
19. Eating a diet low in saturated fats, regular exercise, quitting smoking, and reducing blood pressure are some of the things people can do to help prevent atherosclerosis.
20. A healthy diet consists of eating a wide variety of foods from the major food groups. A person's diet should be individually designed based on their age, gender, activity level, and health.

Video Review (p. 19)

1. Plants and other plant-like organisms obtain the energy they need via the process of photosynthesis.
2. Meats, dairy products, and beans are groups of foods that tend to be rich in protein.
3. The group of nutrients contained in these rocks is minerals. Minerals help the body regulate chemical reactions and keep the body healthy.
4. This food can be described as junk food.

Video Assessment (p. 19)

1. energy
2. nutrients
3. nutrition
4. carbohydrate
5. amino acids
6. saturated
7. malnutrition
8. atherosclerosis
9. individually
10. junk

Post Assessment (p. 17-18)

1. b - carbohydrates
2. d - vitamins
3. d - high blood pressure
4. b - smoke
5. a - junk food
6. a - amino acids
7. a - atherosclerosis
8. d - all the major food groups
9. d - nutrition
10. b - a balanced diet
11. c - individually designed
12. d - low fat
13. c - cholesterol
14. b - Type II diabetes
15. a - nutrients
16. Carbon, hydrogen, and oxygen are in a 1:2:1 ratio in carbohydrates. Candy, bread, pasta, and fruits are carbohydrate-rich.
17. Nutrients are substances in food that provide energy and other substances needed by the body.
18. A healthy diet consists of eating a wide variety of foods from the major food groups. A person's diet should be individually designed based on their age, gender, activity level, and health.
19. The major nutrients include carbohydrates, fats, proteins, vitamins, and minerals.
20. Eating a diet low in saturated fats, regular exercise, quitting smoking, and reducing blood pressure are some of the things people can do to help prevent atherosclerosis.

Vocabulary (p. 20)

1. c - carbohydrate
2. f - lipids
3. i - vitamins
4. l - atherosclerosis
5. o - food pyramid
6. d - proteins
7. j - calcium
8. n - well-balanced diet
9. g - trans fatty acids
10. m - type II diabetes
11. h - cholesterol
12. b - nutrients
13. a - nutrition
14. e - amino acids
15. k - malnutrition

Answer Key to Student Activities

Serving Sizes (p. 21-22)

SAMPLE ANSWERS

Name of Food	Recommended Serving Size
potato chips	1 ounce
carrot sticks	3 ounces
salted peanuts	1 ounce

Name of Food	Your Serving Size
potato chips	1 bag, about 3 ounces
carrot sticks	3 ounces
salted peanuts	2 ounces

1. The portions were larger than the recommended serving size.
2. The carrot sticks, the healthiest snack, had the largest serving size.
3. Yes, they all did. The recommended portion sizes were all smaller than expected.

Planning Healthy Meals (p. 23-24)

SAMPLE

Your Meal Plan

Breakfast	Lunch	Dinner	Snacks
<ul style="list-style-type: none"> • whole wheat cereal with strawberries and bananas • skim milk • orange juice 	<ul style="list-style-type: none"> • tuna salad sandwiches with tomato • carrot and celery sticks • skim milk 	<ul style="list-style-type: none"> • tossed salad • grilled chicken • baked sweet potatoes • broccoli • water 	<ul style="list-style-type: none"> • almonds • low-salt pretzels • peaches

Grocery Shopping List

skim milk, whole wheat bread, chicken, tuna fish, almonds, low-salt pretzels, whole wheat cereal, fruits: bananas, strawberries, peaches, vegetables: tomatoes, carrots, celery, lettuce, sweet potatoes, broccoli

1. No, each member of the family should not eat the same amount of food. The portion size that each person eats depends on their nutrient requirements.
2. Answers will vary. Example - It was very difficult to think of ideas for meals.
3. To exercise together, the family could do yard work, go for a walk, swim, hike, or play a sport such as soccer or tennis.

Reading Food Labels (p. 25)

1. Answers will vary.
2. There are 160mg of sodium in the toaster pastries, 190mg in the cereal, and 420mg in the waffles. If you were trying to eat a diet low in sodium, you should avoid the waffles.
3. The cereal is the best choice because, unlike the other two foods, it contains no saturated fats or trans fats.
4. The cereal has 110 calories per serving which is less than the other alternatives.
5. The cereal is the best choice based on vitamins and minerals because overall it contains more of these nutrients based on percent daily value.
6. The cereal is the healthiest choice. It would be good also to eat fruits, skim milk, and orange juice along with it.

Preliminary Assessment

Name: _____

Directions: Circle the best answer for each of the following:

1. What does all food contain that provides energy and other materials for the body?
 - a. nutrients
 - b. cholesterol
 - c. protein
 - d. fiber
2. The study of how the body interacts with food to maintain health is:
 - a. physiology
 - b. kinesiology
 - c. pathology
 - d. nutrition
3. Candy, pasta, fruits, and breads are rich in the following nutrient:
 - a. proteins
 - b. carbohydrates
 - c. water
 - d. minerals
4. Proteins are nutrients made up of building blocks referred to as:
 - a. amino acids
 - b. fats
 - c. water molecules
 - d. carbohydrates
5. The following substance is linked to the build-up of fatty deposits on artery walls, and is found in foods containing saturated fats:
 - a. unsaturated fat
 - b. fiber
 - c. cholesterol
 - d. sugar
6. What nutrients do not provide energy to the body but help it carry out other body processes?
 - a. fats
 - b. carbohydrates
 - c. proteins
 - d. vitamins
7. The best way to obtain minerals and vitamins the body needs is to eat:
 - a. often
 - b. a balanced diet
 - c. regular meals
 - d. sparsely
8. The condition in which fatty substances and other materials are deposited on the walls of arteries is referred to as:
 - a. atherosclerosis
 - b. edema
 - c. bronchitis
 - d. pneumonia
9. The narrowing of artery walls due to build-up of fatty deposits can lead to the following condition:
 - a. anemia
 - b. conjunctivitis
 - c. influenza
 - d. high blood pressure
10. To avoid atherosclerosis the following type of diet is recommended:
 - a. high protein
 - b. low carbohydrate
 - c. nutrient poor
 - d. low fat
11. A condition in which cells in the body do not sufficiently absorb sugar is called:
 - a. influenza
 - b. Type II diabetes
 - c. pneumonia
 - d. malaria
12. Which of the following should you not do to maintain a healthy body?
 - a. exercise regularly
 - b. smoke
 - c. eat a well-balanced diet
 - d. obtain a regular physical exam
13. A well balanced diet includes foods from:
 - a. fruits and vegetables group
 - b. organic farms
 - c. minerals group
 - d. all the major food groups
14. A person's diet should be:
 - a. variable
 - b. random
 - c. individually designed
 - d. high in cholesterol
15. Foods such as potato chips, candy, and soda that do not contain nutrients found in healthier food choices are generally referred to as:
 - a. junk food
 - b. snack food
 - c. health food
 - d. rich foods

Post Assessment

Name: _____

Directions: Circle the best answer for each of the following:

- Candy, pasta, fruits, and breads are rich in the following nutrient:
 - proteins
 - carbohydrates
 - water
 - minerals
- What nutrients do not provide energy to the body but help it carry out other body processes?
 - fats
 - carbohydrates
 - proteins
 - vitamins
- The narrowing of artery walls due to build-up of fatty deposits can lead to the following condition:
 - anemia
 - conjunctivitis
 - influenza
 - high blood pressure
- Which of the following should you not do to maintain a healthy body?
 - exercise regularly
 - smoke
 - eat a well-balanced diet
 - obtain a regular physical exam
- Foods such as potato chips, candy, and soda that do not contain nutrients found in healthier food choices are generally referred to as:
 - junk food
 - snack food
 - health food
 - rich foods
- Proteins are nutrients made up of building blocks referred to as:
 - amino acids
 - fats
 - water molecules
 - carbohydrates
- The condition in which fatty substances and other materials are deposited on the walls of arteries is referred to as:
 - atherosclerosis
 - edema
 - bronchitis
 - pneumonia
- A well balanced diet includes foods from:
 - fruits and vegetables group
 - organic farms
 - minerals group
 - all the major food groups
- The study of how the body interacts with food to maintain health is:
 - physiology
 - kinesiology
 - pathology
 - nutrition
- The best way to obtain minerals and vitamins the body needs is to eat:
 - often
 - a balanced diet
 - regular meals
 - sparsely
- A person's diet should be:
 - variable
 - random
 - individually designed
 - high in cholesterol
- To avoid atherosclerosis the following type of diet is recommended:
 - high protein
 - low carbohydrate
 - nutrient poor
 - low fat
- The following substance is linked to the build-up of fatty deposits on artery walls, and is found in foods containing saturated fats:
 - unsaturated fat
 - fiber
 - cholesterol
 - sugar
- A condition in which cells in the body do not sufficiently absorb sugar is called:
 - influenza
 - Type II diabetes
 - pneumonia
 - malaria
- What does all food contain that provides energy and other materials for the body?
 - nutrients
 - cholesterol
 - protein
 - fiber

Video Review

Name: _____

Directions: Answer these questions as you watch the video:

- 1. You Decide!**
How does this plant obtain energy?

- 2. You Decide!**
Which groups of foods are rich in proteins?

- 3. You Decide!**
What group of nutrients do they contain?

- 4. You Observe!**
Generally describe this food.

Video Assessment

Directions: After you watch the video, fill in the blank to complete the sentence.

1. Living things need _____ to survive.
2. All food contains _____ that provide energy and other materials needed for metabolism.
3. _____ is the process by which organisms get food and break it down into useable forms.
4. Sugar is a type of nutrient called a _____.
5. Proteins are nutrients made up of building blocks called _____.
6. Red meats, fried foods, and some dairy products are high in _____ fats.
7. Hunger and _____ are the gravest threat to world public health.
8. _____ is a condition in which plaque deposits build up on the inner walls of arteries.
9. A person's diet should be _____ designed based on several factors.
10. _____ food is not worth much nutritionally.

Essential Nutrition Vocabulary

Name: _____

Directions: Unscramble the vocabulary words in the first column. Match the words to the definitions in the second column.

____ 1) rhrebdcyatoa _____

____ 2) iisdlp _____

____ 3) mvansiit _____

____ 4) ecoaortlserhsis _____

____ 5) odof apdyirm _____

____ 6) etionrsp _____

____ 7) uaiccm _____

____ 8) lwle-aacdlenb itde _____

____ 9) atrns tfyta saide _____

____ 10) etpy II sdeitaeb _____

____ 11) elrhtolocse _____

____ 12) ttnnesiru _____

____ 13) urtoninit _____

____ 14) ioanm isadc _____

____ 15) ilnitoatmnur _____

a. The process by which living things get food and break it down so it can be used for metabolism.

b. Substances in food that provide energy and other materials needed for metabolism.

c. A type of nutrient that includes monosaccharides, disaccharides, polysaccharides, and fiber.

d. Nutrients that are complex compounds made up of carbon, hydrogen, oxygen, and nitrogen.

e. The building blocks of proteins.

f. Includes substances such as fats, oils, and waxes.

g. Vegetable oils processed into solid fats via the process of hydrogenation; can elevate blood cholesterol levels leading to health problems.

h. A compound associated with saturated fats that can increase the accumulation of fatty deposits on the inner walls of arteries.

i. Nutrients that do not provide energy, but help the body use energy and carry out processes.

j. An example of a mineral; a key mineral found in bones.

k. The gravest threat to the world's public health.

l. A condition in which plaque, a number of fatty substances and other materials are deposited on the inner walls of arteries; may lead to high blood pressure, strokes, and heart attacks.

m. A condition in which cells in the body do not sufficiently absorb sugars leading to an overall abundance of sugars in the body.

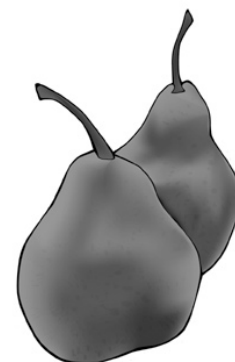
n. Involves eating a wide variety of foods from the six major food groups.

o. A graphic that illustrates the six major food groups.

Serving Sizes

Name: _____

Background: If you've ever been to a fast food restaurant, you were probably asked if you would like to order a larger meal for only a dollar more. It is not just fast food that comes in larger sizes today. Meals in restaurants are larger, bags of snacks like potato chips contain as much as twice the amount they had 30 years ago, and soft drinks come in bottles that hold two and a half servings. Even baked goods like muffins and cookies are 300 to 500% larger.



People often don't look at the food label, and carefully measure out the correct serving size. Society sometimes even considers people rude if they fail to eat all of the food on their plate. And all-you-can-eat buffet restaurants, where people may eat as much as six or seven plates of food, seem like a great deal.

Did you know that one piece of bread is a normal portion of grains? A large apple contains two portions of fruit. A normal portion of meat is no larger than a pack of cards. People are so used to inflated portion sizes that they often eat two or three portions of food without realizing how much they are really eating. The problem with large portion sizes is that it leads to a much greater daily calorie intake. It is not only eating too much fat that can cause weight gain, but also eating too much food in general.

When planning a balanced diet, you should make sure you eat foods from all of the food groups, and that you eat sensible portion sizes. The new food pyramid doesn't have set servings for all people; rather, it recommends that each person create their own individual diet based on their needs. The appropriate portion sizes can be determined using internet resources or by talking to a nutritionist.

Materials: a variety of snack foods in their packages such as peanut butter crackers, potato chips, cookies, baby carrots, fruit snacks, rice cakes, pretzels, cheese, tortilla chips, dried fruit, nuts, chocolate, or apple slices; a food scale

Directions:

1. In this activity you will explore recommended portion sizes based on food labels for common snack foods. First, choose three snack foods from those that your teacher has provided. Try to choose one food that is very healthy, one that is sort of healthy, and one that is probably not healthy. Then place what you would eat for a snack from each of the foods aside on a napkin. Be careful not to eat any of this, as you will need it later in the activity.
2. Look carefully at the food labels for the three different snack foods. Record the recommended serving size listed at the top of the food label in the table below.

Name of Food	Recommended Serving Size

Serving Sizes

Name: _____

3. Next, use the scale your teacher provides to measure out the recommended serving size from the food label, the amount that you listed in your chart.
4. Now use the scale to find the mass of the portions you set aside on napkins at the beginning of this activity. Record your measurements below and then answer the questions.

Name of Food	Your Serving Size

Questions:

1. How did your portion sizes compare to the recommended serving size?
2. Which snack had the largest recommended serving size? Was it the healthiest snack?
3. Did any of the recommended portion sizes surprise you? If so, why?

Planning Healthy Meals

Name: _____

Background: Have you ever looked closely at what you eat for lunch? Perhaps your lunch today included chicken patties, rice, carrots, apples, and milk. Or maybe you had tomato soup, grilled cheese sandwiches, celery sticks, oranges, and milk. When planning a menu, hopefully you take into account all of the six food groups to plan a well balanced meal.

Learning to create a well balanced diet can be a difficult thing. The food pyramid is a useful tool to help you eat well. It shows each of the food groups you need to consider to eat a healthy diet. A good meal should include something from each of the six food groups. In case you have forgotten, the six food groups are: the grain group; the vegetable group; the fruit group; the milk, cheese and yogurt group; the meat, poultry, fish, dry beans, eggs, and nuts group; and the oils group .

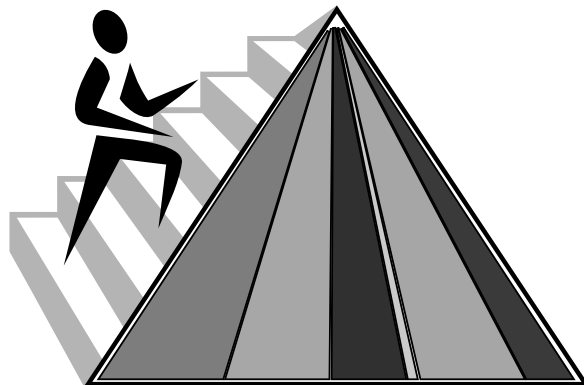
In this activity you will be planning a menu for a family for an entire day. You are responsible for making sure that everyone gets enough of all six essential nutrients.

Directions:

Using the chart on the next page and the tips below, plan a breakfast, a lunch, and a dinner for a four person family. Make a grocery shopping list based on your meal plan. Then answer the questions.

Tips for Healthy Meal Planning

- Eat a wide variety of foods from each of the major food groups.
- Try to eat at least 5 servings of fruits and vegetables every day.
- Rather than frying or sauteing foods, try broiling, grilling or baking instead.
- Avoid eating too many processed or prepared foods.
- Avoid fatty and salty foods.



Reading Food Labels

Name: _____

Background: You have probably noticed the black and white chart printed on the package of most foods you purchase. This chart is called a food label. Have you ever really looked at a food label? Food labels provide essential information about the nutritional value of a food, including how much of the food makes up a serving, the number of calories in a serving, and the amount of nutrients in a serving. Although the label looks complicated, it is actually easy to find all the important information. Reading food labels is not hard - it just takes practice.

People often say that breakfast is the most important meal of the day. It is a good idea to select foods that are healthy and high in energy to give you the right start. In this activity, you will analyze the food labels of three common breakfast foods.

Directions: Look closely at the three food labels printed below. Use the information to answer the questions below.

Toaster Pastry

Nutrition Facts	
Serving Size	1 pastry
Servings Per Container	8
Amount Per Serving	
Calories 200	Calories from Fat 45
% Daily Value*	
Total Fat 5g	8%
Saturated Fat 2.5g	13%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 160mg	7%
Potassium 0g	0%
Total Carbohydrate 37g	12%
Dietary Fiber less than 1g	2%
Sugars 17g	
Protein 2g	
Vitamin A	10%
Vitamin C	0%
Calcium	0%
Iron	10%
Thiamin	10%
Riboflavin	10%
Niacin	10%
Vitamin B ₆	10%
Folic Acid	10%

* Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

Cereal

Nutrition Facts	
Serving Size	3/4 cup
Servings Per Container	about 14
Amount Per Serving	
Calories 110	Calories from Fat 15
% Daily Value*	
Total Fat 1.5g	2%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 190mg	8%
Potassium 115mg	3%
Total Carbohydrate 22g	7%
Dietary Fiber 2g	8%
Sugars 9g	
Protein 3g	
Vitamin A	10%
Vitamin C	10%
Calcium	10%
Iron	25%
Thiamin	25%
Riboflavin	25%
Niacin	25%
Vitamin B ₆	25%
Folic Acid	50%

* Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

Frozen Waffles

Nutrition Facts	
Serving Size	2 Waffles
Servings Per Container	12
Amount Per Serving	
Calories 180	Calories from Fat 50
% Daily Value*	
Total Fat 6g	9%
Saturated Fat 1.5g	8%
Trans Fat 2g	
Cholesterol 15mg	5%
Sodium 420mg	18%
Potassium 60mg	2%
Total Carbohydrate 26g	9%
Dietary Fiber 1g	4%
Sugars 2g	
Protein 5g	
Vitamin A	20%
Vitamin C	0%
Calcium	10%
Iron	20%
Thiamin	20%
Riboflavin	20%
Niacin	20%
Vitamin B ₆	20%
Folic Acid	10%

* Percent Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.

Questions:

- Without considering the food labels, which one of the three foods would you choose for breakfast: toaster pastries, cereal, or frozen waffles?
- How much sodium is there in each of the foods? If you were trying to eat a diet low in sodium, which food shouldn't you eat?
- Nutritionists often advise that you avoid eating foods containing lots of saturated fats and trans fats. Looking only at these categories, which is the healthiest food choice?
- A Calorie is a measure of the amount of energy in a food. If you wanted to eat the fewest calories per serving, which is the best breakfast choice?
- If you were choosing a food to eat based on the vitamin and mineral content of the food, which would you eat?
- Which food is the best choice as part of a healthy breakfast? What other sorts of food could you eat along with it to have a balanced breakfast?