Wellness and Nutrition Unit Grades 9-12

NATIONAL HEALTH STANDARDS AND ELEMENTS

Standard 1: Students will comprehend concepts related to health promotion and disease prevention to enhance health.
1.8.1 Analyze the relationship between healthy behaviors and personal health.
1.8.2 Describe the interrelationships of emotional, intellectual, physical, and social health in adolescence.
1.8.3 Analyze how the environment affects personal health.
1.8.4 Describe how family history can affect personal health.
1.8.5 Describe ways to reduce or prevent injuries and other adolescent health problems.
1.8.7 Describe the benefits of and barriers to practicing healthy behaviors.
1.8.8 Examine the likelihood of injury or illness if engaging in unhealthy behaviors.
1.8.9 Examine the potential seriousness of injury or illness if engaging in unhealthy behaviors.

Standard 2: Students will analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors.
2.8.1 Examine how the family influences the health of adolescents.
2.8.2 Describe the influence of culture on health beliefs, practices, and behaviors.
2.8.3 Describe how peers influence healthy and unhealthy behaviors.
2.8.4 Analyze how the school and community can affect personal health practices and behaviors.
2.8.5 Analyze how messages from media influence health behaviors.
2.8.6 Analyze the influence of technology on personal and family health.
2.8.7 Explain how the perceptions of norms influence healthy and unhealthy behaviors.
2.8.8 Explain the influence of personal values and beliefs on individual health practices and behaviors.
2.8.9 Describe how some health risk behaviors can influence the likelihood of engaging in unhealthy behaviors.
2.8.10 Explain how school and public health policies can influence health promotion and disease prevention.

Standard 3: Students will demonstrate the ability to access valid information, products, and services to enhance health.
3.8.1 Analyze the validity of health information, products, and services.
3.8.2 Access valid health information from home, school, and community.
3.8.3 Determine the accessibility of products that enhance health.
3.8.4 Describe situations that may require professional health services.
3.8.5 Locate valid and reliable health products and services.

Standard 4: Students will demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks.
4.8.1 Apply effective verbal and nonverbal communication skills to enhance health.
4.8.2 Demonstrate refusal and negotiation skills that avoid or reduce health risks.
4.8.3 Demonstrate effective conflict management or resolution strategies.
4.8.4 Demonstrate how to ask for assistance to enhance the health of self and others.

**Standard 5:** Students will demonstrate the ability to use decision-making skills to enhance health.
5.8.1 Identify circumstances that can help or hinder healthy decision making.
5.8.2 Determine when health-related situations require the application of a thoughtful decision-making process.
5.8.3 Distinguish when individual or collaborative decision making is appropriate.
5.8.4 Distinguish between healthy and unhealthy alternatives to health-related issues or problems.
5.8.5 Predict the potential short-term impact of each alternative on self and others.
5.8.6 Choose healthy alternatives over unhealthy alternatives when making a decision.
5.8.7 Analyze the outcomes of a health-related decision.

**Standard 6:** Students will demonstrate the ability to use goal-setting skills to enhance health.
6.8.1 Assess personal health practices.
6.8.2 Develop a goal to adopt, maintain, or improve a personal health practice.
6.8.3 Apply strategies and skills needed to attain a personal health goal.
6.8.4 Describe how personal health goals can vary with changing abilities, priorities, and responsibilities.

**Standard 7:** Students will demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks.
7.8.1 Explain the importance of assuming responsibility for personal health behaviors.
7.8.2 Demonstrate healthy practices and behaviors that will maintain or improve the health of self and others.
7.8.3 Demonstrate behaviors to avoid or reduce health risks to self and others.

**Standard 8:** Students will demonstrate the ability to advocate for personal, family, and community health.
8.8.1 State a health-enhancing position on a topic and support it with accurate information.
8.8.2 Demonstrate how to influence and support others to make positive health choices.
8.8.3 Work cooperatively to advocate for healthy individuals, families, and schools.
8.8.4 Identify ways in which health messages and communication techniques can be altered for different audiences.
Foreword and Unit Lessons

This unit will focus on issues dealing with nutrition and wellness because of the increasing health problems in our world today, students need to understand the importance of applying proper nutritional values to their daily life. Students will learn the importance of a healthy diet, what makes up a healthy diet and why. This unit incorporates some self-discovery, as students will be given a chance to evaluate their own daily food choices. This unit is also designed to involve a good deal of student-directed discussions about food items and their nutritional values. Through the discussions and activities involved in this unit, students will be able to get started on a lifelong practice of healthy eating habits.

Each lesson outline includes National Health Standards with corresponding elements listed, goals, objectives, grade level suggestions, materials, key terms, big ideas, essential questions, Writing Across the Curriculum and other activating strategies, instructional activities, closure, homework assignments, assessment ideas, and references.

Good nutrition is essential for the growth and development, health and well being of not only students, but faculty, staff, and the community. Dietary factors have been contributed to 4 of the 10 leading causes of death in the United States (Department of Health and Human Services). It has become apparent that quality nutrition education, as part of the coordinated school health program, should be a top priority of school districts and local communities. Curricula which encourage specific, healthful eating behaviors can lead to favorable changes in student dietary behaviors (Department of Health and Human Services). Nutrition education of school-aged children can decrease factors associated with CVD, diabetes, and stroke, thus improve the quality and longevity of life. One of the goals of Healthy People 2010 is to reduce the proportion of children and adolescents who are overweight and obese. Currently, 16% of children and adolescents ages 6-19 years are overweight and approximately 9 million school-aged children are obese (Institute of Medicine). These starting facts reinforce the urgency and importance of arming today’s students with proper nutrition information and education that should be taught in an academic setting by a qualified health education specialist.
UNIT LESSONS

Lesson 1: Carbohydrates, Fats and Proteins
- Nutrition
- Nutrients
- Metabolism
- Energy
- Amino Acids
- Cholesterol
- Fiber

Lesson 2: Vitamins, Minerals and Water
- Fat Soluble Vitamins
- Water-Soluble Vitamins
- Supplements
- Nutrient Deficiencies

Lesson 3: Nutritional Needs
- Nutrition Label
- RDA (Recommended Dietary Allowance)
- Dietary Guidelines
- Food Pyramid
- Nutrient Density
- Snacks
- Vegetarian

Lesson 4: Food Consumption
- Hunger
- Fast Food
- Basal Metabolic Rate
- Calories
- Culture

Lesson 5: Healthy Weight
- Body Composition
- Weight Management
- Obesity
- Body Mass Index
- Diets
- Diet Products

Lesson 6: Eating Disorders
- Anorexia
- Bulimia
- Binge Eating
- Disordered Eating

Lesson 7: Wellness
- Components of wellness
Nutrition Unit Project Menu

Select one of the following projects covering a nutrition topic and the health literacy theme, CHOICE.

- Always keep in mind an overall perspective of wellness, including physical, social, mental, and emotional health.
- You may complete your project as an individual or with one partner.
- All written assignments must be typed, double-spaced, in a standard 12 point font, with margins no greater than one inch.
- Assignments will be assessed based on project menu rubrics.
- Other Projects may be designed by students with teacher’s prior approval.
- Project Plan with Menu Choice and Partner Name Due

NUTRITION TOPICS

1. Nutrition /Wellness… Bumper Sticker
   Design a logo and slogan promoting a fun nutrition / wellness option. Lay out your designs in a format that could be printed into a bumper sticker. Your goal is to create designs that plant the seeds in teens for making positive life choices. Type a one page reflective journal on your creative and research process.

2. Nutritional Needs… Editorial Article
   Write a two to three page editorial article for our school newspaper expressing your viewpoint regarding the Wellness policy limiting the sale of soda and junk food on a school campus. Formulate and express your opinion about nutritional choices of youth, as well as what type of foods you would want available on campus and why.

3. Eating Habits… Media Analysis
   Select a specific example of media to analyze that portrays or influences eating habits. You can select a film, TV show, song, website, magazine, commercial, or advertisement. Write a two to three page essay in which you describe the media example, the impact it may have on the choices a person makes, and your feelings and opinions about this impact.

4. Fast Food… Pocket Guide
   Design a pocket guide intended to promote healthier choices when eating fast food. Lay out your design in a format that could be printed as a small pamphlet. Your goal is to select menu items that have the highest nutritional value and are appealing to teens.

5. Eating Disorders… Fact Sheet
   Select one eating disorder, anorexia, bulimia, or overeating. Compile a one to two page fact sheet to educate teenagers about the realities of the disorder. Include information regarding causes, effects, current statistics, and local treatment options. Your goal is to provide accurate information in a visually appealing format in order to help teens make educated choices.
6. **Global Impact… Analytical Essay**

Write a two to three page essay in which you describe the impact some American food companies have on a global scale. Evaluate how individual consumer choices can drive or reduce this effect. Also include examples of how consumers can intentionally organize in order to make a difference.

**Project Rubric**

☑ Stated criteria are clearly met.
☑ Information is factual & accurate.
☑ Evaluation & analysis is detailed & supported with evidence.
☑ Opinions expressed raise health awareness & are school appropriate.
☑ Examples & visuals are insightful & enhance meaning.
☑ Presentation is engaging & holds the viewers interest.
☑ Theme & style reach target audience.
☑ Message is positive & clearly conveyed.
☑ Design is creative & original.
Lesson 1: Carbohydrates, Fats and Proteins

NATIONAL HEALTH STANDARDS AND ELEMENTS:
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Standard 3: Students will demonstrate the ability to access valid information, products, and services to enhance health.
Standard 4: Students will demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks.
Standard 5: Students will demonstrate the ability to use decision-making skills to enhance health.
Standard 6: Students will demonstrate the ability to use goal-setting skills to enhance health.
Standard 7: Students will demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks.
Standard 8: Students will demonstrate the ability to advocate for personal, family, and community health.

GOALS:
• The students will be able to recognize the importance of proper nutrition and the benefits that it will have on their body.

ENDURING UNDERSTANDINGS:
• There are many short and long term health benefits and risks associated with nutritional choices.

OBJECTIVES:
• Students will understand the six classes of essential nutrients and what they do for the body.
• Students will identify foods that are good sources of the essential nutrients.
• Students will identify why proper nutrition is important in developing and maintaining a healthy body.
• Students will be able to calculate the amount of calories carbohydrates, fats and proteins have in different foods.

MATERIALS:
Flipchart paper and stand, Marker pens, whiteboard and markers, LCD projector and laptop

KEY TERMS:
Nutrition, Nutrients, Balanced Diet, Carbohydrates, Fats, Proteins, Metabolism, Monosaccharide, Disaccharides, Polysaccharides, Fatty Acids, Saturated Fats, Unsaturated Fats, Cholesterol, Complete Proteins, Incomplete Proteins, Amino Acids, HDL, LDL
BIG IDEAS:
- Taking responsibility for one’s health is an essential step towards developing and maintaining a healthy, active lifestyle.

ESSENTIAL QUESTIONS:
- What is nutrition?
- Why is proper nutrition important?
- What are and what is the function of the 6 nutrients and the role they play in nutrition?
- What criteria are involved in creating a healthy diet?
- How can we tell how much fat is in a particular food?
- How can we find which fats are saturated and which are unsaturated?
- What does the size of the grease spot tell us about the amount of fat in the food?

JOURNALING:
- List 5 foods you like and 5 you dislike. Beside each food write a reason why you like or dislike.
- Name all the factors you can think of that affect where, when, and how often a person eats.

INSTRUCTIONAL ACTIVITIES:
- Beginning with the nutrition lesson, students will be instructed to keep a “Food Diary” for the next three days through lesson three on the Food Guide Pyramid. The Food Diary will consist of three columns, column one: “FOOD”, column two: “Food Guide Pyramid”, and column three: “NUTRIENTS”. The student can then begin to fill out the first column with what they had for breakfast. To get started, students should begin filling out the first column with what they had for breakfast that day during this lesson and right after lunch period to get the students use to jotting things down in their Food Diary.

- After three days of diary keeping (after the lessons on Food Guide Pyramid and nutrients) students should be given time to fill out the Food Guide Pyramid and nutrient section if they haven’t already (after the lessons on Food Guide Pyramid and nutrient, the teacher should have asked the students to add in their diary for each column discussed). One final discussion about the food list will help them begin evaluating what is “good food” and what is “bad food” (using nutrient content and guidelines of Food Guide Pyramid) for the report. The report will be an evaluation of their own food choices for the past three days. The report will include (but not limited to) the following:
  - Would they say that their eating habit or food choice is good / healthy or bad?
    - If yes, why? What nutrients were in the food they ate? Do all the meals combined satisfy the guidelines of the Food Guide Pyramid each day?
    - If not, why? Were there too little nutrients in the food they ate? Was the Food Guide Pyramid guidelines not fulfilled at least by 80%?
    - Were the food they received from school and parents better than the snacks they picked themselves (optional)?
  - Would they improve their food choices or would they keep it the same?
- If improvements needed, why and how – what food items would they add and what would they eliminate? How would that make it “good food choices” from bad food choices?
- If no improvements needed, why?

- List the following nutrients on a sheet of paper: Carbohydrates, fats, and proteins. Under each nutrient, list as many foods as you can think that are good sources of that nutrient.

List for reasons why the body needs nutrients.

a. ______________________________________
b. ______________________________________
c. ______________________________________
d. ______________________________________
e. ______________________________________

What percentage of your daily calories should come from carbohydrates? ________________

Why does the body need some cholesterol? ________________________________

Why can’t too much cholesterol in the diet be harmful? ________________________________

DISCUSSION:

Nutrition
- **Nutrition** is the science or study of food and the ways the body uses food. Nutrition is the sum of all processes involved in the intake, assimilation, and utilization of the proper amounts of nutrients to maintain health, well-being, and productivity. Good nutrition relies on a diverse, adequate diet and is essential for the development and maintenance of the body from infancy to old age. Nutritional status can be both the “cause” and the “outcome” of good or poor health. The terms “nutrition” and “food” are closely related but not interchangeable. Nutrition is a process of events, while food is a product that is eaten or taken into the body. Food is essential because it contains nutrients that the body needs for the following:
  - Developing, growing, maintaining, replacing, and repairing cells and tissues
  - Resisting and fighting infection and recovering from illness
  - Producing energy, warmth, movement, and work
  - Carrying out chemical processes such as digestion

Nutrition basics
- **Nutrients** are substances in food that the body uses to function properly and provide energy or help form body tissues and are necessary for life and growth. Nutrients are divided into macronutrients and micronutrients.
- **Macronutrients** are nutrients needed by the body in relatively large quantities (many grams per day and include carbohydrates, fats, and proteins.
- **Micronutrients** are nutrients needed by the body in very small quantities (usually less than 1 gram per day) and include vitamins and minerals.
- The body ingests, assimilates, and utilizes the nutrients in food to meet its needs for macronutrients and micronutrients.
Metabolism

- **Metabolism** is the sum of the chemical processes that take place in your body to keep you alive and active. Metabolism requires energy from carbohydrates, fats, and proteins. The energy in food is measured in Calories.
- The body’s physical and chemical process of breaking down food and converting it into a useful form of energy is called **metabolism**. The energy produced by metabolism is essential to maintain the body’s functions and daily activities. The ability to metabolize food may vary from person to person and may be affected by illness or disease. Balancing the body’s ability to metabolize food with an appropriate quantity of nutrients and food types will help ensure good health. Each person processes and uses nutrients differently. The body responds either positively or negatively when it absorbs a nutrient or group of nutrients. The response affects the body’s condition and health status. The body’s response to nutrients and the subsequent outcome is called **nutritional status**. The amount and type of food and drink a person eats is called the **diet**. A nutritious or balanced diet includes a variety of foods and the proper nutrients in the correct amounts and combinations to meet the body’s functional needs. A healthy and balanced diet should contain food free of harmful substances and in the optimal amounts and mixtures. Eating a variety of foods is key to good health, especially for people with special needs, such as infants and young children, pregnant and lactating women, and the elderly. Eating a wide assortment of foods increases the likelihood of getting the necessary nutrients. Except for breastmilk, no single food provides all the nutrients the body needs to function properly.

- Explain that in this lesson students will be learning some basic nutritional information for making healthy food choices. Begin by providing some information about the importance of nutrients (**substances that provide nourishment for the body’s growth or metabolism**) in the diet.

- Explain that the body is just like a car. Cars need fuel to run, and so do our bodies. Food is the fuel our bodies use to function. Demonstrate this point by showing the drawing of a body and explaining that this is our fuel tank. Hand out a few Food Model cards to students and have them each select two foods that they eat or like. Have them to tape the cards to the body poster. Bring students’ attention to the body, which is now full of food. Ask them to notice that it’s full of different kinds of foods.
Explain that it’s important to consume different types of fuel. Note that, while our bodies can utilize many kinds of fuel, they are affected over time by the type of fuel, or food, that we take in. So it’s important to know what types of “fuel” we’re putting into our bodies. Explain that the most basic element of “fuel” is the nutrient.

Tell the students that there are six basic Nutrients:
- Carbohydrates (nutrient that gives us high amounts of quick energy)
- Fats (nutrient that gives us stored energy)
- Proteins (nutrient that builds muscle and bones)
- Vitamins (nutrient that helps regulate body processes)
- Minerals (nutrient essential to growth and metabolism)
- Water (essential for digestion, respiration, carrying nutrients and oxygen)

Explain that all of these nutrients are needed to maintain a healthy body.

Write the six nutrients on the board. Carbohydrates are called energy-giving foods because they make up a large percentage of the energy in people’s diets. In developing countries the basic foods that people eat regularly (staple foods) are usually high in carbohydrates. In fact, carbohydrates account for up to 80 percent of the total energy in diets in developing countries, compared with 45–50 percent in industrialized countries (Lantham 1997). Staple foods often contain other essential nutrients such as protein, vitamins, and minerals, but in smaller amounts. Staple foods are usually produced locally and are readily available, accessible, and affordable. Rich sources of carbohydrates include cereals (rice, millet, sorghum, wheat, and barley), root crops (cassava, sweet potatoes, yams, and potatoes), and starchy fruits (green bananas and plantains). These foods contain what are known as complex carbohydrates. Complex carbohydrates usually provide more fiber, vitamins, and minerals than simple carbohydrates (FAO 1998). Simple carbohydrates provide energy but are often called “empty calories” because they lack the extra vitamins and minerals found in complex carbohydrates. Simple carbohydrates are quickly digested and absorbed because they lack fiber. They include sugar, honey, and baked goods such as doughnuts and cake. Carbohydrates cannot meet all the body’s energy needs because they do not provide all the essential nutrients. People should eat other kinds of food in combination with staple foods for a nutritious and well-balanced diet.
Fats are the body’s main form of long-term energy storage. Fats are large molecules made up of fatty acids and glycerol. Fatty acids are long chains of carbon atoms attached to hydrogen atoms. Fats are classified by the types of fatty acids they contain.

**Saturated fats** contain saturated fatty acids.

- A fatty acid is saturated when every carbon atom is bonded to as many hydrogen atoms as possible.
- Saturated fats are usually solid at room temperature. They come from foods such as meat and milk.
- Eating too many saturated fats can lead to obesity, high cholesterol levels, and increased risk of heart disease.

**Unsaturated fats** contain unsaturated fatty acids.

- A fatty acid is unsaturated when the carbon atoms are not bonded to as many hydrogen atoms as possible.
- Saturated fats are usually liquid at room temperature. They come from foods such as oils and fish.
- Cholesterol is another type of lipid found in all human and animal tissues.
- Your body makes cholesterol. You also get cholesterol from foods such as meat, eggs, and dairy products.
- Cholesterol is necessary for certain essential functions in the body.
- Too much of certain types of cholesterol in your diet can cause deposits on blood vessel walls, increasing the risk of heart attack.

Compare unsaturated and saturated fats by completing the Venn diagram. Write similarities where the circle overlaps and differences on the left and right side.

<table>
<thead>
<tr>
<th><strong>Unsaturated fats</strong></th>
<th><strong>Saturated fats</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>supply energy from cells</td>
<td></td>
</tr>
<tr>
<td>Maintain body temperature</td>
<td></td>
</tr>
<tr>
<td>Protect nerves</td>
<td></td>
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</tbody>
</table>
Ask the group if they feel it is important to pay attention to how much total fat, saturated fat, trans fat, and cholesterol they get in their diet.

- Ask everybody to stand up. Ask if they know anyone who has heart disease or high blood pressure or who has had a heart attack. If they do, have them sit down. Next ask those who remain standing to sit down if they know of anyone who has cancer or who has died from cancer. Finally, ask those who remain standing to sit down if they know anyone who has diabetes or who has died from diabetes. These are some of the diseases that are related to poor eating habits, particularly a diet high in total fat, saturated fat, trans fat, and cholesterol.

**Proteins** are known as body-building foods; proteins form the main structural components of cells and, apart from water, make up the bulk of tissues and organs. The body needs additional protein from the diet to grow, develop, maintain, and repair tissues and muscles. Proteins are necessary for the following:

- Growth and development
- Maintenance and repair of tissues and replacement of worn-out or damaged tissues
- Production of metabolic and digestive enzymes
- Make up of certain hormones and all cells and tissues

There are two main types of protein: **plant protein**, which includes legumes (e.g., beans, lentils, soybeans, and chickpeas), groundnuts, and other nuts and 2) **animal protein**, which includes meat, poultry, fish, insects, milk, cheese, and eggs. Proteins are made of amino acids, some of which are absolutely essential for humans. Not all proteins have the same quality and nutritional importance. Proteins in some foods do not contain the full range of essential amino acids that the body needs. Foods such as milk and eggs contain high-quality, easily digested proteins with the essential amino acids. Foods such as maize and wheat contain protein with fewer essential amino acids and are less easily digested. Animal protein is often of high quality and as a result contains more of the amino acids, vitamins, and minerals needed for the body’s proper functioning. When people do not eat enough protein, their bodies use protein from their muscle mass, leading to muscle wasting over time.

- Proteins are made of amino acids, which are used in building and repairing structures in the body.
- Proteins are also needed for hormones, enzymes, and other essential molecules.
- Essential amino acids are nine amino acids that the body cannot produce on its own.
- Complete proteins are dietary proteins that contain all the essential amino acids.
- Incomplete proteins do not contain all the essential amino acids.

- Explain that students will be working in groups to learn more about the individual nutrients by answering some specific questions. Explain that each group will get a Nutrients information sheet. They will then answer the following questions and record their answers on the Nutrition Template or USDA National Nutrient Database for Standard Reference http://www.nal.usda.gov/fnic/foodcomp/search/

  - Display the Nutrition Template transparency for students to see the following questions:
    1. What does this nutrient do for your body? ("The Good News")
    2. What happens to your body if you get too much or too little of the nutrient? ("The Bad News")
3. What foods do you enjoy that are good sources of this nutrient? ("Come and Get It")

4. Why is it important for you to eat the right amount of the nutrient? ("Bottom Line")

Once you have explained what each group will be doing:

- Give a different Nutrients information sheet—2 copies—to each group. Jobs can be assigned, if you have groups of 4 or more. Have job cards to give to each student in the group: Reader (reads the information provided), Writer (writes the responses to questions), Presenter (presents the information), Facilitator (keeps the group on task) and Timekeeper (keeps track of allotted time).

- Allow time for each group to read and discuss the information sheet. As they are reading, they should look for the answers to the questions and make note of the answers on the Nutrition Template activity sheet.

- Tell groups to come up with a statement for each of the four questions on the activity sheet and to be prepared to complete a 2-minute presentation based on their notes. The presentations will be done after every group has completed the activity sheet. Have each group present the information they learned about their nutrient. Have the Nutrition Template transparency available to use as a reference.

- Begin by explaining that students will be making some decisions about foods, specifically whether the main nutrient in the food is carbohydrate, protein or fat. Ask them if they can remember from the last class what types of foods were listed under the nutrients they did their presentations on. If they are not sure, tell them to give it their best effort.

- Point out the posters hanging around the room. Note that these are labeled Simple Carbohydrates, Complex Carbohydrates, Proteins and Fats. Explain that students are going to tape food cards to the poster with the nutrient they think best applies to the food. For example, if they have a chicken card, they have to decide where it goes. Explain that you would put it on the Protein poster, because the main nutrient in chicken is protein. If, at the beginning of this activity, students are unable to recognize which types of foods are high in the different nutrients, place examples from each nutrient group on the correct poster. For example: eggs (protein), meat (protein), bread (complex carbohydrate), fruit (complex carbohydrate), vegetable (complex carbohydrate), soda or chocolate bar (simple carbohydrate) and ice cream (fat).

- Have students pair up and give each pair 4 Food Model cards and tape. Then have them tape their cards on the appropriate poster.

- After students have completed this activity, have them look at the posters to see if there are any corrections to be made. Make any appropriate corrections with the assistance of the students.

- Explain the functions of the three nutrients:
  - Both simple and complex carbohydrates provide quick energy.
  - Protein provides muscle building.
  - Fats are our energy reserve.

- Ask: When you go to the grocery store how do you find foods that are high in the nutrients you need? Explain that they can choose fruits and vegetables and other whole or...
unprocessed items that have no Food Labels, or look at the Food Labels to see the nutrients in the food.

- Write a paragraph stating the pros and cons of fats – why we need some fats in the diet but not too many.

Activity:

Students are given an assignment to find an article (newspaper, magazine, or World Wide Web) about cholesterol and to write a summary of the article (no more than 1 page in length). Have them bring the article to class. After a brief discussion about cholesterol, each student is asked to go to the board and write ONE fact about cholesterol based on what they read in their articles. Tell the students they are not allowed to write a fact that repeats anything that someone else has already written on the board. This is very challenging.

The board will soon look like a wall filled with cholesterol graffiti. After each class member has written an interesting fact, a discussion of these facts follows. Each student contributes to the discussion by adding to the information that he or she wrote on the board. After this discussion, a handout on the basics about cholesterol can be given as a study sheet.
What Do My Cholesterol Levels Mean?

High blood cholesterol signals a higher risk of heart attack and stroke. That’s why it’s important to have your cholesterol levels checked regularly and discuss them with your doctor. A “lipoprotein profile” is a test to find out your blood cholesterol numbers. It gives information about total cholesterol. LDL ("bad") cholesterol and HDL ("good") cholesterol, as well as triglycerides (blood fats).

Taking a small blood sample from a finger is one common way that cholesterol levels can be measured.

What should my total cholesterol level be?

<table>
<thead>
<tr>
<th>Total Blood Cholesterol Levels:</th>
<th>240 mg/dL and above = High blood cholesterol (more than twice the risk as desirable level)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 200 mg/dL = Desirable (lower risk)</td>
<td></td>
</tr>
<tr>
<td>200 to 239 mg/dL = Borderline high (higher risk)</td>
<td></td>
</tr>
</tbody>
</table>

What should my HDL cholesterol level be?

HDL stands for high-density lipoprotein. HDL is “good” cholesterol because it seems to lower your risk of heart attack and stroke. That means that — unlike other cholesterol levels — the higher your HDL cholesterol, the better. You can raise your HDL cholesterol by quitting smoking, losing excess weight and being more active.

<table>
<thead>
<tr>
<th>HDL Cholesterol Levels:</th>
<th>LDL stands for low-density lipoprotein. This is the main carrier of harmful cholesterol in your blood. A high level of LDL cholesterol means there's a higher risk of heart disease and stroke.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less than 40 mg/dL for men = Low HDL (higher risk)</td>
<td>LDL Cholesterol Levels:</td>
</tr>
<tr>
<td>Less than 50 mg/dL for women = Low HDL (higher risk)</td>
<td>Less than 70 mg/dL = Optional goal if you're at very high risk of a heart attack or death from heart attack.</td>
</tr>
<tr>
<td>40 to 59 mg/dL = The higher, the better</td>
<td>Less than 100 mg/dL = Optimal for people with heart disease or diabetes</td>
</tr>
<tr>
<td>60 mg/dL and above = High HDL (lower risk)</td>
<td>100 to 120 mg/dL = Near or above optimal</td>
</tr>
<tr>
<td>130 to 159 mg/dL = Borderline high</td>
<td>160 to 189 mg/dL = High</td>
</tr>
<tr>
<td>190 mg/dL and above = Very High</td>
<td></td>
</tr>
</tbody>
</table>
What should my triglyceride level be?

Triglycerides are the most common type of fat in your body. They’re also a major energy source. They come from food, and your body also makes them. As people get older, gain excess weight or both, their triglyceride and cholesterol levels tend to rise. Many people who have heart disease or diabetes have high fasting triglyceride levels. Some studies have shown that people with above-normal fasting triglyceride levels (150 mg/dL or higher) have a higher risk of heart disease and stroke.

Triglyceride Levels:
- Less than 150 mg/dL = Normal
- 150 to 199 mg/dL = Borderline High
- 200 to 499 mg/dL = High
- 500 mg/dL and above = Very High

My Cholesterol and Triglyceride Levels

Use the chart below to keep track of your cholesterol and triglyceride levels each time you have a test. Make sure you discuss these numbers with your doctor.

<table>
<thead>
<tr>
<th></th>
<th>My Goal</th>
<th>1st Visit</th>
<th>2nd Visit</th>
<th>3rd Visit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total blood cholesterol level</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>HDL-cholesterol level</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LDL-cholesterol level</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Triglyceride level</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

How can I learn more?

1. Talk to your doctor, nurse or other health-care professionals. If you have heart disease or have had a stroke, members of your family also may be at higher risk. It’s very important for them to make changes now to lower their risk.
2. Call 1-800-AHA-USA1 (1-800-242-8721) or visit americanheart.org to learn more about heart disease.
3. For information on stroke, call 1-888-4-STROKE (1-888-478-7653) or visit StrokeAssociation.org.

We have many other fact sheets and educational booklets to help you make healthier choices to reduce your risk, manage disease or care for a loved one.

Knowledge is power, so Learn and Live!

Do you have questions or comments for your doctor?

Take a few minutes to write your own questions for the next time you see your healthcare provider. For example:

What about other fats?

How often should I have my levels checked?
Questions on Cholesterol and HBP

1. What is the difference between LDL and HDL cholesterol?
2. Name two ways you can raise your HDL level.
3. What is a good LDL and HDL level? (mg/dL)
   LDL-
   HDL-
4. What is hypertension?
5. What is the difference between systolic and diastolic pressure?
6. Name three ways to lower your blood pressure.
7. Name two groups of people that are at higher risk of HBP.
8. List three tips you could follow to make eating out more healthy.

CLOSURE:
Explain that you are going to read some statements about nutrients and students have to decide whether the statement is true or false. Have the entire class stand in a line on one side of the room. Give each student a piece of scrap paper and a pencil. Tell them that you are going to read a statement and they have to write down whether they think the statement is “True” or “False.” Read one of the statements and have students write their answer down on the piece of scrap paper. Give the correct answer to the statement. If students got it right, have them take a step forward, if not, they stay where they are. Continue with the rest of the statements and see how many steps forward students come.
**HOMEWORK:**
Students will begin a log of what they eat for the entire day. Have them include all foods and encourage them not to change anything. Write down everything, even the Twinkie you pick up on the way home from school.

**ASSESSMENT IDEAS:**
Through an informal assessment of class discussion, students will be assessed on their understanding of good/healthy nutrients and their benefits by their selections of good and bad goods as well as their own evaluation of the food items using nutrient contents and / or guidelines of Food Guide Pyramid.

**RESOURCES:**
For My Pyramid Information: MyPyramid.gov
Nutrition and health:  www.nutrition.gov

Food and Nutrition:  http://fnic.nal.usda.gov

Eat Smart. Play Hard:  www.fns.usda.gov/eatsmartplayhard
# NUTRITION TEMPLATE

## NUTRIENT

<table>
<thead>
<tr>
<th>THE GOOD NEWS</th>
<th>THE BAD NEWS</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>COME AND GET IT</th>
<th>BOTTOM LINE</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>MAKING SURE I EAT THE RIGHT AMOUNT OF IS IMPORTANT TO ME BECAUSE…</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## NUTRITION TEMPLATE TRANSPARENCY

### NUTRIENT

<table>
<thead>
<tr>
<th>THE GOOD NEWS</th>
<th>THE BAD NEWS</th>
</tr>
</thead>
<tbody>
<tr>
<td>What does this nutrient do for your body?</td>
<td>What happens to your body if get too much or too little of the nutrient?</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>COME AND GET IT</th>
<th>BOTTOM LINE</th>
</tr>
</thead>
<tbody>
<tr>
<td>What foods do you enjoy that are good sources of this nutrient?</td>
<td>Why is it important for you to eat the right amount of this nutrient?</td>
</tr>
<tr>
<td>Making sure I eat the right amount of Is important to me because…</td>
<td></td>
</tr>
</tbody>
</table>

---

Page 22
Carbohydrates are the major part of most human diets.

There are 2 types of carbohydrates.

- **Complex carbohydrates**
  - Include **starches** and some forms of **fiber**.
  - About 50% of your diet should come from **complex carbohydrates**.
  - Examples of foods containing **complex carbohydrates** include pasta, wheat, corn, vegetables, fruit, beans and grains.

- **Simple carbohydrates**
  - Include **sugars** such as glucose, fructose and sucrose.
  - Limit how many simple carbohydrates you eat because they don’t add many vitamins or minerals to your diet and they have lots of calories that contribute to weight gain.
  - Examples of foods containing **simple carbohydrates** include candy, soft drinks, cake and cookies.

**What do carbohydrates do for your body?**

- Carbohydrates provide the body’s most important source of energy.
- Carbohydrates are high-quality fuels because it takes little effort to release their energy.
- Foods with **complex carbohydrates** also provide the body with fiber. A diet low in fiber may contribute to colon cancer.

**What if you have too little or too many carbohydrates?**

- A diet low in carbohydrates can result in the body having too little energy. Low energy levels can make you tired and less alert mentally.
- Eating too many **simple carbohydrates** can result in obesity. Carbohydrates are turned to energy, as the body needs it. Excess carbohydrates are stored as fat.
## Good Sources:

<table>
<thead>
<tr>
<th>FOOD ITEM</th>
<th>SERVING SIZE</th>
<th>CALORIES</th>
<th>CHO (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>GRAINS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bagel</td>
<td>4 oz</td>
<td>325</td>
<td>62</td>
</tr>
<tr>
<td>Biscuit</td>
<td>1 oz</td>
<td>93</td>
<td>14</td>
</tr>
<tr>
<td>Bread, white</td>
<td>1 slice</td>
<td>65</td>
<td>12</td>
</tr>
<tr>
<td>Bread, whole wheat</td>
<td>1 slice</td>
<td>61</td>
<td>12</td>
</tr>
<tr>
<td>Cereals:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cheerios</td>
<td>1 oz</td>
<td>110</td>
<td>22</td>
</tr>
<tr>
<td>Corn flakes</td>
<td>1 oz</td>
<td>100</td>
<td>24</td>
</tr>
<tr>
<td>Grape nuts</td>
<td>1/4 cup</td>
<td>100</td>
<td>23</td>
</tr>
<tr>
<td>Oatmeal</td>
<td>1 oz dry</td>
<td>100</td>
<td>18</td>
</tr>
<tr>
<td>Shredded wheat</td>
<td>1 oz</td>
<td>102</td>
<td>23</td>
</tr>
<tr>
<td>Cornbread</td>
<td>1 oz pc</td>
<td>178</td>
<td>28</td>
</tr>
<tr>
<td>Crackers:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ritz</td>
<td>4 pcs</td>
<td>70</td>
<td>9</td>
</tr>
<tr>
<td>Saltines</td>
<td>4 pcs</td>
<td>53</td>
<td>9</td>
</tr>
<tr>
<td>Tinsquets</td>
<td>4 pcs</td>
<td>80</td>
<td>13</td>
</tr>
</tbody>
</table>

### FOOD GUIDE: CARBOHYDRATES

<table>
<thead>
<tr>
<th>FOOD ITEM</th>
<th>SERVING SIZE</th>
<th>CALORIES</th>
<th>CHO (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td>English Muffin</td>
<td>1</td>
<td>135</td>
<td>26</td>
</tr>
<tr>
<td>Fig bar</td>
<td>1</td>
<td>53</td>
<td>11</td>
</tr>
<tr>
<td>Graham cracker</td>
<td>2 squares</td>
<td>60</td>
<td>11</td>
</tr>
<tr>
<td>Granola bar</td>
<td>1</td>
<td>110</td>
<td>17</td>
</tr>
<tr>
<td>Pancakes</td>
<td>3-4&quot;cakes</td>
<td>183</td>
<td>37</td>
</tr>
<tr>
<td>Pasta</td>
<td>1 cup cooked</td>
<td>197</td>
<td>40</td>
</tr>
<tr>
<td>Pita bread, white</td>
<td>2 oz.</td>
<td>145</td>
<td>30</td>
</tr>
<tr>
<td>Popcorn</td>
<td>3 C air-pop</td>
<td>90</td>
<td>18</td>
</tr>
<tr>
<td>Pretzels</td>
<td>1 oz</td>
<td>108</td>
<td>23</td>
</tr>
<tr>
<td>Rice</td>
<td>1 cup cooked</td>
<td>234</td>
<td>51</td>
</tr>
<tr>
<td>Tortilla, corn</td>
<td>6&quot; diameter</td>
<td>56</td>
<td>12</td>
</tr>
<tr>
<td>Tortilla, flour</td>
<td>6&quot; diameter</td>
<td>88</td>
<td>15</td>
</tr>
<tr>
<td>Rice</td>
<td>1 cup cooked</td>
<td>234</td>
<td>51</td>
</tr>
<tr>
<td>Waffle</td>
<td>4&quot; square</td>
<td>87</td>
<td>13</td>
</tr>
</tbody>
</table>

**References:**
1) USDA Nutrient Database for Food and Nutrient Analysis
2) National Academy of Sciences: Food and Nutrition Board: Food and Nutrient Analysis 1989

### Good Sources:

<table>
<thead>
<tr>
<th>FOOD ITEM</th>
<th>SERVING SIZE</th>
<th>CALORIES</th>
<th>CHO (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FRUITS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Apple</td>
<td>1 med</td>
<td>80</td>
<td>20</td>
</tr>
<tr>
<td>Banana</td>
<td>1 med</td>
<td>105</td>
<td>27</td>
</tr>
<tr>
<td>Orange</td>
<td>1 med</td>
<td>65</td>
<td>16</td>
</tr>
<tr>
<td>Orange juice</td>
<td>8 oz</td>
<td>111</td>
<td>25</td>
</tr>
<tr>
<td>Raisins</td>
<td>1/4 cup</td>
<td>113</td>
<td>30</td>
</tr>
<tr>
<td><strong>VEGETABLES</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Broccoli</td>
<td>1 cup</td>
<td>45</td>
<td>9</td>
</tr>
<tr>
<td>Carrots</td>
<td>1 med</td>
<td>31</td>
<td>7</td>
</tr>
<tr>
<td>Corn</td>
<td>1/2 cup</td>
<td>70</td>
<td>15</td>
</tr>
<tr>
<td>Peas</td>
<td>1/2 cup</td>
<td>63</td>
<td>11</td>
</tr>
<tr>
<td>Potato</td>
<td>med. baked</td>
<td>220</td>
<td>51</td>
</tr>
<tr>
<td>Spinach</td>
<td>1 cup cooked</td>
<td>40</td>
<td>7</td>
</tr>
<tr>
<td><strong>BEANS</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chickpeas</td>
<td>1 cup</td>
<td>285</td>
<td>54</td>
</tr>
<tr>
<td>Kidney</td>
<td>1 cup</td>
<td>216</td>
<td>40</td>
</tr>
<tr>
<td>Black beans</td>
<td>1 cup</td>
<td>227</td>
<td>41</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>FOOD ITEM</th>
<th>SERVING SIZE</th>
<th>CALORIES</th>
<th>CHO (g)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>DAIRY</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Skim milk</td>
<td>1 cup</td>
<td>86</td>
<td>12</td>
</tr>
<tr>
<td>Whole milk</td>
<td>1 cup</td>
<td>150</td>
<td>12</td>
</tr>
<tr>
<td>Choc. Milk (1%)</td>
<td>1 cup</td>
<td>158</td>
<td>26</td>
</tr>
<tr>
<td>Yogurt</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>fruit flavored</td>
<td>1 cup</td>
<td>225</td>
<td>42</td>
</tr>
<tr>
<td>plain</td>
<td>1 cup</td>
<td>194</td>
<td>31</td>
</tr>
<tr>
<td><strong>OTHER</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Applesauce:</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sweetened</td>
<td>1 cup</td>
<td>195</td>
<td>51</td>
</tr>
<tr>
<td>Clif bar</td>
<td>1 bar (2.4 oz)</td>
<td>250</td>
<td>51</td>
</tr>
<tr>
<td>Fruit &amp; juice bar</td>
<td>3 oz</td>
<td>70</td>
<td>18</td>
</tr>
<tr>
<td>Gatorade</td>
<td>8 oz</td>
<td>60</td>
<td>15</td>
</tr>
<tr>
<td>Jam</td>
<td>1 T</td>
<td>56</td>
<td>14</td>
</tr>
<tr>
<td>Syrup, maple</td>
<td>2 T</td>
<td>122</td>
<td>32</td>
</tr>
</tbody>
</table>
Fats are compounds that include solid fats and oils.

**What do fats do for your body?**

+ **Fats are essential:**
  - For healthy skin and hair.
  - For normal growth and nerve function.
  - For the production of certain hormones.
  - To allow the body to absorb certain vitamins during digestion.

Fat can be burned as energy when the body doesn’t have enough carbohydrates stored, but the level of the energy produced from fat is lower than that produced from carbohydrates.

+ **The body needs a certain amount of fat to:**
  - Insulate against cold.
  - Provide energy for muscles.
  - Provide a layer of padding between skin and muscles.
  - Protect internal organs.

**What foods have fat?**

+ A trace of fat is found in almost all foods.
+ Examples of foods with fats include meat, fish, dairy products, nuts and chocolate.
+ Many foods, such as potatoes, have little or no fat naturally, but become high in fat when cooked in oil - e.g. french fries and hash browns.

**What if you have too little or too much fat in your diet?**

+ Too much fat can contribute to many health problems including obesity, heart disease, diabetes and hypertension.
+ Only 20-30% of your calories should come from fats.
+ Some fats are healthier than others. Avoid “transfats,” and eat fats like olive oil and canola oil.
**What do proteins do for your body?**

- Proteins are made up of *amino acids* that the body uses to make skin, muscle and bone.
- The body requires **20 amino acids** for good health.
  - Of these, 11 can be produced within the body itself.
  - The remaining 9 are called **essential amino acids**, because it’s essential to include them in your diet.
  - The body can’t store amino acids, so it’s important to eat some protein almost daily.

**How can you get protein in your diet?**

- Examples of foods with protein include *meat, chicken, fish, eggs, dried beans and nuts*.
- Food that supplies all 9 essential amino acids is called a *complete protein*.
- Almost all proteins from animal sources are *complete*, while plant protein sources are often incomplete.
- People who don’t eat animal protein can combine sources of *plant proteins* to be sure they get the essential amino acids. For example, beans and rice, a common meal throughout the world, form a *complete* protein when eaten together.

**What if you have too little or too much protein?**

- Most Americans eat more protein than the body needs.
- Only about 10-15% of your calories should come from proteins.
- *If you don’t get enough* proteins from the food you eat it may cause insufficient development of bones and muscles, and problems related to skin tone.
- There is no evidence that eating excessive amounts of protein will build more or stronger muscles. In fact, *eating large amounts* of protein may contribute to *weight gain* because many foods high in protein are also high in fats, which can increase risk of hypertension, high cholesterol, heart disease and diabetes.
Milk Is Key Source of Multiple Nutrients

Three 8-oz servings of milk provide: 92% of the Daily Value (DV) for calcium, 33% DV for potassium, 20% DV for Magnesium, 75% DV for Vitamin D, and 50% DV for Protein

Amount of alternative food to provide equivalent amount of each nutrient:

<table>
<thead>
<tr>
<th>Nutrient</th>
<th>Amount</th>
<th>DV</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium</td>
<td>14 ½ cups of cooked broccoli</td>
<td>92%</td>
</tr>
<tr>
<td>Potassium</td>
<td>3 bananas</td>
<td>33%</td>
</tr>
<tr>
<td>Magnesium</td>
<td>4 ½ oranges</td>
<td>20%</td>
</tr>
<tr>
<td>Vitamin D</td>
<td>7 ½ cups of fortified corn flakes</td>
<td>75%</td>
</tr>
<tr>
<td>Protein</td>
<td>6 8-oz glasses of low-fat soy beverage</td>
<td>50%</td>
</tr>
</tbody>
</table>
Lesson 2: Vitamins, Mineral and Water

**Standard 1:** Students will comprehend concepts related to health promotion and disease prevention to enhance health.

**Standard 2:** Students will analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors.

**Standard 3:** Students will demonstrate the ability to access valid information, products, and services to enhance health.

**Standard 4:** Students will demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks.

**Standard 5:** Students will demonstrate the ability to use decision-making skills to enhance health.

**Standard 6:** Students will demonstrate the ability to use goal-setting skills to enhance health.

**Standard 7:** Students will demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks.

**Standard 8:** Students will demonstrate the ability to advocate for personal, family, and community health.

**GOALS:**
The students will be able to recognize the importance of proper nutrition and the benefits that it will have on their body.

**OBJECTIVES:**
- Students will identify the types of vitamins and minerals, their functions and their sources.
- Students will discuss properties of water-soluble vitamins and fat-soluble vitamins
- Students will analyze their own diets and identify ways to meet their daily needs for essential vitamins and minerals.
- Students will describe the role of water in maintaining good health

**MATERIALS:**
Text books, white board and white board markers, pencils/pens/colored pencils/crayons or marker, magazines, glue and paper (8x11 or butcher paper for display),

**KEY TERMS:**
Vitamin, Mineral, RDA, Osteoporosis, Anemia, Electrolytes, Water Soluble, Fat Soluble, Antioxidants, Supplements

**BIG IDEAS:**
- Nutrition is important to enhance health and prevent disease.
- Making healthy food selections reduces the risk of diseases.

**ESSENTIAL QUESTIONS:**
- What crucial role do vitamins and minerals play in good nutrition?
- What is the role of water in maintain good health?
JOURNALING:
Why many decisions to eat are based on psychological or emotional rather than physical reasons?

INSTRUCTIONAL ACTIVITY:
Warm-up:
Write several facts regarding vitamins and minerals. Where do you think most teens get their information about nutrition? How factual do you think their information is?

Ask students how many of them take vitamins. What type? Why?
- Explain to students that vitamins are organic molecules that are necessary and since they cannot be synthesized, they must be extracted by the body from the food we eat. There are two major groups of vitamins: the fat-soluble (A, D, E, and K,) and the water-soluble vitamins, known as the vitamin B complex. Most vitamins are turned into coenzymes in the body in order to work with metabolic enzymes. Many of these vitamins work as catalysts to speed up biological processes that would have required more time and energy to occur. A lack of proper amounts of vitamins in the diet leads to vitamin-deficiency diseases.
- Tell students that they are going to be learning about one vitamin. Have students select a partner and research one of the vitamins in the B complex. Each group should find out which foods contain that vitamin, what the vitamins helps with, how it works, and how much a person needs to be healthy. They might also explore if there is downside to consuming too much of that vitamin.
- Each group should then create an informational vitamin card that explains lists facts. Give students a choice of how they would like to present their information. Encourage them to create a sign, informational video or website.
- Reflect: Have students review their own diets. Do they consume the types of foods that have a variety of different vitamins and nutrients? If not, which type of vitamin might be beneficial to add into their diet?

DISCUSSION
- **Vitamins** are carbon-containing nutrients that are needed in small amounts to maintain health and allow growth. Vitamins are organic compounds that perform specific metabolic functions in the body. The body does not synthesize most vitamins and must get them from food. Unlike carbohydrates, lipids, and proteins, vitamins do not produce energy. However, they are necessary for many of the metabolic processes that produce energy. People who do not eat the proper amounts of vitamins can get vitamin deficiencies that cause illness and disease. Vitamins are classified into two categories based on the substances they dissolve in.
  - **Fat-soluble vitamins** dissolve in fat. As a result, they can be stored in fat tissue and remain in the body for a long time. Fat-soluble vitamins can be stored by the body when they are not used. These vitamins are essential for good health but not needed every day. Fat-soluble vitamins include A, D, E, and K. These vitamins are necessary for the development and maintenance of certain body tissues, including those in the eyes.
(vitamin A), bones (vitamin D), and muscles; for the coagulation of blood (vitamin K); for synthesizing certain enzymes, and for absorbing other essential nutrients such as calcium (vitamin D) (Latham 1997).

- **Water-soluble vitamins** dissolve in water. They are not stored in the body very well. Water-soluble vitamins pass directly into the bloodstream. The body has limited ability to store these vitamins and must get them daily from food. Water-soluble vitamins include C (ascorbic acid), B1 (thiamine), B2 (riboflavin), B3 (niacin), B6 (pyridoxine), B12 (cobalamin), pantothenic acid, and folic acid.

### Water-Soluble Vitamins

<table>
<thead>
<tr>
<th>Vitamin</th>
<th>Foods that have it</th>
<th>What it does</th>
</tr>
</thead>
<tbody>
<tr>
<td>B1 (Thiamin)</td>
<td>meat, vegetables, pork, liver, peas, beans, enriched and whole grains, and cereals,</td>
<td>needed to produce energy from carbohydrates; helps the nervous system function properly</td>
</tr>
<tr>
<td></td>
<td>nuts, cereal</td>
<td></td>
</tr>
<tr>
<td>B2 (Riboflavin)</td>
<td>meat, milk, eggs, whole grains, green leafy vegetables, dried beans, enriched breads and cereals, pasta</td>
<td>needed to produce energy from carbohydrates; important for growth and healthy skin</td>
</tr>
<tr>
<td>B3 (Niacin)</td>
<td>meat, liver, fish, enriched and whole-grain breads and cereals, peas, and beans, seeds</td>
<td>needed to produce energy from carbohydrate, fat, and protein needed for the nervous system and healthy skin</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B5 (Pantothenic acid)</td>
<td>whole grains, meat, liver, broccoli, eggs, nuts, peas, beans</td>
<td>needed to produce energy from carbohydrate, fat, and protein</td>
</tr>
<tr>
<td>B6 (Pyridoxine)</td>
<td>whole grains, liver, meat, fish, bananas, green, leafy vegetables, peas, beans</td>
<td>needed to produce protein metabolism, the production of hemoglobin in red blood cells, and for the nervous system</td>
</tr>
<tr>
<td></td>
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<tr>
<td>B12 (Cobalamin)</td>
<td>meat, liver, dairy products, eggs, green leafy vegetables, peas, beans</td>
<td>necessary for forming cells (including red blood cells) and for a healthy nervous system</td>
</tr>
<tr>
<td>Folate (Folic acid, either form)</td>
<td>green vegetables, liver, whole and fortified grains, peas, beans, orange juice</td>
<td>needed for forming cells (including red blood cells); helps prevent birth defects</td>
</tr>
<tr>
<td>Biotin (Adenine)</td>
<td>liver, yogurt, egg yolk, peas, beans, nuts</td>
<td>necessary for metabolism</td>
</tr>
<tr>
<td>C (Ascorbic acid)</td>
<td>citrus fruits, melons, strawberries, green vegetables, peppers</td>
<td>promotes healthy gums and teeth, the healing of wounds, and the absorption of iron to protect cells from damage</td>
</tr>
</tbody>
</table>

These vitamins are often classified by their functions. Energy-releasing vitamins that enable the body to use macronutrients include B1 (thiamine), B2 (riboflavin), B3 (niacin or nicotinic acid), biotin, and pantothenic acid. Hematopoietic (red blood cells) synthesizing vitamins that help the body make new red blood cells include folacin (folic acid) and B12 (cobalamin). Co-enzyme vitamins that help the body break down amino acids, produce enzymes, and synthesize new proteins include B6 (pyridoxine), which helps metabolize protein, and others. Skin- and bone-building vitamins that help form collagen, an important component of skin, bone, and connective tissues include C (ascorbic acid).

### Fat-soluble vitamins

- a. include ___________________________________________
- b. food sources _______________________________________

### Water-soluble vitamins

- a. include ___________________________________________
- b. food sources _______________________________________

**Discussion:**

Why is vitamin B and C necessary to receive daily?

*The body cannot store these vitamins.*
What are some of the negative effects of large doses of vitamin supplements?
Should teens take vitamins?

**Minerals**

Minerals are chemical elements that are essential in small amounts to maintain good health. Nutrient deficiency is the state of not having enough of a nutrient to maintain good health. Most of us eat more sodium than is healthy. Most teens do not eat enough calcium. Calcium is found in green, leafy vegetables and in calcium-fortified foods. Iron-deficiency is a worldwide problem that causes anemia. Red meats are rich in iron.

Minerals are inorganic compounds that are not produced by the body but are necessary for health and well-being. Minerals are referred to as essential trace elements because they are needed in very small quantities. While they are chemically different from vitamins, minerals serve similar purposes. They influence many of the body’s biochemical reactions and are used to form cells and tissues. Important minerals for health include iron, zinc, calcium, and iodine. Iron is an essential component of blood and helps transfer oxygen to various tissues. Zinc is important to enhance and strengthen the immune system, helps wounds heal, and facilitate digestion and is an important component of the skeletal system. Calcium is a key component of bone and is needed for a strong skeleton. Other minerals involved in various body reactions are chromium, copper, fluoride, magnesium, manganese, molybdenum, nickel, phosphorus, and selenium.

Complete the table about minerals that your body needs.

<table>
<thead>
<tr>
<th>Mineral</th>
<th>Main Functions</th>
<th>Good Sources</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calcium</td>
<td>a. Formation of bones and teeth; blood clotting; nerve function</td>
<td>b. ___________</td>
</tr>
<tr>
<td>Potassium</td>
<td>c. ___________</td>
<td>d. ___________</td>
</tr>
<tr>
<td>Iron</td>
<td>e. ___________</td>
<td>f. ___________</td>
</tr>
<tr>
<td>Sodium</td>
<td>g. ___________</td>
<td>h. ___________</td>
</tr>
</tbody>
</table>
Of the 24 different minerals that are essential to good health, seven are required in significant amounts. List these seven minerals in the table below. Then complete the table using information from your text. In the “Foods I Eat” column, brainstorm a list of foods sources of each mineral that you would actually eat.

<table>
<thead>
<tr>
<th>Mineral</th>
<th>Main function</th>
<th>Good Source</th>
<th>Foods I eat</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>
Water is considered an essential nutrient because it is necessary for body functions including digestion and absorption and certain metabolic processes. Water is also a primary component of the body, representing over 60 percent of a person’s weight. Water regularly leaves the body through sweating, excretion, and breathing and therefore must be replaced. Adults should drink at least 2 liters or about 8 cups of water a day. The water should be safe, clean, and boiled if necessary. Tea, soup, milk, juice, and fruit also contain water and can help meet the body’s needs. The caffeine in tea and coffee, however, can dehydrate the body and should be drunk in moderation. Tea and coffee also contain substances that bind essential nutrients such as iron, making these nutrients unavailable for the body to use.

- About 60 percent of your body is water.
- Water is essential for almost every function that keeps you alive.
- To be healthy, you should take in at least 2.5 quarts of water each day (about 8 glasses). This makes up for water lost through excretion and evaporation.
- Mild dehydration can interfere with mental and physical performance.
- Severe dehydration can have very serious consequences, including death.

Complete the sentence below.
Vitamins and mineral supplements are not usually necessary if ______.

Complete the outline about the role that water plays in the body.
Water

a. Water and homeostasis
b. preventing dehydration
c. how much water?
d. water versus sports drinks

To maintain a well-balanced diet, people should eat a variety of foods that contain all the nutrients mentioned above.
Discussion how often each type of vitamin and mineral must be included in their eating plan.

List the nutrients that supply your body with energy.

___________________________________________

___________________________________________

___________________________________________

ACTIVITY

• Make a poster that shows different foods that are high in each of the vitamins. Using your poster, write an explanation of the difference between a vitamin and a mineral and the importance of each for a healthy diet.

CLOSURE: Have students look at the foods they put on their diet log and have them add the nutrients the foods provide.

HOMEWORK: Students should bring in a food label from something in the house and also write down what they like to order at their favorite fast food restaurant for tomorrow’s activity.

ASSESSMENT IDEAS:
Through an informal assessment of class discussion, students will be assessed on their understanding of good/healthy nutrients and their benefits by their selections of good and bad goods as well as their own evaluation of the food items using nutrient contents and/or guidelines of Food Guide Pyramid.

RESOURCES:
For My Pyramid Information: MyPyramid.gov
Nutrition and health: www.nutrition.gov
Food and Nutrition: http://fnic.nal.usda.gov
Eat Smart. Play Hard: www.fns.usda.gov/eatsmartplayhard
http://www.choosemyplate.gov/
http://www.livestrong.com/article/340729-how-to-teach-nutrition-dieting/
http://www.livestrong.com/article/360431-how-to-teach-nutrition-in-the-classroom/
www.dietaryguidelines.gov
www.health.gov/paguidelines
www.healthfinder.gov
Minerals play a vital role in nutritional health.

Common minerals include calcium, sodium, potassium, iron, iodine and zinc.
- Minerals are found in almost all foods.
- Vegetables, fruits and grain products are particularly good sources.
- A balanced diet with a variety of foods can help prevent mineral deficiency problems.

What do minerals do for your body?
- Minerals are important for growth and maintenance of body structures.
- Minerals help regulate metabolism.

What if you get too little or too many minerals?
Having too few minerals can affect all body systems including the skeletal, cardiovascular, respiratory and reproductive systems.
- The effects on the body are very specific and directly related to the type of mineral missing from the diet. For example:
  - Iron deficiency anemia, a condition fairly common in teenage girls, results in a decrease in the number of red blood cells.
  - Not getting enough calcium restricts the proper development of bones and results in brittle bones later in life.

Too many minerals in your diet may be harmful.
- For example, if you drink a lot of carbonated sodas, the high level of phosphates actually interferes with calcium metabolism and may weaken your bones.
Vitamins

What do vitamins do for your body?

♦ Vitamins help the body produce energy.
♦ Vitamins are compounds that help regulate body processes such as:
  • Digestion
  • Growth
  • Metabolism
  • Hormone development
  • Wound healing
  • Nerve function

How can you get the vitamins you need?

♦ Vitamins are found in all food groups.
♦ Common sources of vitamins are fruits and vegetables.
  • Green leafy and yellow vegetables are especially good sources of vitamins A and B.
  • Oranges, grapefruit, lemons, limes and green chilies are excellent sources of vitamin C.
  • The body makes vitamin D through exposure to sunlight.

What if you don't get enough vitamins?

♦ Vitamin deficiencies can cause a wide range of health problems including several diseases rarely seen in the U.S. These include:
  • scurvy (caused by not enough vitamin C)
  • beriberi (caused by lack of vitamin B)
  • rickets (caused by lack of vitamin D)

♦ Vitamin deficiency in this country primarily cause:
  • Poor regulation of internal body processes.
  • The body not being able to produce high levels of energy.
Water

Nearly all foods contain water. Some are up to 90% water. Beverages, fruit, and vegetables are major sources of water.

The body loses about 1 quart of water each day. To replace body fluids, experts recommend drinking 8 or more glasses of water daily, instead of drinking soda, coffee, juice, or other beverages.

What does water do for your body?

Water is an essential nutrient that makes up 50-75% of your body weight. Water is so important that your body can’t live for more than a few days without it.

- Water assists in digestion and respiration.
- Water helps carry nutrients and oxygen throughout the body.

What if you have too little or too much water?

Not drinking enough water can compromise all of the body’s systems.

Water allows the body to:
- Use water-soluble vitamins.
- Carry oxygen in the blood.
- Regulate body temperature.

When water deficiency is severe, the body systems shut down and death occurs.

Most people do not drink enough water and drinking too much water causes few problems.
- Some experts believe that large amounts of water may dilute and wash water-soluble vitamins from the body.
NUTRIENTS QUIZ

Directions: Answer the following in COMPLETE sentences!

1. List the 6 Nutrients for Wellness.
2. What are the two types of carbohydrates? Explain what each one is.
3. What are the two types of fat? Explain what each one is and which one is better for you.
4. Why do we need protein? What foods are rich in protein?
5. Name a food that would have complete proteins in it.
6. Why is fiber important to us?
7. What is the purpose of food additives?
8. What are empty calories? List 2 foods that are considered empty calories and why.
9. What is Nutrition?
10. Six Different Classes of Nutrients
    a. Humans _________ food.
    b. _________ are substances in food that your body needs.
    c. _________ is the study of nutrients and how your body uses them.
    d. What influences your nutrition?
11. Carbohydrates
    a. _________ are sugars and starches that occur naturally in foods.
    b. _________ of your daily nutrients should come from carbohydrates.
    c. What is the difference between simple and complex carbohydrates?
    d. What are two examples of carbohydrates?
12. Fiber
    a. _________ is the parts of fruit, vegetables and grains that your body can’t digest.
    b. What are two examples of fiber?
13. Proteins
    a. _________ are the nutrients your body uses to build, repair, and maintain cells and tissues.
    b. What are two examples of proteins?
14. Fats
    a. _________ are an important part of good nutrition.
    b. _________ _________ is fat that is solid at room temperature and is considered to be the bad fat.
    c. _________ _________ is fat that is liquid at room temperature and is considered to be the good fat.
    d. _________ is a fatty substance found in the blood.
    e. What is the difference between LDL and HDL?
    f. What are some foods that contain the good fat (unsaturated fat)?
15. Vitamins and Minerals
    a. _________ are substances that help your body fight infections and use other minerals. Ex. Vitamin K helps blood clot.
    b. _________ are elements that help form healthy teeth and bones. Ex. Milk has calcium that helps you have strong bones.
16. Water
    a. _________ helps with our body’s functions.
Lesson 3: Nutritional Needs

NATIONAL HEALTH STANDARDS AND ELEMENTS:
Standard 1: Students will comprehend concepts related to health promotion and disease prevention to enhance health.
Standard 2: Students will analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors.
Standard 3: Students will demonstrate the ability to access valid information, products, and services to enhance health.
Standard 4: Students will demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks.
Standard 5: Students will demonstrate the ability to use decision-making skills to enhance health.
Standard 6: Students will demonstrate the ability to use goal-setting skills to enhance health.
Standard 7: Students will demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks.
Standard 8: Students will demonstrate the ability to advocate for personal, family, and community health.

GOALS:
The students will be able to recognize the importance of proper nutrition and the benefits that it will have on their body.

OBJECTIVES:
• Students will be able to use the foods groups that are included into the food guide pyramid to plan for nutritional variety in meals.
• Students will be able to read and understand the contents of various food labels.
• Students will explain the difference between a serving and a portion.
• Students will identify healthy snack choices that they can implement into their after school routine.
• Student will use the federal dietary guidelines to analyze their diet to meeting nutritional needs.

JOURNALING:
• What is the healthiest snack that you eat?
• What is the least healthy snack that you eat?
• What would an example of a healthy after school snack be?

• MATERIALS: Text books, white board and white board markers, copies of food labels, Orange Soda, Root Beer, Coke, Diet Coke, Unsweetened Tea, Nutrition Facts labels from a variety of salad blends (print from www.freshexpress.com), Nutrition Facts labels from a variety of salad dressings and salad toppings (e.g. croutons, nuts), Nutrition information/nutrient analysis for a variety of foods, especially some favorite foods of this
KEY TERMS:
Nutrition Label, RDA, Dietary Guidelines, Food Pyramid, Nutrient Density, Vegetarian,

BIG IDEAS:
• Making healthy food selections reduce the risk of diseases.
• Eating from each food group daily is necessary to get all the nutrients your body needs.

ESSENTIAL QUESTIONS:
• How would consulting the food guide pyramid and food labels assist people in making healthy food choices?
• How can you use the federal dietary guidelines to analyze your diet as related to meeting your nutritional needs?
• How can you use the food pyramid to help plan for nutritional variety in your meals?
• Why is it important to plan meals that are nutritious, tasty, attractive, and affordable?
• Why are their Dietary Guidelines for Americans?
• Why is it important to eat a variety of foods?

ACTIVATING STRATEGIES:
Students will place the food labels in order of fat content from lowest amount to highest. Discuss how to read the label for 0% DV information, and 5% DV or less is a small amount, but 20% or more is a large amount. Are you surprised by the amount of fat in some foods?

INSTRUCTIONAL ACTIVITY:
Warm-up: Ask students to draw the body of an average American. Are they in shape? Overweight? Discuss thoughts with students.
1. Do and informal vote by having the students who agree with the statement stand up out of their seat
   ○ I exercise one time a week.
   ○ I eat at least two servings of vegetables a day.
   ○ I eat at least two servings of fruit a day.
   ○ I try and eat healthy.
   ○ I watch over two hours of television everyday.
   ○ I lead a healthy lifestyle.
   ○ I am working to become healthier.
2. Introduce "Teens for Greens" unit to students by explaining that for the next ten days, students will learn about how to stay healthy through diet and exercise. Remind students that issues of weight can be a sensitive topic and that students must be watchful of each other's feelings.
3. Start the unit by identifying all the greens/vegetables students can think of (list on blackboard or flip chart); take a poll: Who eats these (list one by one)--daily? Weekly? Sometimes? Never? Make a quick pie chart of how many in the class eat "how many
different types" of greens/vegetables every week. Have a student do the math and make a pie chart of, for example, "X % eat 5-7 different kinds of greens/vegetables (weekly)". Determine categories that are realistic for your class (e.g. "1 or fewer," "2-5","5-7", etc.).

4. Discuss the "more the merrier" concept of filling a plate with vegetables and greens which will lead to better nutrition and help to get all the nutrients we need. Explain to students that salad blends offer an array of colors, vegetables, greens--more nutritional impact that a solo head of iceberg lettuce. Including a "blend" of already-mixed greens is a good way to try new vegetables and greens.

5. Have students, in small groups, access information on the government website to determine recommendations for eating greens/vegetables. Go to http://ucce.ucdavis.edu/files/datastore/234-104.pdf to learn about why vegetables are important in your daily diet. Have one group report on recommended serving sizes. Ask for informal reporting of why health experts want us to eat greens/vegetables every day (what are the nutritional benefits?). Studying labels from some greens/vegetable packages and salad blend packages, discuss the variety of nutritional needs that are met in different ways with different greens/vegetables.

6. Ask students about ways in which people (people they know, or observe, or themselves and their families) eat greens/vegetables and salads. Always cold or sometimes cooked? Encourage thinking about different cultures and food; what are some cultures (perhaps represented in the classroom or city) that include greens in a daily diet differently than your students do? How are greens/vegetables included in the school foodservice lunch offerings? Have students think about and discuss the most common ways of preparing/eating greens/vegetables; what preparation and presentation methods add interest/make greens/vegetables appealing?

7. Reflect: Have students list favorite foods (could be pizza, burgers, sandwiches, burritos, pasta, French fries, etc.) Brainstorm ways to include greens/vegetables into favorite dishes and favorite meals.

Class Discussion:
Agree or disagree? A person can eat the same thing every day and still enjoy a healthful diet. Talk about the pros and cons of the "same old" menu every day versus eating a varied menu throughout the week. Can nutritional needs be met by eating the same thing every day? What do health experts recommend? Are there benefits to eating a varied diet?

ACTIVITY:
Give students a blank piece of paper and have them draw a typical restaurant meal to scale. If they choose steak, how big a piece would they get? How many French fries? How big is the bun for a hamburger? What would you order for a drink?

DO YOU KNOW WHAT IS IN YOUR SODA?

<table>
<thead>
<tr>
<th>Drink</th>
<th>Calories</th>
<th>Teaspoons of Sugar</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 oz Soda</td>
<td>180</td>
<td>12 ½</td>
</tr>
<tr>
<td>Orange Soda</td>
<td>150</td>
<td>10</td>
</tr>
<tr>
<td>iced Tea (unsweet)</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Diet Soda</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Large size sodas may contain 64 ounces. Each ounce of cola has about 13 calories. That doesn’t sound like much, but… 13 calories X 64 ounces = 832 calories. WOW!

DISCUSSION:
The Dietary Guidelines for Americans is a document that provides information to promote health and help people reduce their risk for heart disease, cancer, and diabetes through diet and physical activity. The Dietary Guidelines provides information on how to make smart food choices, balance food intake with physical activity, get the most nutrition out of the calories you consume, and handle food safely.

Making smart food choices include eating wide variety of healthy foods. Regular physical activity is important for overall health and fitness. So is choosing foods that are nutrient-dense. Nutrient-dense foods are high in vitamins and minerals compared to their calorie content, while at the same time being low in saturated fat, trans fat, added sugar, and salt. Handling, preparing, and storing food safely is another important part of good nutrition.

1. List four actions that the Dietary Guidelines recommend.
   a. __________________________________________
   b. __________________________________________
   c. __________________________________________
   d. __________________________________________

The “My Pyramid Plan”
2. Complete the outline by adding important details about the My Pyramid plan.
   a) The My Pyramid Plan________________________________________________________
   b) The colored bands _________________________________________________________
   c) The Stairs ________________________________________________________________
   d) Creating your own My Pyramid plan _________________________________________

Complete the graphic organizer with practical tips for following the Dietary Guidelines and the My Pyramid plan.
**ACTIVITY:** Reading food labels

Materials: 1 box of high sugar cereal, 1 liter of soda, 1 large bag of chips, 2 large bowls, 2 16 oz plastic cups, 2 measuring cups

Set out the cereal, soda and chips. Ask for 2 volunteers to serve themselves from the choices. Simply take as much as they would normally.

Ask 2 more volunteers to measure out how much of each food was selected.

- Is what was selected equal to one serving size on the food label?
- How do you know?
- Where can you find out about serving sizes?

Ask 2 more volunteers to check the label and read aloud what the actual serving size is for each food. Compare what was selected to one serving according to the food label.

- Were the amounts more or less what the label said is a serving size?
Ask 2 more volunteers to look at the food label to find out how much fat or sugar is in one serving. Multiply this amount by the number of servings that were selected to find out how much fat or sugar would have been consumed.

**DISCUSSION:**
Explain that the Food Label (a label placed on food containers that provides nutritional information for that product) is a tool that can help people make healthier food choices and that Food Labels are required by law to be displayed on packaged food items. They know it’s important to get all of the nutrients in their diet, and the Food Label is a good tool to help them know what nutrients are in the foods they buy.

- **Serving Size** Nutrition labels show the size of a single serving. All other values on the label are in reference to this serving size.
- **Calories** Nutrition labels list total Calories, the Calories from fat, and the Calories from saturated fat.

Direct students to the **What's on a Food Label?**

- Point out serving sizes (this tells you the size of an individual serving and the number of total servings) and have a student read what it says in the box. As a class, have students answer the question about serving sizes.
- Next look at calories. Display the **What's a Calorie?** Transparency and read each of the points aloud. Then have students answer the questions about total calories (the amount of energy in a food) and fat calories on the activity sheet.
- The next question is about the **% Daily Value** (This helps you determine if a serving of food is high or low in a particular nutrient. The percentage is based on the daily value recommendations for nutrients.). When explaining the % Daily Value, use the following bar graph as an example.

  - **Daily Values (DV)** are recommended daily amounts of nutrients.
  - The percentage DV tells the amount of the nutrient in a serving relative to the total recommended daily amount for a 2000-Calorie diet.
  - Food labels list ingredients in order of weight.
  - Food labels also typically list the amount of cholesterol, sugars, sodium, and protein per serving.
What’s on a Food Label?

Serving Sizes
Serving sizes help people understand how much they’re eating and how many servings are contained in that package of food.

Fat Calories
This is the number of calories that come from fat. People check this because it’s good to limit fat intake.

Total Calories
This number tells you the amount of energy in the food, per serving.

How many total cups are in this package of food?

How many calories are in this whole package of food?

Nutrition Facts

<table>
<thead>
<tr>
<th>Amount Per Servving</th>
<th>% Daily Value*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calories</td>
<td>% from Fat</td>
</tr>
<tr>
<td>90</td>
<td>5%</td>
</tr>
<tr>
<td>Total Fat</td>
<td>3g</td>
</tr>
<tr>
<td>Saturated Fat</td>
<td>0g</td>
</tr>
<tr>
<td>Cholesterol</td>
<td>0mg</td>
</tr>
<tr>
<td>Sodium</td>
<td>300mg</td>
</tr>
<tr>
<td>Total Carbohydrate</td>
<td>13g</td>
</tr>
<tr>
<td>Dietary Fiber</td>
<td>3g</td>
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<tr>
<td>Sugars</td>
<td>3g</td>
</tr>
<tr>
<td>Protein</td>
<td>3g</td>
</tr>
</tbody>
</table>

Vitamin A 60% • Vitamin C 60%
Calcium 4% • Iron 4%

% Daily Value
The percentage means you are getting a certain percentage out of 100% for the day.

If you ate two servings from this package of food, how many calories from fat would you get?

Which nutrient are you getting 5% of the Daily Value?

What does it mean...?

**Free:** “Calorie-free” means fewer than 5 calories per serving.

**Low Fat:** 3 grams or less per serving. Is this food “low fat”? YES or NO

**Low Sodium:** 140 mg or less per serving. Is this food “low sodium”? YES or NO

**Low Calorie:** 40 calories or less per serving. Is this food “low calorie”? YES or NO

**High:** This term can be used if the food contains 20% or more of the Daily Value for a particular nutrient in a serving.
Serving

• Go over “What does it mean…?” at the bottom of the activity sheet. Explain the terms, then have students answer the questions.

• Explain that now that they know more about the Food Label and what’s on it, they’re going to compare foods using Food Labels.
Fat Matters, But Calories Count

Read the nutrition labels and compare the calories in products.

1 Fig Cookie
- Fat free 51 calories
- Regular 56 calories

• 1/2 cup Vanilla Frozen Yogurt
  - Nonfat 100 calories
  - Regular 104 calories

• 2 Tbsp. Peanut Butter
  - Reduced Fat 187 calories
  - Regular 191 calories

Explain that students will be comparing the nutrient content on two different food items.

- Hand out two food packages and a What’s Inside the Package? Activity sheet to each student. Explain that they are to fill out the two labels on the activity sheet based on the information they find on the actual Food Labels. (Make sure they write the names of the food items above the labels on the activity sheet.) Then ask students to decide if one of the food items is more nutritious than the other. They can base this on whole grains vs. white flour, less sodium, less sugar, less fat or more protein. Walk around the room and ask individual students their opinions on which of their food items are healthier.

- Have students present which food is more nutritious and explain why.

Display the Food Labels transparency and review how the Food Label can help when they go shopping for foods. The Food Label can help them:

- Choose foods that are low in fats, sugar and salt.
- Compare the nutrient content of different foods.
- Identify recommended serving sizes.
- Identify calories per serving.

ACTIVITY: Labels

Begin lesson with reading labels power point or discussion. Be sure your students are able to determine where to find specific nutritional information. Set up 10 stations (or more) identified by cones. At each station have a station card that has a snack wrapper and label attached to it. On the station cards give instructions as to what nutritional information you want the students to identify and couple an exercise to go with that information. Examples might include:

1- Cheese-its. Identify the CALORIES PER SERVING in one serving of Cheese-its. Perform one jump-rope for each calorie in the snack!

2- Skittles. Identify the amount of SODIUM in one serving of Skittles. Perform one sit up for each gram of sodium.

3- Grandmas Cookies. Identify THE NUMBER OF SERVINGS that are in one package of Grandmas Cookies. Jog one lap for every serving.
4- Snickers. Locate the TOTAL FAT GRAMS that are in one Snickers bar. Perform one box step up for every gram of fat.

5- Fruit-Snacks. Identify how many GRAMS OF SUGAR are in ONE serving of Fruit snacks and perform the same number of jumping jacks.

6- String Cheese- Identify the number of CALORIES FROM FAT in one serving of string cheese and perform the same number of push ups.

7- Capri Sun- Identify the PERCENTAGE OF VITAMIN C in one serving of Capri Sun Juice and perform one body weight squat for each percentage!

8- Lays Chips- Identify the GRAMS OF CARBOHYDRATES in one serving of Lays potato chips. Perform one weight bar exercise for each gram of carbohydrate.

9- Yoplait Yogurt. Identify the amount of PROTEIN GRAMS in one serving of Yoplait Yogurt. Perform one pull up (or pull up hang) for each gram of protein.

10- Chocolate Milk (the type the cafeteria gives with lunch). Identify the daily percentage of VITAMIN D in one serving of Chocolate Milk. Perform one medicine ball exercise for each percentage!

Reading Labels Power point or in Reading Labels PDF

Assessment Ideas:
While working through the stations each student could have a check sheet to record the correct answers for each station. This could act as a pre assessment or as a quiz itself.

Activity:
You know how you’re not supposed to use a knife to get toast out of a toaster? Well, high school lunch lady Fran never heard that advice. The toast got jammed, she picked up a knife, and ZZZZZTT!!!

Now Fran isn’t your typical lunch lady – she’s a lunch lady with superpowers. Sure, she looks normal in her smock and comfortable shoes, but don’t be fooled. Beneath her hairnet is the keen mind of a secret agent, dedicated to your nutrition. She wants you to eat a healthy lunch, and she’ll take on anyone or anything that gets in your way.

Using the handout, create a comic strip of one of Fran’s adventures. Is the school board telling her that ketchup is a vegetable? Is a student having three root beers for lunch? Does the latest super-thin celebrity inspire people to skip meals? Fran is ready to take on any challenge you throw her way! On the line below the comic strip, explain the message of the comic strip in one sentence.

Extensions:
Every good superhero needs a sidekick. In a second comic strip, create a sidekick for Fran. Be sure that in your plot, the duo fights for the good nutrition of the students they’ve vowed to serve.
Fran, the Super Lunch Lady

Instructions: Create a comic strip of one of Fran’s adventures. Is the school board telling her that ketchup is a vegetable? Is a student having three root beers for lunch? Does the latest super-skinny celebrity inspire people to skip meals? Fran is ready to take on any challenge you throw her way! On the line below, explain the message of the comic strip in one sentence.
What's INSIDE the Package?

The great thing about a food label is that it tells you what's inside!
- On one blank food label, write down the Nutrition Facts about one food.
- Then find a similar food for comparison. Write in the Nutrition Facts about that food on the other blank label.
- When you're done, compare them:

**FOOD PRODUCT I**

How are these foods similar?

How are these foods different?

**FOOD PRODUCT II**

---

<table>
<thead>
<tr>
<th>NUTRITION FACTS</th>
<th>NUTRITION FACTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Serving Size</strong></td>
<td><strong>Serving Size</strong></td>
</tr>
<tr>
<td><strong>Servings Per Container</strong></td>
<td><strong>Servings Per Container</strong></td>
</tr>
<tr>
<td><strong>AMOUNT PER SERVING</strong></td>
<td><strong>AMOUNT PER SERVING</strong></td>
</tr>
<tr>
<td><strong>CALORIES</strong></td>
<td><strong>CALORIES</strong></td>
</tr>
<tr>
<td>Calories from Fat</td>
<td>Calories from Fat</td>
</tr>
<tr>
<td><strong>TOTAL FAT</strong></td>
<td>% Daily Value</td>
</tr>
<tr>
<td>Saturated Fat</td>
<td>%</td>
</tr>
<tr>
<td>Cholesterol</td>
<td>mg</td>
</tr>
<tr>
<td>Sodium</td>
<td>mg</td>
</tr>
<tr>
<td>Total Carbohydrate</td>
<td>g</td>
</tr>
<tr>
<td>Dietary Fiber</td>
<td>g</td>
</tr>
<tr>
<td>Sugars</td>
<td>g</td>
</tr>
<tr>
<td>Protein</td>
<td>g</td>
</tr>
<tr>
<td>Vitamin A</td>
<td>%</td>
</tr>
<tr>
<td>Calcium</td>
<td>%</td>
</tr>
</tbody>
</table>

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

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Reprinted from the International Food Information Council Foundation, Department of Health & Human Services and U.S. Food & Drug Administration (July 1994).
Recommended Dietary Allowances (RDAs) are the recommended nutrient intakes that will meet the needs of most healthy people.

- RDAs are guidelines, not exact requirements.

The My Pyramid plan groups food according to types and indicates how much of each type should be eaten daily for a healthy diet. The My Pyramid plan differs with a person’s age, sex, and activity level. The My Pyramid also includes physical activity as an important part of staying healthy. The pyramid consists of colored bands that represent the food groups and stair steps that represent physical activity. You can create your own personalized My Pyramid plan. To plan a nutritious diet, choose healthy food for breakfast, lunch, and dinner each day. Vary your diet at each meal. When snacking or eating at a fast-food restaurant, choose foods with high-nutrient density.

The Food Guide Pyramid is a visual and conceptual tool for planning your diet. The pyramid shows the recommended number of servings from each of six food groups.

MyPyramid uses 2,000 calories a day as an example, because many people need about 2,000 calories in a day. Other people may need more or less than 2,000 calories a day. The amounts of foods and calories you need depends on: age, gender, physical activity level.
The layers of food groups are now flipped on their side to make “stripes.” The food images are all at the bottom of MyPyramid. A section on oils has been added. The food group amounts are described in common measures: cups or ounces. The combined amounts of foods from all the food groups provide about 2,000 calories for a day. The new MyPyramid shows how to locate more individualized information.

GRAINS
- Make half of your grains, whole grains
- Whole grains contain the entire grain kernel-- the bran, germ, and endosperm.
  - Ex: Whole wheat flour, oatmeal, and brown rice
- Refined grains have been milled; this is done to give grains a finer texture and improve their shelf life. However, it also removes dietary fiber, iron, and many B vitamins.
  - Ex: White flour, white bread, white rice

VEGETABLES
- Vary your veggies
- Any vegetable or 100% vegetable juice counts as a member of the vegetable group.
- Vegetables may be raw or cooked; fresh, frozen, canned, or dried/dehydrated; and may be whole, cut-up, or mashed.
- 5 sub-groups
  - Dark Green Veggies (broccoli)
  - Orange Veggies (carrots)
  - Dry beans and Peas (kidney beans)
  - Starchy Veggies (potatoes)
  - Others (celery)

FRUITS
- Any fruit or 100% fruit juice counts as part of the fruit group. Fruits may be fresh, canned, frozen, or dried, and may be whole, cut-up, or pureed.
  - Ex: Apple, Banana, Orange
- Most fruits are naturally low in fat, sodium, and calories. None have cholesterol.

OILS
- Oils are fats that are liquid at room temperature, like the vegetable oils used in cooking. Oils come from many different plants and from fish.
  - Ex: Canola, Corn, Olive, Soybean, Sunflower Oils
- Some oils are used mainly as flavorings, such as walnut oil and sesame oil. A number of foods are naturally high in oils.
  - Ex: Olives, Nuts, Avocados
- Most oils are high in monounsaturated or polyunsaturated fats, and low in saturated fats.
- Oils, fats and sweets are not considered a food and should be consumed in moderation (sparingly).

MILK
- All fluid milk products and many foods made from milk are considered part of this food group.
- Foods made from milk that retain their calcium content are part of the group, while foods made from milk that have little to no calcium, such as cream cheese, cream, and butter, are not.
- Most milk group choices should be fat-free or low-fat.
- Rich in calcium and potassium
MEATS and BEANS
- All foods made from meat, poultry, fish, dry beans or peas, eggs, nuts, and seeds are considered part of this group.
- Dry beans and peas are part of this group as well as the vegetable group.
- Most meat and poultry choices should be lean or low-fat.
- Fish, nuts, and seeds contain healthy oils, so choose these foods frequently instead of meat or poultry.

DISCRETIONARY CALORIES
- You need a certain number of calories to keep your body functioning and provide energy for physical activities.
- Each person has an allowance for some discretionary calories. But, many people have used up this allowance before lunch-time!
- Most discretionary calorie allowances are very small, between 100 and 300 calories, especially for those who are not physically active.
- For many people, the discretionary calorie allowance is totally used by the foods they choose in each food group, such as higher fat meats, cheeses, whole milk, or sweetened bakery products.

Similarities:
It is a pyramid.
The foods are divided into food groups.
The five food groups are the same.

The MyPyramid image is simple because it gives very basic information for choosing a day’s worth of foods:
- Choose foods from every food group, plus oils*, every day, as shown by the stripes.
- Eat more from some food groups than others, as shown by the size of each stripe.

MyPyramid gives the daily amounts of foods from each food group at about 2,000 calories. Choose nutrient-dense* foods from each group. The stripes’ wide bases stand for foods with little or no solid fats or added sugars. Eat these foods more often. The narrow top stands for foods with a lot of added sugars or fats. Eat them less often. Be physically active. Do something active for at least 60 minutes every day or most days. Take one step at a time. Make small changes in what you eat and how you exercise. Start with one change and add others as often as possible. Make choices that are right for you. Use the MyPyramid.gov Web site to discover how to eat better and exercise more.

Place each food in its correct food group
(Beware! Some of these don’t belong in any group, they are snacks)

<table>
<thead>
<tr>
<th>Skimmed milk</th>
<th>Steaks</th>
<th>Spaghetti</th>
<th>Orange</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mashed potatoes</td>
<td>Tofu</td>
<td>Cheddar cheese</td>
<td>Scrambled eggs</td>
</tr>
<tr>
<td>Pure orange juice</td>
<td>Soup</td>
<td>Carrots</td>
<td>Yogurt</td>
</tr>
<tr>
<td>Rice</td>
<td>Hamburger</td>
<td>Broccoli</td>
<td>Banana</td>
</tr>
<tr>
<td>Coca cola</td>
<td>Cheerios</td>
<td>Fruit Loops</td>
<td>Frozen peas</td>
</tr>
<tr>
<td>Chicken strips</td>
<td>Green peas</td>
<td>Tomato</td>
<td>Turkey</td>
</tr>
</tbody>
</table>
Milk and Alternatives | Meat and Alternatives | Fruits & Vegetables | Bread & Cereals
---|---|---|---

**ACTIVITY:**
- Students will work cooperatively in groups of three or four.
- Each group will be assigned a specific type of family for whom they will be responsible (example - 2 parents, 1 teen boy, 1 infant)
- Each group will be required to stay within a budget of $110 for one week's food items. (Give each group grocery store flyers with food items and prices on them)
- Menus should meet the daily nutritional requirements identified in the Food Guide Pyramid.
- Menus should meet the needs of individual family members (formula, baby food, etc.).
- Menus should include breakfast, lunch, dinner, and snacks for seven full days.

**Assessment Ideas:**
All meals should be taken out of budgeted money, show three meals a day plus snacks, meet the needs of all family members, and follow the food guide pyramid for balance and preference. Students will show their weekly shopping list, with prices of the food, to the class staying within the budgeted amount of $110.

**DISCUSSION: Dietary Guidelines**
The Dietary Guidelines for Americans are a set of diet and lifestyle recommendations to improve health in the United States. These guidelines are divided into three parts, known as the “ABC’s for Good Health.”
- Aim for fitness.
  - Aim for a healthy weight.
  - Be physically active each day
- Build a healthy base.
  - Use the Food Guide Pyramid.
  - Choose a variety of grains.
  - Choose a variety of fruits and vegetables.
  - Keep food safe.
- Choose sensibly.
  - Choose a diet low in saturated fat and cholesterol.
  - Choose food and drink to moderate sugar intake.
  - Choose and prepare foods with less salt.
  - Adults who drink alcohol should do so in moderation.

**Nutrient density** is a measure of the nutrients in a food compared with the energy the food provides.
• Food with low nutrient density is sometimes called *junk food.*
• Eating junk food occasionally is OK, but you should always aim for balance and moderation.
• You can make up for the nutrients missing in junk food by eating healthier foods at other times of the day.
• Food prepared at home often has less fat and sodium than food from fast-food restaurants.
• Eating snacks can be healthy if you choose to snack on healthier foods.
• If you do eat low-nutrient snacks, make sure to balance them out with healthy meals.

**Nutrition Scavenger Hunt – See attached forms**

• Students will make a written plan for an elegant dinner meal including the grocery list, recipes, preparation plan, place cards and dinner invitation.

**ACTIVITY:**
• Make a list of diseases that can be caused by a diet that is poor in nutrition.

**GUEST SPEAKER:**
• Invite the school cafeteria manager about the role nutrition plays in the meals your school serves.

Make a list of healthy snack foods. Demonstrate how to prepare two healthy snacks
What are two healthy snacks (food or drinks) that you will choose the next time you are looking for a quick snack. Be realistic!

1. 
2. 

**TECHNOLOGY:**
Meet in computer lab (designated by the teacher) Students will log food and activity into the [www.mypyramid.gov](http://www.mypyramid.gov) web site. Students will be able to analyze their diet and exercise and make accurate goals for a healthier lifestyle.
One of the themes of the new MyPyramid dietary guidelines is personalization. The new name itself emphasizes the idea that the types and amounts of food and exercise required for a healthy lifestyle differ from person to person. The website, MyPyramid.gov, offers individualized diet recommendations based on age, gender, and activity level.

Your Assignment
Using a home, classroom or library computer, go to http://www.mypyramid.gov. On the right-hand side of the screen you will see a box called “My Pyramid Plan.” Enter your age, gender, and the amount of physical activity you typically do in addition to your normal daily routine. Then click the submit button.

On the screen will be an individualized list of the average needs for your age, gender, and physical activity from each food group. On the bottom right-hand side you will see a section called “View, Print & Learn More.” Click on the words that say “Click here to view and print a PDF of a helpful Meal Tracking Worksheet.” After your individualized meal tracking worksheet has opened, print out four copies of this sheet.

Follow the instructions on the sheet to keep track of everything you eat and what type of exercise you get for four days, making sure that at least one day is a weekend day. Include meals and snacks, and note the size of your portion. You don’t have to carry measuring cups around with you—just estimate using the shortcuts from the Serving Sizes fact sheet.

Be honest when you fill out the diary. It may be tempting to omit unhealthy foods to make your diet look better, but you will get the most out of this activity if you include everything you eat. You should also try your best to eat normally. If you eat only vegetables and whole grains for two days, your diary will look healthy, but you won’t be able to analyze your real diet to see where you can improve.

When you’re done, answer the following questions on a separate piece of paper.

1. What food group did you eat too much of?
2. What food group did you eat too little of?
3. Did you get the recommended amount of exercise?
4. Did any external factors influence your food choices? For example, did you eat something because your friends did? Or because it had tempting packaging or because of the price?
5. Compare a weekday with one weekend day. Were there any differences in your food consumption and/or physical activity from the two days? If so, why do you think there was a difference in your eating habits?
6. How could you modify your eating and activity in order to make your diet look more like your MyPyramid recommended diet?

Note: Eating a balanced diet means eating foods that are good for you and that give your body the vitamins and other nutrients it needs to stay healthy.
It can be very difficult when trying to pay attention to how many calories you eat to know how much a serving size is—most of us don’t carry measuring cups and spoons with us! The following chart is a “cheat sheet” on how to estimate serving sizes based on things that you are probably familiar with in your day-to-day life.

<table>
<thead>
<tr>
<th>Serving Size</th>
<th>Approximation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 cup</td>
<td>A tennis ball; a fist</td>
</tr>
<tr>
<td>½ cup</td>
<td>A light bulb; ½ a tennis ball or fist</td>
</tr>
<tr>
<td>1 tablespoon</td>
<td>Three times the tip of your thumb; ½ golf ball</td>
</tr>
<tr>
<td>2 tablespoons</td>
<td>A golf ball</td>
</tr>
<tr>
<td>1 teaspoon</td>
<td>The tip of your thumb to the first joint</td>
</tr>
<tr>
<td>1 ounce of cheese</td>
<td>The length of your thumb; four dice</td>
</tr>
<tr>
<td>2 ounces of snack food</td>
<td>One handful</td>
</tr>
<tr>
<td>(chips, pretzels, nuts)</td>
<td></td>
</tr>
<tr>
<td>3 ounces of meat</td>
<td>Deck of cards; cassette tape; palm of hand</td>
</tr>
</tbody>
</table>

**Activity: SNACKS**

Snacks are small servings of food that make up a big part of your diet. A candy bar or a banana is just a little something to help you last until your next meal, but it all adds up over time. On a sheet of paper, list 10 healthy snacks and 10 unhealthy snacks. For each list, write a paragraph that describes the health effects of these foods. For example, do they make you feel energized? Weighted down? Do they promote good digestion or give you vitamins you need, or do they contribute to people becoming overweight?

**Extension:**

It’s not just what you snack on, it’s why you snack. Sure, everyone eats snacks when they’re hungry, but people 1. also eat when they’re not hungry. In a paragraph, discuss why people tend to snack when they’re not hungry. Is it boredom? Peer pressure? Habits? Having tempting foods nearby?
School Snack Report Card

Instructions: What grades do you give the snacks at your school? On this report card, list six snacks you can buy at school in the cafeteria or in vending machines. Be sure to include a few beverages, too. For each snack, fill in the nutrition information. You'll find it printed on foods with labels, and basic information for foods like fruits, cookies, or brownies is available online and in the library. Once you fill out this information, give each snack the grade that you think it deserves. Finally, assign a number to each of the six grades (A=4, B=3, C=2, D=1, F=0). Add up the numbers and divide by 6. This gives you your overall grade for the school's snacks.

<table>
<thead>
<tr>
<th>Snack</th>
<th>Vitamins</th>
<th>Complex Carbohydrates</th>
<th>Sugar</th>
<th>Protein</th>
<th>Calories</th>
<th>Fat</th>
<th>Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>grams</td>
<td>grams</td>
<td>grams</td>
<td>grams</td>
<td>grams</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>grams</td>
<td>grams</td>
<td>grams</td>
<td>grams</td>
<td>grams</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3.</td>
<td>grams</td>
<td>grams</td>
<td>grams</td>
<td>grams</td>
<td>grams</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.</td>
<td>grams</td>
<td>grams</td>
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<td>grams</td>
<td>grams</td>
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</tr>
<tr>
<td>5.</td>
<td>grams</td>
<td>grams</td>
<td>grams</td>
<td>grams</td>
<td>grams</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6.</td>
<td>grams</td>
<td>grams</td>
<td>grams</td>
<td>grams</td>
<td>grams</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Overall Grade: __________

Evaluation: Do lots of students buy snacks at school? Why? Looking at your grades, do you think it's healthy to eat school snacks?

1. For lasting energy and a healthy weight, avoid foods with:
   a. lots of complex carbohydrates
   b. lots of simple carbohydrates
   c. lots of protein
   d. lots of water

2. What's the best proof that a snack is healthy?
   a. the packaging says it's all natural or pure
   b. the packaging says it's low fat
   c. the packaging says it gives you energy
   d. the packaging shows healthy ingredients and nutrition information on the food label

3. When you choose a snack, think about:
   a. the calories
   b. how much sugar and fat it has
   c. how much complex carbohydrates and protein it has
   d. all of the above

4. Soft drinks can be a healthy snack killer because:
   a. they're usually high in sugar and calories
   b. they make you feel full
   c. they take all your vending machine money
   d. they give you gas

5. Which of the following is not a healthy snack?
   a. cherry tomatoes
   b. whole-wheat pretzels
   c. potato chips fried in canola oil
   d. nut trail mix

6. True or false: During adolescence, a person's body needs more nutrients to grow. Snacking between meals doesn't help.

7. True or false: A good way to snack healthy is to pack snacks from home.

8. True or false: People tend to lose their appetites if they're upset, anxious, sad, or stressed out.

9. True or false: High-fat foods are good snacks because their energy lasts a long time.

10. True or false: Many families eat the same foods and have the same eating habits, like snacking in front of the TV.
**One Size Doesn’t Fit All Follow Up Questions**

1. What food group did you eat too much of?

2. What food group did you eat too little of?

3. Did you get the recommended amount of exercise?

4. Did any external factors influence your food choices? For example, did you eat something because your friends did? Or because it had tempting packaging or because of the price?

5. Compare a weekday with one weekend day. Were there any differences in your food consumption and/or physical activity for the two days? If so, why do you think there was a difference in your eating habits?

6. How could you modify your eating and activity in order to make your diet look more like your MyPyramid recommended diet?

**Vegetarian diet** is one in which few or no animal products are eaten. Vegans are vegetarians that eat no animal products in any form. Most vegetarians get all the proteins they need from the small amounts of animal products they eat.
Vegans must eat from a variety of plant sources to get all the essential amino acids and other important nutrients.

**Procedure:**
1. Review the food groups with the students.
2. Tell the students that they are going to design a menu for the Queen (Vegetarian Queen) that includes at least one serving of food from each food group.
3. The menu must include an entree, or main dish, at least one side dish, and a beverage.
4. Write the requirements of the assignment in a highly visible area of the room, such as on the chalkboard.
5. Pass out the sample menu located at the end of this lesson, and discuss it with the class. Does it meet the requirements? How?
6. Encourage the students to get creative with the assignment.
7. As students finish, look over the assignment with them. Have the students identify which of the food groups each of the ingredients belongs to.

**Activity:**
- Breakfast is an important meal because it fuels you up and gets you ready for your day. Teens that eat breakfast have more energy, do better in school, and eat healthier throughout the day. Without breakfast, people can feel irritable, restless, and tired. Many teens skip this important meal because they wake up too late and have so many things to do before school. But breakfast is one thing that shouldn’t get lost in a time crunch. It’s all about managing time and setting priorities. Use the handout titled “Making Time for Breakfast” to help you organize your morning routine so you can fit breakfast into your schedule every day.
Making Time for Breakfast

Instructions: Make sure breakfast is part of your morning routine by using this schedule to help you manage your time. Start from the bottom by filling in the time you leave home to go to school, like 7:15 for example. Then work your way up, using the minutes as suggestions. If the routine on this page looks like your typical morning, hang it on your bedroom door and try to stick to it until it really does become a routine. If not, fill in the routine on the next page. (Just make sure that “Prepare, eat breakfast” is on your list. And remember, depending on what you plan to eat, you can prepare some breakfasts the night before!) After using the planner for a week or so, if you’re still feeling rushed, add some minutes to each thing you have to do before leaving for school and push back your times. You may need to wake up a few minutes earlier or drop something other than breakfast from the list. Planning ahead will help you feel less rushed, more organized, and ready to face the day!

My Morning Routine

___:_ _a.m. - Wake up

___:_ _a.m. - Shower, get dressed (15 to 20 minutes)

___:_ _a.m. - Morning chore (make bed, walk dog, etc.) (10 minutes)

___:_ _a.m. - Prepare, eat breakfast (10 to 15 minutes)

___:_ _a.m. - Brush teeth, comb hair, etc. (10 minutes)

___:_ _a.m. - Organize school stuff (10 minutes)

___:_ _a.m. - Leave for school

Activity:
• Our principal recently learned through an anonymous survey that many students skip breakfast. To help fix this problem, we’ll be creating a breakfast recipe booklet to distribute throughout the school. Our goal is to include recipes that are quick, nutritious, and easy, as well as some that can be prepared ahead of time. So go through the KidsHealth “Healthy Breakfast Planner” and “Recipes for Teens” and choose recipes that would appeal to you and your classmates. Or write your own healthy recipes. Also include recipes for students who have special dietary needs (such as diabetes, lactose intolerance, etc.). Collect your breakfast recipes on the “Great Starts” handout. Then we’ll compile all the recipes our class has collected and create a booklet for the whole school. Also, make sure to write three reasons why breakfast is important so you can hang this reminder on your fridge at home.
Great Starts
Instructions: Write down three breakfasts that you'd like to include in the school's healthy breakfast recipes booklet. You can use ideas from KidsHealth.org or write your own. Just make sure to include quick and easy recipes that include fruit, whole grains, protein, and dairy. Then write a reminder to yourself about why it’s important to eat breakfast, and hang it on your fridge at home.

Extensions:
1. Create a brief public service announcement (no more than 60 seconds) that can be read over the loudspeaker explaining the top three reasons teens should not skip breakfast.

2. Make posters with illustrations and examples of quick breakfast ideas. Hang these in the hallways and cafeteria

HOMEWORK:
Nutrition Label Assignment

Directions: Pick one of your favorite foods, find the nutrition facts label, and answer the following questions. Once you have completed the questions, carefully cut the label out and attach it to this page.

1. What is your product name?
2. In what section(s) of the food guide pyramid is your product found?
3. What is the net weight of your product? (This is the total for the entire product. Be sure to label with units of measurement!)
4. Who manufactured, packed, or distributed the food? Where is the company located?
5. What ingredients are in the food? (List from LARGEST to SMALLEST amount by weight.)
6. How many calories are in EACH SERVING?
7. How many calories are in the ENTIRE PACKAGE? (Total # of servings multiplied by the # of calories in each serving)
   
   Fat:  
   Cholesterol:  
   Total carbohydrate:  
   Sugars:  

   Saturated Fat:  
   Sodium:  
   Dietary fiber:  
   Protein:  

   ***ATTACH THE NUTRITION LABEL BELOW.***

ASSESSMENT IDEAS:
1. What is a calorie?
   A. A Calorie _____ is a unit of energy used by our bodies to maintain growth and health.

   B. What is the approximate amount of Kcals that you need per day?

   C. What is the difference between nutrient dense and calorie dense food? Ex. Milk is nutrient dense vs. Pop is calorie dense

2. The New Food Pyramid
   A. Let’s check out http://www.mypyramid.gov
   B. Make at least _______ of your grains whole grains.
   C. Get a _________ of veggies.
   D. Eat _________ _______ foods.
   E. Eat _________ protein.

3. The Energy Equation
   A. __________ ___ = __________ _____to maintain weight
   Ex. Corn muffin 510 calories = Bike Riding 522 (Weight loss)

Learn about nutrition labeling at http://www.healthchecksystems.com/label.htm. Have students choose their favorite packaged snack food and present the information graphically through a pie chart.

RESOURCES:
For My Pyramid Information: MyPyramid.gov
Nutrition and health: www.nutrition.gov
Food and Nutrition: http://fnic.nal.usda.gov
Eat Smart. Play Hard: www.fns.usda.gov/eatsmartplayhard
http://www.choosemyplate.gov/
http://www.livestrong.com/article/340729-how-to-teach-nutrition-dieting/
http://www.livestrong.com/article/360431-how-to-teach-nutrition-in-the-classroom/
www.dietaryguidelines.gov
www.health.gov/paguidelines
www.healthfinder.gov
# DINE Food Record

**Name (print):**

**Age:** ________ years

**Sex:** male ________ female ________

**Address:**

**Height:** ________ feet ________ inches

**City:**

**State:**

**Zip:**

**Date:**

**Telephone:**

**Actual Weight:**

**Desired Weight:**

**Activity Level:** 1 2 3 4 5

<table>
<thead>
<tr>
<th>Meal</th>
<th>Item #</th>
<th>Food Group(s)</th>
<th>Food Name</th>
<th>Amount Eaten</th>
<th>Brand or Restaurant (if known)</th>
<th>Frozen</th>
<th>Canned</th>
<th>How Cooked</th>
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FOOD PYRAMID: ANALYSIS OF SERVINGS ACTUALLY EATEN

DAY 1 ___________________________ (date)

Directions: using your “Food Guide Pyramid”, “DINE Food Record”, and “Food Pyramid Serving Size” sheets, draw a food pyramid which actually represents what you ate. This food pyramid may not even look like a pyramid when you are finished. To start the process, record your servings for each section on the lines below.

Bread, Grains, Cereal, Pasta, and Rice group .............................................. ____________ servings

Meat, Fish, Poultry, Dry Beans, Eggs, and Nuts group .................................. ____________ servings

Fruit group .................................................................................................. ____________ servings

Vegetable group ......................................................................................... ____________ servings

Milk, Yogurt, and Cheese group .................................................................... ____________ servings

Fats, Oils, and Sweets group ......................................................................... ____________ servings

Draw your ‘pyramid’ below. Section off each group into individual servings and label the food that the section represents. Label each section. NEATLESS COUNTS!!
### Nutrition Analysis for Day 1 and Day 2

<table>
<thead>
<tr>
<th>Question</th>
<th>Day 1 answer</th>
<th>Day 2 answer</th>
<th>Evaluation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Did you eat or drink more than 2200 mg of sodium?</td>
<td>Yes</td>
<td>Yes</td>
<td>If a person were to consume too much sodium (salt), what disease is the person at greater risk of getting?</td>
</tr>
<tr>
<td>Did you consume more than 1200 mg of calcium?</td>
<td>Yes</td>
<td>Yes</td>
<td>If a person does not consume enough calcium, what disorder might they be afflicted with?</td>
</tr>
<tr>
<td>Did you consume more than 12 mg of iron?</td>
<td>Yes</td>
<td>Yes</td>
<td>If a person does not consume enough iron, they may feel extremely tired because they may have (what disease)?</td>
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<tr>
<td>Did you consume less than 300 mg of cholesterol?</td>
<td>Yes</td>
<td>Yes</td>
<td>Consuming too much cholesterol may have what effect on the body?</td>
</tr>
<tr>
<td>Did you consume at least 20 g of dietary fiber?</td>
<td>Yes</td>
<td>Yes</td>
<td>People not consuming enough dietary fiber increase their risk of contracting what type of cancer?</td>
</tr>
</tbody>
</table>

Looking at your pie chart, did less than 30% of your calories come from fat?  
Yes  No  Yes  No  List at least 3 negative effects of consuming too much fat?

Did you consume at least 800 RE of Vitamin A?  
Yes  No  Yes  No  From your textbook (pg. 190), list three major functions/roles of Vitamin A.  
Is Vitamin A fat-soluble or water-soluble?  
What does this mean?

Did you consume at least 50mg of Vitamin C?  
Yes  No  Yes  No  From your textbook (pg. 190), list three major functions/roles of Vitamin C.  
Is Vitamin C fat-soluble or water-soluble?  
What does this mean?
Lesson 4: Food Consumption

NATIONAL HEALTH STANDARDS AND ELEMENTS:
Standard 1: Students will comprehend concepts related to health promotion and disease prevention to enhance health.
Standard 2: Students will analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors.
Standard 3: Students will demonstrate the ability to access valid information, products, and services to enhance health.
Standard 4: Students will demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks.
Standard 5: Students will demonstrate the ability to use decision-making skills to enhance health.
Standard 6: Students will demonstrate the ability to use goal-setting skills to enhance health.
Standard 7: Students will demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks.
Standard 8: Students will demonstrate the ability to advocate for personal, family, and community health.

GOALS: The students will be able to recognize the importance of proper nutrition and the benefits that it will have on their body.

OBJECTIVES:
• Identify five ways teens can make healthy choices about eating and staying active
• Create five catchy text message slogans that can be sent to teens about exercising, eating right, and limiting screen time

JOURNALING:
Food is about more than survival. Tastes and smells bring up all kinds of memories and emotions. Describe the food that inspires a memory for you. What or whom does it make you think of?

MATERIALS: Text books, white board and white board markers, copies of sample menus, Calorie King books OR online printed materials with caloric values, What is a Healthy Diet activity sheets, Food Label Basic Packet (class set), Nutrition Facts Labels from real foods, student food logs, pencils/pens/colored pencils/crayons or marker, brown paper bags, various foods, Writing Across the Curriculum Rubric (poster size to be placed in room permanently)

KEY TERMS: Dietary Guidelines for Americans, My Plate, Nutrition Facts Label

BIG IDEAS:
• Following the Dietary Guidelines for Americans is the best way to get more nutrients without extra calories
• Eating from each food group daily is necessary to get all the nutrients your body needs.
• Knowing how to access valid information about foods is important to my health and wellness.
ESSENTIAL QUESTIONS:
• Why is it important to eat a variety of foods?
• Why is physical activity even considered when discussing nutrition?
• Why is steaming vegetables more nutritious than boiling?
• Why is baking or broiling meats more nutritious than frying?
• What are the main rules of cooking most fruits and vegetables?

DISCUSSION:
Why do you eat?
• Hunger is the body’s physical response to the need for food.
• Appetite is a desire, rather than a need, to eat certain types of food.

The amount and type of food you eat depend on many factors, including:
• The smell and taste of food
• Mood
• Family, ethnic, and religious traditions
• Social occasions
• Health concerns
• Advertising
• Cost and availability

Food provides energy
• The amount of energy in food depends on the amount of carbohydrates, fats, and proteins.
• Extra food energy that you do not use immediately is stored as glycogen or fat.
• Breakfast provides you with important energy for activating your body and brain at the start of the day

ACTIVITY:
Ask students if to report on their eating habits. How many eat while watching television? Who prepares his/her own meals? How many students help with food shopping? What type of snacks do students eat?
• Bring in a 2-3 lbs bag of sugar to demonstrate the amount of sugar an average American consumes throughout the week.
• Read the following information about sugar:
  http://www.healingdaily.com/detoxification-diet/sugar.htm
• Discuss how sugar effects a person's bodies. Ask students to note how they feel after consume sugar and have them explain why this might be.

Activity:
You’ve convinced the president that texting is the best way to reach teens about nutrition and fitness and help beat obesity. As the nation’s first Teen Nutrition and Fitness Czar, you’re going to create five tips that can be texted to teens across America to remind them about staying healthy. To begin your research, read these KidsHealth articles related to obesity: “When Being Overweight Is a Health Problem,” “5 Ways to Reach (and Maintain) a Healthy Weight,” “Why Exercise Is Wise,” “The Food Guide Pyramid,” “How Much Food Should I Eat?” “Easy Exercises for Teens,” and “How Can I Lose Weight Safely?” Now, create five text messages that
the White House can send to teens’ cell phones on a regular basis to remind them about making healthy choices. Try your best to make the texts memorable and catchy so they’ll go viral. Be sure to include a symbol, icon, or image with each text, in case it winds up being the title of an app that teens can download.

ACTIVITY:
Give the students the following handout, or write the information on the blackboard. Allow them 10 minutes to construct a story about Jeff. Here are the last 5 checks written by "Jeff Bradley."

Reconstruct his story:

<table>
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<tr>
<th>Date Paid</th>
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<tbody>
<tr>
<td>Feb. 12</td>
<td>Quality Gyms</td>
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<td>Feb. 15</td>
<td>Natural Foods</td>
<td>$55</td>
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<td>Grandma’s Sugar Shack</td>
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<td>Feb. 20</td>
<td>Dr. Hamden</td>
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<td>Feb. 23</td>
<td>Al’s Quickie Mart</td>
<td>$25</td>
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</table>

- What story did you construct? Does your story make sense? What message does it convey about Jeff’s fitness choices? Did he make good choices? Why or why not?
- Ask students to write down everything they ate yesterday. Encourage students to list snacks, small bites, and drinks (including if it was diet or regular). Tell students that "Junk food grabs the highest share in the children's market at 34.6%. It even ranks above spending on toys, games, and crafts, which garner a combined share of 31.3% (McNeal 1992 cited http://www.rprogress.org/newpubs/1999/consuming_kids.html)
- Have students create a survey to find out about the eating habits of students in their school. If possible, work in conjunction with the math teacher to have students analyze the results statistically. Post findings for school community.

**Reflect:** Have students reflect on how they could save their money usually spent on snacks and save it for other things they might want.

Fast Food Assignment

- Directions: With your group you are going to examine food contents from one specific fast food restaurant. As a group you will need to make 3 different meals based on the nutrition facts given. Each meal needs to contain a main entrée (burger/sandwich), a side (fries, potatoes, etc), and a beverage (soda, juice, etc). One meal will need to be what the average person would order, one meal will need to have 3 of the worst choices, and the last meal will need to have 3 of the healthiest choices.

Meal 1: The average meal – This meal should be what the average teenager might select at this restaurant.
Meal 2: The WORST meal – this meal should be a combination of the WORST possible choices at this restaurant.

Meal 3: The BEST meal – this meal should be a combination of the BEST possible choices at this restaurant.

Introduction

We decide what to eat, when to eat, and even whether to eat for a variety of reasons. You will explore your eating habits by keeping a detailed food diary over the period of 4 days.

Part 1: Daily Food Diary Entries
Each day for four consecutive days, write an entry in your food diary detailing your food habits. Use the following chart to record your meals. If your meal times are different from those listed on the chart, make changes to help fit your days.

**Part 2: Daily Reflection**

At the end of each day, analyze your chart and write a few sentences to reflect on what you ate. Was this a typical day for you? Who made most of your food choices that day? Did any other factors affect what you were eating?

**Part 3: Final Analysis**

Respond to the following questions:

1. Which, if any, of your food choices were influenced by emotions? How many times did you eat because you were truly hungry?
2. How was social/family pressure a factor in your food decisions?
3. Which, if any, of your food choices were influenced by marketing strategies or food advertisements?
4. What was the biggest influence on what you ate?
5. How often did you think of health and nutrition when making food choices? What were some of your healthiest choices? What were some of the least healthy?
6. How do you think your food buying and consumption patterns help define who you are? For example, if Mary found she ate granola with organic milk and fruit most mornings. What does this say about her environmental attitudes, her food budget, her family history or her sense of independence (i.e., eating differently than her parents)?

<p>| Date | What you ate + How much (ex: 1 apple, ½ turkey sandwich on wheat bread with mayo + lettuce, 5 Oreos) | How was it prepared (home cooked, open box + microwave, fast food, restaurant)? | Where did you get your food (cafeteria, home, store, restaurant)? | Where did you eat? (home, cafeteria, bus, restaurant)? | Who did you eat with? (alone, family, friends)? |</p>
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Answer the following questions to help you reflect on your day:

- Was this a typical day for you (explain why or why not)?

  ____________________________________________________________
  ____________________________________________________________
  ____________________________________________________________

- Why did you choose to eat what you did (taste, health, sharing, convenience, cost, environmental or religious concerns, advertising)?
• How did you feel today, and why? (stressed out, relaxed, hyper, sad, sick, etc.)

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<th>Date</th>
<th>What you ate + How much (ex: 1 apple, ½ turkey sandwich on wheat bread with mayo + lettuce, 5 Oreos)</th>
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</table>
Answer the following questions to help you reflect on your day:

- Was this a typical day for you (explain why or why not)?
  
  ________________________________________________________________

- Why did you choose to eat what you did (taste, health, sharing, convenience, cost, environmental or religious concerns, advertising)?
  
  ________________________________________________________________

- How did you feel today, and why? (stressed out, relaxed, hyper, sad, sick, etc.)
  
  ________________________________________________________________

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Answer the following questions to help you reflect on your day:

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  - 
  - 
  - 

- **Why did you choose to eat what you did (taste, health, sharing, convenience, cost, environmental or religious concerns, advertising)?**
  - 
  - 
  - 
  -
- How did you feel today, and why? (stressed out, relaxed, hyper, sad, sick, etc.)

<table>
<thead>
<tr>
<th>CATEGORY</th>
<th>8</th>
<th>6</th>
<th>4</th>
<th>2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day 1 Food Diary</td>
<td>Listed all foods in a food diary and correctly put all of the foods into the 6 food groups.</td>
<td>Listed all foods in a food diary and correctly put 2/3 of the foods into the 6 food groups.</td>
<td>Listed some foods in a food diary and put half of the foods into the 6 food groups.</td>
<td>Listed some foods in a food diary and put less than half of the foods into the 6 food groups.</td>
</tr>
<tr>
<td>Day 2 Food Diary</td>
<td>Listed all foods in a food diary and correctly put all of the foods into the 6 food groups.</td>
<td>Listed all foods in a food diary and correctly put 2/3 of the foods into the 6 food groups.</td>
<td>Listed some foods in a food diary and put half of the foods into the 6 food groups.</td>
<td>Listed some foods in a food diary and put less than half of the foods into the 6 food groups.</td>
</tr>
<tr>
<td>Day 3 Food Diary</td>
<td>Listed all foods in a food diary and correctly put all of the foods into the 6 food groups.</td>
<td>Listed all foods in a food diary and correctly put 2/3 of the foods into the 6 food groups.</td>
<td>Listed some foods in a food diary and put half of the foods into the 6 food groups.</td>
<td>Listed some foods in a food diary and put less than half of the foods into the 6 food groups.</td>
</tr>
<tr>
<td>Day 4 Food Diary</td>
<td>Listed all foods in a food diary and correctly put all of the foods into the 6 food groups.</td>
<td>Listed all foods in a food diary and correctly put 2/3 of the foods into the 6 food groups.</td>
<td>Listed some foods in a food diary and put half of the foods into the 6 food groups.</td>
<td>Listed some foods in a food diary and put less than half of the foods into the 6 food groups.</td>
</tr>
<tr>
<td>Reflective Questions</td>
<td>Answered all 6 of the questions with thought and concise answers.</td>
<td>Answered 4-5 of the questions with thought and concise answers.</td>
<td>Answered 2-3 of the questions with thought and concise answers.</td>
<td>Answered 1 of the questions with thought and concise answers.</td>
</tr>
<tr>
<td>Spelling and Grammar</td>
<td>Had 2 or fewer spelling or grammar errors on reflective questions.</td>
<td>Had 3-4 spelling or grammar errors on reflective questions.</td>
<td>Had 5-6 spelling or grammar errors on reflective questions.</td>
<td>Had 7 or more spelling or grammar errors on reflective questions.</td>
</tr>
<tr>
<td>Included Name</td>
<td></td>
<td></td>
<td></td>
<td>Two points possible for including your name.</td>
</tr>
</tbody>
</table>
Energy requirements are the “amount of food energy needed to balance energy expenditure in order to maintain body size, body composition, and a level of necessary and desirable physical activity consistent with long-term good health. Essentially, energy requirements are the general guidelines for attaining and maintaining a healthy life that reflect the body’s dietary and expenditure needs. These requirements vary according to age and gender. Infants, children, adolescents, pregnant and lactating women, other adults, and the elderly all have different energy requirements and should eat a well-balanced diet that takes into account their various needs.

Energy requirements are also based on the following factors:

• Basal metabolism—the minimal energy expenditure needed to maintain the basic body functions needed for life, such as the functioning of vital organs and the nervous system. The basal metabolic rate (BMR) is used to determine basal metabolism over a standard period of time and can represent from 45 to 70 percent of daily energy needs. Your basal metabolic rate (BMR) is the amount of energy your body uses for basic functions.

• BMR varies from person to person, depending on age, weight, sex, and how active the person is.

• Metabolic response to food—the level of energy needed to digest, absorbs, and utilizes all food eaten.

• Physical activity—all daily activities ranging from work to play to rest. These activities may be occupational, associated with work, or discretionary, associated with household and social tasks.

• Physiological needs—Young children have added energy needs to support growth and development. Pregnant and lactating women need additional energy to support the growth of the fetus, the placenta, maternal tissues, and milk production.

• Physiological needs—Young children have added energy needs to support growth and development. Pregnant and lactating women need additional energy to support the growth of the fetus, the placenta, maternal tissues, and milk production.

• You are in energy balance when the food energy you take in equals the energy you use.

• Extra food energy increases the body’s fat and causes weight gain.

• Some body fat is essential for health.

• Overweight people are too heavy for their height. The extra weight is usually due to excess body fat.

Being overweight increases the risk of many long-term health problems, including:

• Heart disease and high blood pressure
• Prostate, colon, and breast cancer
• Type 2 diabetes
• Sleeping problems such as sleep apnea

Obesity is a condition in which there is an excess of body fat for one’s weight.

• More Americans are obese now than ever before.
• Americans today exercise less and eat more foods high in sugar and fat than in the past.
• Exercise and a healthy diet can help most people stay in a healthy weight range.
• Over two-thirds of U.S. adults are overweight or obese (BMI over 25)
• Over one-third of U.S. adults are obese (BMI over 30)
HEALTH RISKS WITH OBESITY

- Hypertension (HBP)
- Type II Diabetes
- Stroke
- Heart Disease
- Gallstones
- Gout
- Osteoarthritis
- Sleep Apnea
- Respiratory Problems
- Back Pain

Psychological Disorders of Obesity

- Depression
- Eating Disorders
- Distorted Body Image
- Low-Self Esteem

What is a Healthy Diet? Activity

Using the information on these pages, students can see what they should be eating and what a meal at their favorite Fast Food restaurant really provides.

Now that we know about what our body needs and what we actually get from foods, let’s talk about how to balance a healthy diet and exercise to maintain a healthy weight. How many calories should an 11-14 year old boy/girl take in during a day? Why are calories important? How does your mom/dad’s car run? The calories from food are our fuel and calories are necessary for everything. What are some things your body does? (breathing,
playing, growing), these all require energy that we get from calories. Does anyone know how many calories are equal to 1 pound? (3500 calories = 1 pound).

Using the **Burn Those Calories** activity we are going to see what it would take to burn off the excess calories and fat we took in during our fast food visit. Complete the activity.

Give two reasons why you should make a shopping list before you go shopping:

1. 
2. 

**Diet Audit Assignment**

**STEP ONE**

From the following table CIRCLE the number of calories per day that you should eat at your age, gender, and activity level.

<table>
<thead>
<tr>
<th>Category</th>
<th>Age</th>
<th>Light Activity</th>
<th>Moderate Activity</th>
<th>Heavy Activity</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children</td>
<td>4-6</td>
<td>1,600</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>7-10</td>
<td>2,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Males</td>
<td>11-14</td>
<td>2,500</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>15-18</td>
<td>3,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>19-24</td>
<td>3,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>25-50</td>
<td>3,000</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>51+</td>
<td>2,300*</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Females</td>
<td>11-18</td>
<td>2,200</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>19-24</td>
<td>2,200</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>25-50</td>
<td>2,200</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>51+</td>
<td>1,000*</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Pregnant women in their second and third trimesters should add 300 calories to the figure the table indicates for their age. Nursing mothers should add 500.

* based on light to moderate activity

**Activity Levels**

- **Very Light**: Driving, typing, painting, laboratory work, ironing, sewing, cooking, playing cards, playing a musical instrument, other seated or standing activities
- **Light**: Housecleaning, child care, garage work, electrical trade, work, carpentry, restaurant work, golf, sailing, table tennis, walking on a level surface at 2.5 to 3 miles per hour
- **Moderate**: Weeding, hoeing, carrying a load, cycling, skiing, tennis, dancing, walking 3.5 to 4 miles per hour
- **Heavy**: Heavy manual digging, tree felling, basketball, climbing, football, soccer, carrying a load uphill

**STEP TWO**

Calculate the multiplication factor between your calorie level and the standard calorie level of 2000.

\[
\text{MULTIPLICATION FACTOR} = \frac{\text{YOUR CALORIE LEVEL}}{2000 \text{ Calories}}
\]
**STEP THREE**

Calculate how much of each dietary substance you can eat at your calorie level, by multiplying each number in the 2000 Cal Diet column by the MULTIPLICATION FACTOR.

<table>
<thead>
<tr>
<th>Part of Diet</th>
<th>2000 Cal Diet</th>
<th>______Cal Diet</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fat</td>
<td>65 g</td>
<td></td>
</tr>
<tr>
<td>Protein</td>
<td>50 g</td>
<td></td>
</tr>
<tr>
<td>Carbohydrates</td>
<td>300 g</td>
<td></td>
</tr>
<tr>
<td>Dietary Fibre</td>
<td>25 g</td>
<td></td>
</tr>
<tr>
<td>Saturated Fats</td>
<td>20 g</td>
<td></td>
</tr>
</tbody>
</table>

These are GUIDELINES for the amounts of each dietary substance that you should eat. THEY ARE NOT EXACT. Everybody has different dietary needs.

**STEP FOUR**

Complete the right hand columns on the Diet Audit Record Sheet. Look in the tables of food values *Nutrient Value of Some Common Foods* to find the foods you ate.

**SOME NOTES:**

1. If you cannot find the exact food that you ate. Choose the closest one.

2. Compare the quantity you ate (that you wrote on record sheet) to the quantities in the food values table. If you are not sure how to compare ask the teacher to help you estimate.

Your table might read:

<table>
<thead>
<tr>
<th>Foods Eaten</th>
<th>Quantity Eaten</th>
</tr>
</thead>
<tbody>
<tr>
<td>Blueberry muffins that my Dad made</td>
<td>two muffins</td>
</tr>
</tbody>
</table>

And the table in the food values booklet might read:

<table>
<thead>
<tr>
<th>Food</th>
<th>Measure</th>
<th>Weight</th>
<th>% Water</th>
<th>etc.....</th>
</tr>
</thead>
</table>
You can just assume your muffin weighed about 40 g. But because you ate two muffins, you will have to multiply all the other numbers by 2.

After you have multiplied for the quantity eaten write the numbers in the right-hand part of the Diet Audit Record Sheet

**STEP FIVE**

Add up the amount of each dietary substance that you ate. Then complete the following table:

<table>
<thead>
<tr>
<th>Part of Diet</th>
<th>Guidelines for how much I should eat</th>
<th>How much I actually ate</th>
<th>I should eat more/less/about the same?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Fat</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protein</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Carbohydrates</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dietary Fibre</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Saturated Fats</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**SERVING SIZE**
A well-known hurdle to weight control is confusion about serving sizes. It is important to understand portion sizes so that you can meet your nutrition requirements while maintaining a healthy diet. Often, the portions we eat are bigger than we think and are also larger than the standard portions. The Food Guide provides daily guidelines but what do these standard sizes actually look like on your plate?

To know if you're serving recommended amounts, try using your hands to help you visualize the size of the portions you eat. For example, what does a half cup of pasta look like? Check out these illustrations. It's all in your hands.

**Fist = 8 oz/1 cup**
A clenched fist demonstrates a 1 cup serving (8 oz) of a hot or cold beverage.
2 hands = 1 cup
Cup both hands to judge a 1 cup serving of breakfast cereal such as shredded wheat cereal or mixed dishes like chili.

1 hand = 1/2 cup One cupped hand shows what a half cup serving of pasta, rice, or mashed potatoes looks like.

Palm or deck of cards = 3 oz meat
The palm of your hand is about the size of a 3 oz serving of cooked meat: a chicken breast, hamburger patty, fish fillet, pork loin or canned tuna.

2 thumbs = 1 tablespoon
Two thumbs placed together show the size of a 1 Tbsp serving of Peanut Butter, Salad Dressing, or Mayo Dressing.
Activity: Fast Food

The students will enter the room and have a "kickoff" question (anticipatory set) that states “How many calories do you think are in an average fast food meal you eat”. This will get the students thinking about caloric intake and about their personal food intake.

The classroom will be set up into four stations. At the station there will be a menu from a fast food restaurant. The students will travel from station to station in groups and make up a list of the foods they eat with the corresponding nutrition information. Once the students have gone around once to all the stations, I will talk about how many calories the students require compared to what they ate in a single meal. During this time I will speak about BMR and have the students calculate their BMR (Basil Metabolic Rate). During this time we will also talk about obesity trends and how America obesity rates are growing. The students will also view visuals of the trends of obesity based on BMI. I will then have the students go around to the station again but this time they must make a healthy choice and see what the difference is between their first and second trip.

At the conclusion of the lesson I will ask the students how many calories they cut from the first round to the second round of the activity. I will also ask the students what they will do from now on to make healthier choices.

Assessment Ideas:

To assess this activity, I will have the students' write a one page reaction paper. The paper will be based on the premise of fast food calorie intake compared to the calories one needs per day.
**Health Research – Nutrition Project**

You will pick an issue from the Food Inc. Movie on which you will become a specialist. You will come up with a presentation that is no longer than 3 minutes in length (presentation dates to be announced). Make sure to remember you are presenting to your peers.

*You have been given the rubric so you know what is important when presenting.*

**Presentation (Things you may want to include in your topic):**

<table>
<thead>
<tr>
<th>What is my opinion, concern, or belief about this topic?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Why is this topic important</td>
</tr>
<tr>
<td>Research supporting arguments for your topic.</td>
</tr>
<tr>
<td>-Summary, discussion, and conclusion of the main points</td>
</tr>
<tr>
<td>-Evidence - facts, examples, statistics and figures.</td>
</tr>
<tr>
<td>-Use visual aids to illustrate and prove your central message</td>
</tr>
<tr>
<td>-Goals</td>
</tr>
<tr>
<td>-Valuable quotations and definitions</td>
</tr>
<tr>
<td>-Introduction, the body of the work, and the conclusion</td>
</tr>
<tr>
<td>-Personal response that clearly shows the goals and vision of the project.</td>
</tr>
</tbody>
</table>

**Other things you may want:**

-Graphs, diagrams, music, video clips, cartoons, poems, comparisons, etc. Be creative!

**TOPICS**

1. Design a digital poster, video, presentation, or other informational piece that illustrates the prevalence of corn and soybeans in American diets (and, since we are in China, you may want to compare it to Chinese diets).

2. Ethanol, which is primarily made from corn, has been promoted by both government officials and private companies as a viable alternative to petroleum-based gasoline. Identify the positive and negative impacts of using corn for fuel.

3. Check the Center for Foodborne Illness website, [www.foodborneillness.org](http://www.foodborneillness.org), to learn about recent efforts to curb E. coli contamination. Research E. coli and other food contaminants and discuss how families can keep food safe from contamination.

4. Write a response to the question of whether healthy eating should be a right, a responsibility, or a privilege (make sure to research it, don’t just give me your opinion.)
5. Write a response to the question “How do you think the way your grandparents used to eat differs from how you eat today?”

6. The film describes how the meatpacking industry took advantage of immigrant workers a century ago, until Upton Sinclair wrote The Jungle—a landmark book that spurred major improvements, including antitrust laws and labor unions. Describe how people fixed the meatpacking industry’s labor problems before and how we might fix them again in an enduring way.

7. The film suggests that many small food producers have been bought by large corporations. Explore the companies behind different food products. Choose a product and identify what company makes that product, and then find out whether that company is owned by a parent company. If it is owned by a parent company, what else does that company produce? To find the information, you may need to look at labels, search on the Web, or ask a local store manager if you speak Chinese. Share and analyze your findings. How easy was it to find the information?

8. Name some of the issues raised about genetically modified organisms. Should companies be able to own the genetic material contained in plant seeds? What might be arguments for each side?

9. Have students consider what it would be like if people could buy and sell DNA on e-Bay, and then discuss using technology the possible implications of doing this.

10. Topic of your choice based on the previous day’s discussion questions (Must be okayed by the teacher).

ACTIVITY: Metabolism

- Have students reflect on their metabolism and that of their parents. This may be a sensitive topic, so make sharing voluntary.
- Introduce students to the concept of Body Mass Index. According to the Center for Disease Control, "for adults, overweight and obesity ranges are determined by using weight and height to calculate a number called the "body mass index" (BMI). BMI is used because, for most people, it correlates with their amount of body fat."
- Explain to students that in the past many people assumed people who were overweight were lazy and indulgent. Now it is quite clear that there are many genetic factors that control our weight and make it more or less easy to control.
- Have students look at their own B.M.I by going to http://apps.nccd.cdc.gov/dnpabmi/Calculator.aspx. Given the sensitivity of this issue, allow students privacy when calculating their BMI. Also, let students know that the test does not take into account athletes whose body weight is due primarily to muscle mass.
- Have students investigate the BMI of their state and compare it to that of others. http://www.obesityinamerica.org/geographic.html and compare the BMI or body mass index to that of other students. How does their state compare?
- Introduce students to the new food pyramid and compare it to illustrations of older versions of the pyramid. How has this one changed? http://www.mypyramid.gov/
- Discuss with students how the new food pyramid takes into account gender, activity level, and age.
• **Reflect:** Have students go to [http://apps.nccd.cdc.gov/dnpabmi/Calculator.aspx](http://apps.nccd.cdc.gov/dnpabmi/Calculator.aspx) to calculate their individual food pyramids. Encourage them to change their diets to incorporate their individual food pyramid.

**ASSESSMENT IDEAS:**
Students should be able to explain the importance of a healthy diet and exercise to maintain a healthy weight.

**DIFFERENTIATION:** Use mentors and student leaders, group or partner pairings.

**RESOURCES:**  
[http://www.tacobell.com/nutrition/information](http://www.tacobell.com/nutrition/information)
It can be hard to start eating right when you’re accustomed to having large portions. Even though you may be trying to be healthy, you may not realize that certain bad eating habits at home can really add up. Do you have any of the following bad habits? Read over the list and put a check mark (✓) next to any bad eating habits that you recognize as your personal bad habits. Then, think up ways to avoid these diet pitfalls. Your tips can be anything, just as long as they help you remember to keep your portion sizes down. Be creative!

- **BAD HABIT 1:** Eating straight out of the package, box or bag.
  How to break this bad habit:

- **BAD HABIT 2:** Snacking throughout the day.
  How to break this bad habit:

- **BAD HABIT 3:** Taking huge helpings at the dinner table.
  How to break this bad habit:

- **BAD HABIT 4:** Always nibbling while you’re doing homework or watching television.
  How to break this bad habit:

- **BAD HABIT 5:** Eating too fast.
  How to break this bad habit:
Lesson 5: Healthy Weight

NATIONAL HEALTH STANDARDS AND ELEMENTS:

**Standard 1:** Students will comprehend concepts related to health promotion and disease prevention to enhance health.

**Standard 2:** Students will analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors.

**Standard 3:** Students will demonstrate the ability to access valid information, products, and services to enhance health.

**Standard 4:** Students will demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks.

**Standard 5:** Students will demonstrate the ability to use decision-making skills to enhance health.

**Standard 6:** Students will demonstrate the ability to use goal-setting skills to enhance health.

**Standard 7:** Students will demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks.

**Standard 8:** Students will demonstrate the ability to advocate for personal, family, and community health.

**GOALS:** The students will be able to recognize the importance of proper nutrition and the benefits that it will have on their body.

**OBJECTIVES:**
- Students will understand the difference between lifestyle changes and fad diets.

**MATERIALS:** Text books, white board and white board markers

**KEY TERMS:** Dietary Guidelines for Americans, My Plate, Nutrition Facts Label

**BIG IDEAS:**
- Following the Dietary Guidelines for Americans is the best way to get more nutrients without extra calories
- Eating from each food group daily is necessary to get all the nutrients your body needs.
- Knowing how to access valid information about foods is important to my health and wellness.

**ESSENTIAL QUESTIONS:**
- How can a healthy diet help to prevent health problems?
- What would be considered a healthy diet include?
- Why are their Dietary Guidelines for Americans?
- Why is physical activity even considered when discussing nutrition?
- How does weight loss and weight gain require good eating?
- What are healthful ways to lose and gain weight?
Discussion: Body Composition

Body composition is a measure of the amount of body weight due to fat compared to the amount of body weight due to bone and muscle. Someone can be overweight without being obese, depending on their body composition.

Body mass index is an index of weight in relation to height that is used to assess healthy body weight.

HEALTHY WEIGHT MANAGEMENT PLAN

If you are underweight, consult a doctor to make sure your low weight is not due to an illness. You can gain weight by gradually increasing food intake and by exercising to increase muscle mass.

- **Weight management** is a program of sensible eating and exercise habits that will help keep weight at a healthy level.
- The keys to healthy weight management are to eat better, eat less, and exercise more.
- The goal is to lose fat, not muscle.
Types of Diets and Diet Products

<table>
<thead>
<tr>
<th>Diet or product</th>
<th>How it works</th>
<th>Is it dangerous?</th>
</tr>
</thead>
<tbody>
<tr>
<td>Very low carbohydrate</td>
<td>Restricting carbohydrate intake causes fat to be broken down to provide energy.</td>
<td>They are not healthy in the long term because they are low in grains, fruits, and vegetables.</td>
</tr>
<tr>
<td>diets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Liquid formulas</td>
<td>A low-Calorie liquid “meal” is taken in combination with one regular meal per day to lower the number of Calories a person eats.</td>
<td>Consuming only the liquid formula can be dangerous and should not be done without medical supervision.</td>
</tr>
<tr>
<td>Stimulants</td>
<td>They reduce one's appetite and give a feeling of extra energy.</td>
<td>Side effects can range from nervousness, dizziness, and headache to increased blood pressure, heart attacks, and seizures.</td>
</tr>
<tr>
<td>ephedra, caffeine</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fasting</td>
<td>Energy intake is drastically reduced by cutting down on food consumption and, therefore, the number of Calories.</td>
<td>Weight loss is initially rapid as the body uses fat stores for energy. Then, body proteins are broken down to provide the missing energy which will cause loss of muscle mass.</td>
</tr>
<tr>
<td>Diuretics</td>
<td>Increasing the amount of water lost through urination causes weight loss.</td>
<td>Taking diuretic pills can cause dehydration and does nothing to reduce body fat.</td>
</tr>
<tr>
<td>water pills</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Dangerous weight-loss products
Many weight-loss products and programs fail to provide healthy long-term weight management
- Fad diets
- Diet pills
- Surgery

The only safe and reliable way to manage your weight is to balance food intake with exercise.

Calories In = Calories Out
If you lift weights for 1 hour and 30 minutes, you will burn approximately 257 calories.*

Maintaining a Healthy Weight is a Balancing Act
Calories In = Calories Out

How long will you have to houseclean in order to burn the extra 525 calories?*
If you houseclean for 2 hours and 35 minutes, you will burn approximately 525 calories.*

For more information about Maintaining a Healthy Weight visit www.nhlbi.nih.gov
Have students look around the room at the different weight loss myth (any invented story, idea or concept) charts. Ask students if these are healthy or unhealthy ways to lose weight.

• Explain that each student is going to be assigned to one of the charts and will be responsible for finding out if the statement is true or false (pair students if you have more than 9 students). Give 1 myth/fact to each student or pair of students. (Note: All of the statements are false or myths.)
• Explain that they are to write why the myth is false based on the information they read under the fact section of the Weight Loss Myths information sheet.
• Have students find the correct chart and write their answer on the chart paper. Once they have done that, tell them to look around the room and see if there are any similarities to the responses. They should notice that all of the statements are false.
• Ask them if there were any statements they did not know were false. Talk about why each is a weight loss myth.
• Ask the students what is the healthiest way to lose or maintain weight (exercising and eating healthy).

Explain that now students are going to look at why people might choose to use one of the diets presented today versus eating healthy and exercising.

• Ask students to think of all the things that influence us (media, society, friends and family) and which one they think influences them most in what type of diet they follow.
• Ask who they think influences them most around fad diets (society). Ask why they think people choose to follow an influence from society. Repeat back or record their answers on the board. Is it because it’s easier to follow or because of the images that are presented to us?
• Explain that whether they would follow a diet like the ones presented today is something they have a choice about. (For example, they have to make a decision whether they will follow a diet that promises they will lose weight quickly.)
• Give each student a piece of notebook paper and tell them that you would like them to write down everything they’ve eaten in the past 24 hours. After they finish, ask them to write down one thing they could do to eat healthier based on information they’ve learned in this class. When they are finished tell them this information is for them to keep.

Emphasize that the only healthy way to lose or maintain weight is by eating healthy food and being physically active.
Maintaining a Health Weight / Eating Disorders
A. Everyone has an ____________________________ which is a weight that is best for your body.
B. BMI stands for ________________________________
C. BMI is a measurement that allows you to assess your body size, taking your height and weight into account.
D. Being ______________________ is defined as weighing more than what it is appropriate for your gender, height, age, body frame, and growth pattern
E. What are two risks that an overweight person may experience:
F. Being ______________________ is defined as weighing less than what it is appropriate for your gender, height, age, body frame, and growth pattern
G. What are two risks that an underweight person may experience:
a.
b.
H. Explain the energy equation in words you understand:
I. The way you see and feel about your body is called ______________________
J. An extreme and damaging eating behavior that can lead to sickness and even death is called an ______________________
K. Often times, eating disorders are brought on by what?
L. Do eating disorders have a lot to do with hunger or not?
M. Binge eating disorder is defined as ______________________
N. Weighing more than 20 percent higher than what is appropriate for their height, age, and body frame is considered to be ____________
O. What are three characteristics or health risks of binge eating disorder?
   a.
P. An eating disorder characterized by self-starvation leading to extreme weight loss is called _________________

Q. What are three characteristics or health risks of anorexia nervosa?
   a.
   b.
   c.

R. A condition in which a person eats large amounts of food and then secretly purges is called _________________

S. What are three characteristics or health risks of anorexia nervosa?
   a.
   b.
   c.

T. What are three types of treatments for eating disorders?
   a.
   b.
   c.

U. List two people that you can talk to if you or someone you know has an eating disorder or unhealthy thoughts about eating:
   a.
   b.
Weight Loss Myths: How Much Do You Really Know?

Myth: Fad diets work for permanent weight loss.
Fact: Fad diets are not the best ways to lose weight and keep it off. Diets often promise to help you lose a lot of weight quickly, or tell you to cut out certain foods to lose weight. Although you may lose weight at first, you may not get all the nutrients that your body needs. Many people quickly get tired of diets and regain the lost weight. Research suggests that losing ½ to 2 pounds a week by eating better and exercising more is the best way to lose weight and keep it off.

Myth: Skipping meals is a good way to lose weight.
Fact: Your body needs a certain amount of calories and nutrients each day in order to work properly. Most people who skip meals during the day make up for those missing calories by snacking or eating more at the next meal. Studies show that people who skip breakfast tend to be heavier than those who eat a nutritious breakfast. A healthier way to lose weight is to eat many small meals throughout the day that include a variety of nutritious, low-fat and low-calorie foods.

Myth: Eating after 8 p.m. causes weight gain.
Fact: It doesn’t matter what time of day you eat—it’s how much you eat during the whole day and how much exercise you get that make you gain or lose weight. If you want to have a snack before bedtime, make sure that you first think about how many calories you have already eaten that day.

Myth: Certain foods, such as grapefruit, celery or cabbage soup, can burn fat and make you lose weight.
Fact: No foods can burn fat. The best way to lose weight is to cut back on the number of calories you eat and be more physically active.

Myth: Natural or herbal weight-loss products are safe and effective.
Fact: A product that claims to be “natural” or “herbal” is not necessarily safe. These products are not usually tested scientifically to prove that they are safe or that they work. Some herbal and natural products may be unsafe for people with certain medical conditions.

Myth: Eating red meat is bad for your health and will make it harder to lose weight.
Fact: Red meat, pork, chicken and fish contain some saturated fat and cholesterol. But they also have nutrients that are important for good health, such as protein, iron and zinc. Eating lean meat in small amounts can be part of a healthy diet.

Myth: Starches are fattening and should be limited when trying to lose weight.
Fact: Rice, pasta, bread, beans and some vegetables (such as potatoes, squash, turnips, beets and carrots) are rich in complex carbohydrates (also called starch). Carbohydrates are an important source of energy. Foods high in starch can become high in fat and calories when they are made with rich sauces or high-fat toppings.

Avoid high-fat toppings and choose foods high in fiber, such as whole grains, beans and peas.

Myth: High-protein/low-carbohydrate diets are a healthy way to lose weight.
Fact: High-protein/low-carbohydrate diets may cause rapid weight loss, but most of it is water weight and lean muscle mass, not fat. You lose water because your kidneys try to get rid of the excess waste products of protein and fat, called ketones, that your body makes. This can overwork the kidneys and cause dehydration, headaches, nausea, fatigue and dizziness.
Following a reduced-calorie diet that’s well-balanced between carbohydrates, proteins and fats will help you lose weight without hurting your body.

Myth: “Going vegetarian” means you are sure to lose weight and be healthier.
Fact: Vegetarian diets can be healthy because they are often lower in saturated fat and cholesterol and higher in fiber. Choosing a vegetarian diet with a low fat content can be helpful
for weight loss. But vegetarians (like non-vegetarians) can also make poor food choices, such as eating large amounts of junk (nutritionally empty) foods.

Adapted with permission from *HealthSmart High School.*
Lesson 6: Eating Disorders

NATIONAL HEALTH STANDARDS AND ELEMENTS:
Standard 1: Students will comprehend concepts related to health promotion and disease prevention to enhance health.
Standard 2: Students will analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors.
Standard 3: Students will demonstrate the ability to access valid information, products, and services to enhance health.
Standard 4: Students will demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks.
Standard 5: Students will demonstrate the ability to use decision-making skills to enhance health.
Standard 6: Students will demonstrate the ability to use goal-setting skills to enhance health.
Standard 7: Students will demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks.
Standard 8: Students will demonstrate the ability to advocate for personal, family, and community health.

GOALS:
- The students will be able to recognize the importance of proper nutrition and the benefits that it will have on their body.

ENDURING UNDERSTANDINGS:
- There are many short and long term health benefits and risks associated with nutritional choices.

OBJECTIVES:
- Students will identify and define the three types of eating disorders.
- Students will be able to recognize symptoms of each eating disorder.
- Students will explain the influences that media has on body image in dealing with eating disorders.
- Students will create a bookmark that contains resources for eating disorders

MATERIALS:

KEY TERMS:

BIG IDEAS:
- Taking responsibility for one’s health is an essential step towards developing and maintaining a healthy, active lifestyle.

ESSENTIAL QUESTIONS:
- What are the identifying factors of anorexia and bulimia?
JOURNALING:
Journal writing is essential, especially for Writing Across the Curriculum (WAC), and it can be easily incorporated daily by using one of the EQs for a quick pre-assessment, post-assessment or as an exit ticket.

Warm-Up/Writing Across the Curriculum (W.A.C.) Rubric
Complete sentences with grammatically correct language is expected; for example, do not use “cuz” for because or “b4” in place of before.
Complete sentences require a capital letter and an ending punctuation mark.
Each Complete sentence 15 pts.
Student writing is on topic 15 pts.

INSTRUCTIONAL ACTIVITY
Eating disorders are conditions that involve an unhealthy degree of concern about body weight and shape and that may lead to efforts to control weight by unhealthy means.
Body image is how you see and feel about your appearance and your body.
Culture and society affect what we think of as a perfect body.
• Body image is just one factor that can contribute to eating disorders. Other factors include genetics, culture, personality, emotions, and family.
• If you have concerns about food or your appearance that have led to trouble in school, at home, or with your friends, consult a parent, doctor, or other trusted adult.
• If you think a friend has an eating disorder, tell your friend about your concern, and help him or her to face the problem. Contact an adult if necessary.

Common Eating Disorders

<table>
<thead>
<tr>
<th>What is it?</th>
<th>Signs and symptoms</th>
<th>Treatment</th>
</tr>
</thead>
</table>
| Anorexia nervosa       | ➤ intense fear of weight gain  
▲ overexercising      | ➤ medical, psychological, and nutritional therapy to help the person regain health and develop healthy eating behaviors  
▲ family counseling |
|                        | ➤ preferring to eat alone  
▲ preoccupation with Calories  
▲ extreme weight loss  
▲ loss of menstrual periods for at least 3 months  
▲ hair loss on head  
▲ depression and anxiety  
▲ weakness and exhaustion |                                                                 |

| Bulimia nervosa        | ➤ preoccupation with body weight  
▲ bingeing with or without purging  
▲ bloodshot eyes and sore throat  
▲ dental problems  
▲ irregular menstrual periods  
▲ depression and mood swings  
▲ feeling out of control  
▲ at least two bulimic episodes per week for at least 3 months | ➤ therapy to separate eating from emotions and to promote eating in response to hunger and satiety  
▲ nutritional counseling to review nutrient needs and ways to meet them |
FOOD AND DIGESTIVE PROBLEMS

- Heartburn is caused by stomach acid leaking into the esophagus. It feels like a burning in your chest.
- Heartburn is caused by overeating high-fat foods, and by stress and anxiety.
- Avoiding high-fat foods will help prevent heartburn.

Ulcers are open sores in the lining of the stomach or intestines. They can cause pain after eating.
- Ulcers are caused by bacterial infections. Stress and an unhealthy diet can make ulcers worse.
- Ulcers can be treated with antibiotics.
- Flatulence is caused by a buildup of gas produced by bacteria in the large intestine when you eat certain indigestible foods.
- Diarrhea refers to frequent watery stools. Prolonged diarrhea can cause severe and dangerous dehydration.
- Constipation is difficulty in having bowel movements. Constipation can be prevented by exercise, drinking lots of water, and eating a high-fiber diet.

FOOD ALLERGIES

- A food allergy is an abnormal response to a food that is triggered by the body’s immune system.
- True food allergies are relatively rare.
- If you think you may have a food allergy, consult a doctor for diagnosis.
- The best way to prevent an allergic reaction is to avoid foods to which you are allergic.
- People with serious food allergies may need to carry epinephrine injections to prevent fatal reactions.
FOOD INTOLERANCES

• **Food intolerances** are conditions that involve bad reactions to food other than specific reactions of the immune system.

• **Lactose intolerance** is a reduced ability to digest the sugar lactose, found in dairy products.

FOOD BORNE-ILLNESS

• A **food-borne illness** is an illness caused by eating or drinking a food that contains a toxin or disease-causing organism.

• Common symptoms of food-borne illness include nausea, vomiting, and diarrhea.

• Food-borne illnesses are often mistaken for stomach flu.

• Most food-borne illnesses can be treated with rest and lots of fluids.

• If symptoms are severe, you should see a doctor.

• Most food born illnesses can be prevented by proper selection, storage, handling, and cooking of food.
  
  • Replace and wash dishcloths frequently
  
  • Keep your refrigerator at 41° F
  
  • Wash hands, utensils, and surfaces with warm, soapy water between each step
  
  • Cook food to recommended temperatures
Destination: WELLNESS

What's Your Make and Model?

Navigating the Net

Check Under the Hood

Take a Scientific Road Trip

On the Road Trip Of Life

"Filler Up" with Premium Fuel

Outsmart Those Smooth Talkers

Don't Park It! Start Your Engine!
Lesson 7: Wellness

NATIONAL HEALTH STANDARDS AND ELEMENTS:
Standard 1: Students will comprehend concepts related to health promotion and disease prevention to enhance health.
Standard 2: Students will analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors.
Standard 3: Students will demonstrate the ability to access valid information, products, and services to enhance health.
Standard 4: Students will demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks.
Standard 5: Students will demonstrate the ability to use decision-making skills to enhance health.
Standard 6: Students will demonstrate the ability to use goal-setting skills to enhance health.
Standard 7: Students will demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks.
Standard 8: Students will demonstrate the ability to advocate for personal, family, and community health.

GOALS:
- The students will be able to recognize the importance of wellness and the benefits that it will have on their body.

ENDURING UNDERSTANDINGS:
- Personal health care habits prevent disease and enhance overall wellness.

OBJECTIVES:
- Students will understand the seven components of wellness
- Students will be able to list examples and non-examples of wellness.
- Students will identify and understand the barriers to forming a wellness habit.
- Students will understand the interrelationship between the seven components of wellness.
- Students will understand how wellness habits affect life expectancy.

MATERIALS:

KEY TERMS:
Health, wellness, prevention, risk reduction

BIG IDEAS:
- Taking responsibility for one’s health is an essential step towards developing and maintaining a healthy, active lifestyle.

ESSENTIAL QUESTIONS:
- How will wellness habits help me to live along, healthy life?
• What knowledge, skills, and behaviors contribute to a healthy lifestyle and promote optimal wellness?
• What factors influence my health-related behaviors and decisions?
• How do my health-related behaviors reflect my personal choices?

JOURNALING:
Describe what wellness means to you.

INSTRUCTIONAL ACTIVITIES:
Defines and understands the term wellness.

Wellness is a concept that broadens, extends, and reaches beyond the traditional ideas of fitness and health. It is a way of doing – a way of being – that not only adds years to our lives but also improves the quality of our lives. Wellness is:

• the quality of life we enjoy when the physical, psychological, social, and spiritual dimensions of our lives are in balance – when no dimension is being neglected or overemphasized.
• those little favors we have done for ourselves this week multiplied 10,000 times over the next 30, 40, or 50 years. The stretch breaks during the day, eating a healthy breakfast, the five-minute break to watch the sunset, walking or cycling to school/work, and other activities.
• the quality of life we enjoy when we adopt and maintain “wellness-enhancing” behaviors and avoid “wellness-risking” behaviors.

Defines and understands the terms prevention and risk reduction.

Discussion: Wellness is a state of optimal well-being that is oriented toward maximizing an individual’s potential. This is a life-long process of moving towards enhancing your physical, intellectual, emotional, social, spiritual, and environmental well-being.

• Is a process, rather than a goal
• Implies choice, a way of life
• Integrates the body, mind, and spirit
• Requires active, person responsibility for one’s own health
There are six components of wellness: Social, Spiritual, Physical, Emotional, Mental and Environmental.

Give examples of the six components of wellness.

- **The social component of wellness** means having the ability to interact successfully with people and one's personal environment.
  - Social Wellness: It focuses on improving social and communication skills of an individual. To promote social wellness, one must create a positive and lasting first impression, be distinguished, earn respect, speak in public, articulate your thoughts, make others feel important, visit neighbors, and friends, etc.

- **The spiritual component of wellness** provides meaning and direction in life and enables you to grow, learn, and meet new challenges.
  - Spiritual Wellness: It emphasizes spiritual renewal and inner peace. To promote spiritual wellness, a person must be true to himself/herself, build character, virtues, create a life of order and do meditation, perform prayer, faiths, learning, and give respect to religion.

- **The physical component of wellness** involves the ability to carry out daily tasks, develop cardiorespiratory and muscular fitness, maintain adequate nutrition and a healthy body fat level, and avoid abusing alcohol and other drugs or using tobacco products.
  - Physical Wellness: It concentrates on getting into shape, shedding extra pounds, rejuvenate body with healthy eating, restful sleep, vigorous exercise, and a new look. To attain physical wellness, one must jog, swim, play games and sports, spend time daily outdoor breathing fresh air, do yard work, etc.

- **The emotional component of wellness** is the ability to control stress and express emotions appropriately and comfortably.
  - Emotional Wellness: It aims to get more out of every day with laughter and enjoyment, to reduce stress. To promote emotional wellness, a person must avoid overload, watch comedy films, lighten up and learn to laugh, distance oneself from drama and chaos, seek help of therapist (if needed), take anger and stress management activities, etc.

- **The mental component of wellness** is the ability
  - **"The environmental component of wellness** includes the ability to promote health measures that improve the standard of living and quality of life in the community, including laws and agencies that safeguard the physical environment.

Underemphasizing (neglecting) or overemphasizing any one dimension will have a negative impact on the others. Conversely, improvements in one dimension will have a positive influence on the other three dimensions. For example, improvements in one’s level of physical fitness (related to the physical dimension) will almost certainly have a positive effect on the psychological, social, and spiritual dimensions of our lives.
Associated with each dimension are a variety of factors that can cause us to move toward the optimal wellness end of the Illness-Wellness Continuum – or toward the illness end. The Wellness 10 course is designed to enhance students’ knowledge and understanding of these factors, and to improve their ability to manage them in order to move toward, or remain near, the optimal wellness end of the continuum.

**Physical Dimension**

The physical dimension deals with the functional operation of the body. In general, wellness factors related to the physical dimension can be grouped within the following categories:

- **Physical Activity and Fitness**
  - appropriate amounts of, and ease of access to, a variety of physical activity
  - a balanced menu of physical activity that provides opportunities for development and maintenance of each component of physical fitness – cardiovascular endurance, muscular endurance, muscular strength, flexibility, and body composition (healthy body weight).
- **Nutrition**
  - opportunities for a balanced diet
  - wise food choices
- **Medical Self-care**
  - regular self-tests and check-ups
  - proper use of medications
  - taking necessary steps when ill
  - appropriate use of the medical system.
- **Physical Environment**
  - safety in the home (e.g., fire, carbon monoxide, backyard trampolines)
  - sources and prevention of common injuries (e.g., blisters, sprains, sunburns)
  - safety related to the operation of motorized recreational vehicles (e.g., personal water craft, snowmobiles, motorcycles)
  - safety related to the operation of cars, trucks, and other vehicles (e.g., seat belts, designated driver)
  - pedestrian safety (e.g., jaywalking, light coloured clothing, or reflective strips)
  - stereo headsets causing users to be unaware of traffic noise and other sounds that would alert them to possible hazards or dangers
  - safety related to acts of violence (e.g., physical assaults, rape)
  - pollution (e.g., sound, environmental tobacco smoke)
  - use and abuse of alcohol, drugs, and tobacco products.
- **Other**
  - stress prevention and management
  - adequate amounts of sleep.

**Psychological Dimension**
Factors of wellness related to the psychological dimension can be grouped into three categories: mental, emotional, and intellectual. These categories are described below.

The mental category of the psychological dimension includes:

- reacting to difficulties and adversity in an optimistic manner
- viewing difficult situations as challenges and opportunities for growth
- adopting a positive attitude
- accepting our limitations and making the best of a bad situation.

The emotional category of psychological wellness is the “feeling” part and includes:

- handling emotions and controlling, or coping with, personal feelings
- maintaining emotional stability at some mid-range between highs and lows
- laughing and being able to stimulate laughter in others
- being able to express emotions appropriately and comfortably.

The intellectual category includes factors related to “thinking”. These include:

- learning and using information effectively
- continuously acquiring knowledge throughout life
- engaging one’s mind in creative and critical thinking
- keeping abreast of current events
- being curious.

Social Dimension

The social dimension of wellness has to do with “others” – both human and non-human. It extends beyond relationships with people who are close to us – beyond our cultural environment of family, friends, and local community. Our social wellness is also dependent on our relationships and interactions with all that is not human such as plants, animals, and minerals that make up the natural environment.

Wellness in the social dimension of our lives also depends on our relationships and interactions with the buildings, parks, automobiles, and other elements that constitute the built environment. Factors in our cultural, natural, and built environments influence our behaviour, and in turn, our behaviour has an impact on these environments. These factors are described in the following sections.

Wellness Factors in our Cultural Environment

Given the growth of technology and globalization, we could argue that all of humanity on the planet makes up our cultural environment. But in terms of the wellness-related decisions that we make, it is factors in our cultural environment of family, friends, and people in our community that influence us the most. These factors consist mainly of our relationships and interactions with other people. They include:
- relationships with family, friends, and people in our community
- the ability to get along with people from diverse backgrounds who express differing beliefs, values, and perspectives
- the ability to resolve conflicts, to negotiate, and to reach consensus
- feeling “connected” to a person, group, cause, or even a pet
- a sense of belonging to a large social unit
- the ability and willingness to reach out to others and to care for them
- the ability and willingness to invest in meaningful causes beyond ourselves
- traditions – one’s own and those of various cultures
- socio-economic factors (e.g., race, income, education)
- technology
- laws and cultural practices within society.

**Wellness Factors in our Natural Environment**

Factors in our natural environment that can influence our wellness include:

- The weather and climate: Heat, cold, wind, rain, sun, snow, etc. influence the activities in which we do (and do not) participate, the illnesses and injuries we may suffer (i.e., increased incidence of skin cancer in sunny climates), and the moods we may experience (i.e., depression as a result of prolonged periods of rain and overcast skies).
- The geography: Lakes, forests, mountains, and rivers influence the activities in which we participate. Some people enjoy the wide, open spaces of the plains but feel trapped and enclosed in the mountains. Similarly, people who like the mountains and wooded areas may view the prairies as stark and empty.
- Pollution: The quality of the food we eat, of the water we drink, and of the air we breathe is affected by a variety of pollutants (i.e., carbon monoxide in the air due to car exhausts; residues of harmful pesticides in the air, ground, and water supplies). In addition, the earth’s protective ozone layer is being eaten away by human-made chemicals resulting in increasing cases of skin cancer and cataracts, and decreases in human immunities.

**Wellness Factors in our Built Environment**

We, who live in modern societies, spend nearly all of our time amidst the built environment that consists of buildings, streets, roads, vehicles, machines, furniture, and other objects fabricated by humans. Not all of these are fashioned out of inert or dead matter. The built environment includes the pets we keep, the domesticated animals we rear, and the domesticated crops we grow. It is made up of anything that has come into existence entirely to serve human needs and purposes.

There are numerous factors in our built environment that can influence our wellness. Some of these include:

- the extent to which the built environment nourishes our soul
- the design of our cities, towns, buildings, rooms, vehicles, furniture, tools, etc. and the materials out of which they are fabricated
• the resource demands upon the planet that generate massive amounts of waste and pollution.

**Spiritual Dimension**

This is the “depth” dimension of life. It refers to the values, beliefs, and commitments at the core of one’s being. This set of personal guidelines acts as a secure anchor when difficult times arise or when we have to deal with a crisis.

Spiritual wellness does not just “happen”. It requires time and attention. Unless it is nourished and exercised regularly, it will not be there to support us when we need it to counteract cynicism and despair. How do we go about getting in touch with our core and developing into spiritually healthy beings? A first step is to create an atmosphere that invites spiritual development. Time must be set aside to be quiet – for solitude, reflection, and meditation.

A basic precondition for the development of any kind of spirituality is the ability to tolerate, and even enjoy, solitude. The development of the spiritual dimension requires solitary practice – spending time alone. In our culture, however, very few people can tolerate solitude. When they find themselves alone, instead of reflecting, the typical reaction is to turn on the television, make a phone call, or find some other way to escape the solitude. When people experience moments of silence, taking these opportunities to focus attention inward and reflect upon ideas, feelings, and desires may contribute to growth within the spiritual dimension. The development of these abilities requires disciplined habits that are usually developed slowly over a long period of time.

For spiritual growth to occur, opportunities must be provided for students to reflect on their inner lives and to engage in serious dialogue on profound issues. Students need a place to respond in depth to questions such as: To what should I be committed? What gives meaning to my existence? What animates, energizes, and gives direction to my life?

Spiritual well-being means different things to different people. This dimension of wellness might include:

• a belief in some unifying force that gives purpose or meaning to life (i.e., for some people, this unifying force is nature; for others, it is a feeling of connection to other people, or a personal deity or universal life force)
• a sense of belonging to a scheme of existence greater than the merely personal
• a sense of purpose
• a realization that all humanity is somehow interrelated
• an understanding that true happiness involves more than the acquisition of material goods
• a desire to comfort and help others
• the ability to show gratitude and generosity
• a desire to contribute to society
• an attempt to reduce conflict and disorder
• efforts to bring harmony to activities, relationships, and the larger community
• a sense of wonder and awe related to the beauty, power, and mysteries of nature
• a potential, or capacity, to engage in thinking about larger purposes (e.g., social justice, ecological sustainability).

Wellness Wheel

The wellness wheel provides a visual representation of the concept of wellness that demonstrates the need for “balanced” or “well-rounded” lives. To attain and maintain harmony and balance in our lives, we must pay attention to each of the four dimensions of wellness. To neglect or over-emphasize any of the four dimensions will result in an out-of-balance (out-of-round) wellness wheel.

Imagine the wellness wheel as a tire made up of four separate air chambers – each one representing a dimension of wellness. If one or more of these air chambers is either over-inflated or under-inflated, the wheel will be unbalanced and the road of life will be a bumpy one. We roll along through life more smoothly when our lives are “well-rounded” or balanced. These ideas are represented visually through the three following graphics:

Balanced/Round Wellness Wheel

![Balanced/Round Wellness Wheel](image)

This wellness wheel belongs to a person who takes responsibility for achieving balance in his/her life. As a result, this person is rolling along smoothly through life – for whom everything is going “just right”.

Out-of-balance/Out-of-round Wellness Wheel #1

![Out-of-balance/Out-of-round Wellness Wheel #1](image)

This wheel could represent a person who is overly concerned with having fun and socializing (social dimension), and neglects the physical dimension (e.g., has a low level of physical fitness, and/or is overweight, and/or does not have a healthy diet, etc.).
**Out-of-balance/Out-of-round Wellness Wheel #2**

This wellness wheel is that of a person who is obsessed with the physical dimension of wellness. He or she engages in physical activity for so many hours each day that there is no time for attending to elements of wellness in the other dimensions (e.g., meaningful relationships, reading).

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**Aboriginal Medicine Wheel**

The Medicine Wheel is an ancient holistic approach to healing ailments of the mind, body, and spirit that explains illness as springing from an imbalance of being. The Medicine Wheel is a complex network of ideas, symbols, and philosophies depicted within a metaphorical circle. The Wheel is divided into north, south, east, and west doors, each associated with thoughts, feelings, time periods, and sacred elements.

A holistic approach to life where all things are connected is central to the Aboriginal world view. Illness is explained as an imbalance in life and restoring balance and harmony is achieved by examining the elements of one’s life represented by the Medicine Wheel.

Understanding the Medicine Wheel is a challenge because the prevailing worldview of mainstream society, with its emphasis on measuring and quantifying, runs contrary to the holistic and esoteric principles on which the Medicine Wheel is based. In fact, some proponents of Medicine Wheel teaching are cautious about even discussing the Wheel because they are concerned that people will misinterpret the Wheel and start using it without really understanding what they are doing. Communities and individuals seeking healing usually look to respected Elders and facilitators, who have mastered the Medicine Wheel over many years. For more information you may wish to consult The Sacred Tree (1985) by Phil Lane, Jr., Judie Bopp, Michael Bopp, Lee Brown, and elders.
Illness-Wellness Continuum

Wellness is not merely the absence of illness. The Illness-Wellness Continuum illustrates that there are many degrees of wellness, just as there are many degrees of illness. Moving from the centre of the continuum to the left shows a progressively worsening state of health. It depicts a wellness wheel that is becoming less balanced (less round). Moving to the right of the centre of the continuum indicates an increasing level of wellness. It shows a wellness wheel that is becoming more balanced (round).

- Understands differences between wellness behavior (physical activity, healthy diet, adequate sleep) and risk behaviors (sedentary lifestyle, poor nutrition, use of tobacco products).
- Evaluates potential short term and long term consequences of decisions and behaviors that affect personal wellness.
- Create a board game with a minimum of 40 spaces and 24 cards with positive wellness examples of wellness and 12 negative wellness examples.
- Create a personal wellness plan that includes a measurable goal, tools needed to complete and barriers to success.

Strands of Wellness

Of the multitude of factors that exert an influence on one’s well-being, there are some that Wellness 10 students are more likely to be dealing with on a day-to-day basis. These are the factors that will probably have the greatest impact on students’ ability to attain and maintain optimal wellness.

These particularly influential wellness factors have been called strands because they are woven into (i.e., weave their way through) the physical, psychological, social, and spiritual dimensions of our lives. The following five strands are emphasized in Wellness 10:
Some strands are manifested more strongly (i.e., are more evident, more dominant) in one dimension than in others. Physical Activity and Fitness, for example, is most strongly manifested in (woven into) the physical dimension but it is also manifested in and through the other dimensions of wellness.

Individual fibers are not as strong as when they are woven together into a rope or tapestry. Similarly, when the strands of wellness are woven together, they combine forces and work together. The woven strands can exert a more powerful influence than when operating on their own. The Physical Activity and Fitness strand combined with the Stress Management strand is likely to be more effective in moving students toward the optimal wellness end of the Illness-Wellness Continuum than when each strand works independently. Physical Activity and Fitness, and Stress Management will be even more powerful when combined with Healthy Eating. The increased effectiveness is not only the result of combining the strands but also of the synergistic effect that is created. Wellness 10 is designed to enable students to see these connections and use them to attain and maintain optimal wellness.

**Six Dimensions of Wellness**

**INTELLECTUAL**
Do you feel creatively and mentally challenged? Are you continually seeking to expand your knowledge and skills? An intellectually well person uses available resources to expand knowledge, improve skills, and to increase the potential for sharing with others.

**SPIRITUAL**
Do you have an appreciation for the meaning of life and the expansiveness of life? Are you at peace with your place in the universe? Do you have a set of beliefs and values that give purpose to your life? Spiritual wellness involves developing a strong sense of personal values and ethics.

**PHYSICAL**
Do you get enough exercise? Eat a balanced diet? Do you practice safe driving and medical self-care? Do you avoid the use of tobacco, drugs, and excessive alcohol consumption? If you take good care of your body, it will repay you with years of good service.

**OCCUPATIONAL**
Do you find your work satisfying? Do you have a balance between your work and leisure time? Do you enjoy new responsibilities and look forward to achieving better results? Your attitudes about your work can greatly affect your job performance and interactions with coworkers. Striving toward occupational wellness will help to give you personal satisfaction and allow you to find enrichment in our life through work.

**SOCIAL**
How satisfying are your relationships with your spouse, your family, your friends, and associates? Are you active in community affairs? Do you contribute to protecting the environment by conserving and recycling? Social wellness is based on your ability to interact harmoniously with people and the Earth.

**EMOTIONAL**
Are you able to recognize and accept your feelings, your strength, and your limitations? Can you manage your emotions and cope with stressful events? Achieving emotional wellness allows you to experience life’s ups and downs with enthusiasm and grace and maintain satisfying relationships with others.
## Wellness

**How do you rate?** Read each statement below and respond by putting a ✓ in the column. Afterwards, answer the questions in the spaces provided.

<table>
<thead>
<tr>
<th>I get between seven and eight hours of sleep each night</th>
<th>YES</th>
<th>SOMETIMES</th>
<th>NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>I eat at least three nutritionally balanced meals each day, beginning with breakfast</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I maintain a weight that is right for someone my height and frame</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I do at least 20 to 30 minutes of aerobic physical activity three to four times a week</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I wear a seat belt in cars, and protective gear on other vehicles (snowmobile, bike, four-wheeler)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I avoid harmful substances such as tobacco, alcohol, or other drugs</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I ask for help when I need it</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**YES**

- I do this regularly

**SOMETIMES**

- 

**NO**

- 

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<table>
<thead>
<tr>
<th>I generally accept myself for who I am</th>
<th>5 points</th>
<th>3 points</th>
<th>0 points</th>
</tr>
</thead>
<tbody>
<tr>
<td>I get along well with others</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>I can express my emotions in positive ways</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

If you scored 30 to 50 points answer these questions:

1. The part of my wellness that is most important to me is… because…

______________________________________________________________________________
______________________________________________________________________________

2. The next most important part of my wellness is… because…

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

If you scored 0 to 29 points answer these questions:

1. The things I most need to change about my wellness are:

______________________________________________________________________________
______________________________________________________________________________
______________________________________________________________________________

2. In order to bring about these changes I could do the following:
If you scored 0 to 29 points answer these questions:

1. The things I most need to change about my wellness are:

______________________________________________________________________________
______________________________________________________________________________

2. In order to bring about these changes I could do the following:

______________________________________________________________________________

RESOURCES:


_Food Guide Pyramid Posters and Tear Pads_ are available from the National Cattlemen’s Beef Association: www.teachfree.com or www.beef.org or www.beefnutrition.org.

_Food Guide Pyramid – Activity Pyramid – 10 Tips to Healthy Eating and Physical Activity for You Poster_ available from USDA and USDHHS.

_Activity Pyramid Posters_ from Park Nicollet Health Source, can be ordered at www.healthsource.org or 1-800-372-7776.


5-A-Day Posters are available from www.shop5aday.com or 1-888-391-2100.

Name: _____________________________________

**Nutrition Label Assignment**

Directions: Pick one of your favorite foods, find the nutrition facts label, and answer the following questions. Once you have completed the questions, carefully cut the label out and attach it to this page.

1. What is your product name?

2. In what section(s) of the food guide pyramid is your product found?
3. What is the net weight of your product? (This is the total for the entire product. Be sure to label with units of measurement!)

4. Who manufactured, packed, or distributed the food? Where is the company located?

5. What ingredients are in the food? (List from LARGEST to SMALLEST amount by weight.)

6. What is the serving size?

7. How many servings are in the ENTIRE PACKAGE?

8. How many calories are in EACH SERVING?

9. How many calories are in the ENTIRE PACKAGE? (Total # of servings multiplied by the # of calories in each serving)


   Fat:                                   Saturated Fat:
   Cholesterol:                           Sodium:
   Total carbohydrate:                   Dietary fiber:
   Sugars:                                Protein:

   ***ATTACH THE NUTRITION LABEL BELOW.***
How Well Do You Eat?

How well do you eat? On another piece of paper, answer these questions to find out. Your answers to the Life Choice Inventory are personal and private. Share them with others only if you are comfortable doing so.

**PART 1** Do you eat nutritious foods from all of these categories? Answer yes or no. For each yes answer, give yourself 2 points. Total possible points = 10. For serving sizes, see Figure 7-1, presented earlier.

1. I have 2 or more cups of milk or 2 servings of milk products every day. Score __________
2. I have 2 or more servings of meat or meat alternates every day. Score __________
3. On some days I eat dried peas or beans instead of meat. Score __________
4. I generally have at least 6 servings of grain products (breads, cereals, rice, and the like) each day. Score __________
5. I have at least 2 servings of fruits and 3 servings of vegetables every day (total of at least 5). Score __________

Total for Part 1

**PART 2** Do you maintain appropriate weight? If yes, give yourself 20 points, skip Part 3, and go on to Part 4. If no, take no points, and complete Part 3 below.

6. I eat just enough food to stay within 5 to 10 pounds of the weight considered appropriate for my height (see Chapter 8).

**PART 3** Do you choose a diet low in fat, saturated fat, and cholesterol? For each yes answer, give yourself 1 point. Total possible points = 10.

7. My milk and milk-product choices are mostly nonfat or low in fat (nonfat or low-fat milk rather than whole milk); and I eat ice cream or ice milk two or three times a week or less.

8. I seldom have more than about 3 teaspoons of margarine or butter per day.

9. My meat, fish, poultry, or egg choices usually amount to 2 servings a day or fewer.

10. In choosing meats, I eat chicken and fish more often than beef, ham, lamb, or pork.

11. I remove fat or ask that fat be trimmed from meat before eating. I avoid meats with fat ground in, such as sausages.

12. In choosing meat, I usually choose broiled, boiled, baked, or roasted; I usually don't choose fried.

13. On some days I eat dried peas or beans instead of meat. (This is the same as Question 3—it counts under both Part 1 and Part 3.)

14. In choosing or preparing vegetables, I use little or no fat.

15. The grain products I use have little or no fat added.

16. In buying foods, I read labels for fat content and choose mostly foods with less than 3 grams fat per 100 calories.

Total for Part 3
Do you get plenty of starch and fiber daily? For each yes answer, give yourself 2 points. Total possible points = 10.

17. When I am hungry, I choose starchy foods such as popcorn, cereals, pasta, potatoes, and breads rather than fatty foods such as fried snacks or chips.

18. The grain products I use are mostly whole grains (whole-wheat bread, whole-grain cereals, brown rice, and the like).

19. I eat abundant fruits and vegetables (this resembles Question 5 above; you get added points for these as high-fiber foods).

20. I eat salads or raw vegetables (such as carrots and celery) at least every other day.

21. I eat dried beans or peas at least once a week (again, you receive credit for these as high-fiber foods).

Total for Part 4

Do you eat reasonable quantities of sugar, honey, and other concentrated sweets? For each yes answer, give yourself 2 points. Total possible points = 6.

22. If I eat sweets (candy bars and the like), it is in addition to, not in place of, the nutritious foods I need, and only within the limits my weight allows.

23. If I drink cola beverages, it is in addition to, not in place of, the milk and fruit products I need, and only within the limits my weight and caffeine tolerance allow.

24. I don’t let sweets and sugary drinks harm my dental health; I rinse or brush my teeth after eating and drinking them.

Total for Part 5

Do you use salt wisely? For each yes answer, give yourself 2 points. Total possible points = 4.

25. I generally choose foods salted lightly or not salted at all.

26. I add little or no salt to food after preparation.

Total for Part 6

SCORING

50  Incredible
40-49  Excellent
30-39  Your diet has room for improvement
20-29  Not so good. Work on your weakest areas.
Below 20  Poor. Make major efforts to improve.

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