Your Road to Health

Lesson Plan for Teachers
2/10/15

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http://prezi.com/hgfkbrxymho0/?utm_campaign=share&utm_medium=copy&rc=ex0share
Your Road to Health

**TOPIC:** Nutrition/Physical Activity/Health

**GRADE LEVELS:** 6, 7, or 8

**GOAL:** To motivate, teach, and help students to develop the necessary skills to make healthful food choices and adopt a physically active lifestyle.

**OBJECTIVES:**

As a result of these lessons, students should be able to:

1. Understand the concept of food serving as “fuel” for their bodies.
2. Identify some benefits of achieving the goal of a “high-performance body” (energy, strength, healthy appearance/weight, well-being, improved focus and concentration, reduced risk for chronic diseases).
3. Recognize that nutrients include carbohydrates, fat, protein, fiber, vitamins, minerals, and water.
4. Distinguish between the types of carbohydrates (simple vs. complex), and the types of fat (saturated vs. unsaturated vs. trans).
5. Distinguish between whole grains and refined grains.
6. Identify the USDA “Choose My Plate” symbol and the recommended relative proportions of foods from five food groups (fruits, vegetables, grains, protein, and dairy).
7. Recognize the potential for deceptive marketing tactics on the front side of packaged food products.
8. Describe and apply 5 tips to make healthful food choices based on the Nutrition Facts labels and ingredient lists of packaged food products.
9. Understand the difference between “serving size” and “servings per container” on nutrition labels.
10. Comprehend the concepts of Calorie intake and Calorie expenditure.
11. Define the term “empty Calorie” foods.
12. Distinguish between naturally-occurring and added sugars.
13. Recognize alternative names for sugars on ingredient lists of packaged food products.
14. Convert the grams of sugar listed on Nutrition Facts labels to teaspoons of sugar.
15. Understand that individual people need different levels of Calorie intake to maintain a healthy weight, based on gender, age, and physical activity level.
16. Recognize that portion sizes of foods have increased during the last few decades, and understand how this has contributed to increased caloric intake for the average person.
17. Apply a set of tips to select more healthful food options in fast food restaurants.
18. Describe the side effects of consuming too much caffeine.
19. Understand the importance of adopting an active lifestyle.
20. Create an “action plan” to incorporate nutrition and physical activity into their lives.
HEALTH EDUCATION STANDARDS AND PERFORMANCE INDICATORS

Below are health education standards and performance indicators set at the national and state (Connecticut) levels for which the Your Road to Health program are most applicable.

1. **National Health Education Standards (NHES)**
   

   Standard 1: Comprehend concepts related to health promotion and disease prevention to enhance health
   - 1.8.1 Analyze the relationship between healthy behaviors and personal health

   Standard 5: Demonstrate the ability to use decision-making skills to enhance health
   - 5.8.4 Distinguish between healthy and unhealthy alternatives to health-related issues or problems
   - 5.8.6 Choose healthy alternatives over unhealthy alternatives when making a decision

   Standard 6: 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

   Standard 7: Demonstrate the ability to practice health-enhancing behaviors and avoid or reduce health risks
   - 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

2. **Connecticut State Department of Education Standards**


   Standard 1: Comprehend concepts related to health promotion and disease prevention
   - M.1.5 Analyze ways in which the environment and personal health are interrelated
   - M.1.6 Use appropriate strategies to prevent/reduce risks and promote well-being

   Standard 6: Demonstrate the ability to use decision-making skills to enhance health.
   - M.6.1 Use a decision-making process to enhance health

   Standard 7: Use the goal-setting process to enhance health
   - M.7.1 Use the goal-setting process to enhance health.

   Standard 12: Achieve and maintain a health enhancing level of physical fitness
   - M.12.4 Plan a wellness program demonstrating an understanding of basic exercise (e.g., frequency, intensity, duration) and nutritional principles designed to meet personal wellness goals
**LESSON OVERVIEW**

*Your Road to Health* has 4 main sections. You can use the table below as a planning tool, combined with a review of the Prezi presentation, embedded videos, and hands-on activities, to determine how many class sessions you want to devote to teaching each section of the program.

**NOTE:** *Red stop signs appear in the Prezi at the end of each section of the presentation. These can be used as good “stopping points” to incorporate any of the recommended hands-on activities in class.*

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PROGRAM MATERIALS AND SUPPLEMENTAL RESOURCES

“Your Road to Health” Prezi Presentation

- **To present this program, you will need the following:** access to a computer, LCD projector, and screen, along with access to the Prezi presentation, either through a direct link to the internet URL or on CD (see below for details). Since Prezi is a cloud-based presentation software, you will need access to the internet - for the Prezi itself and for the 3 embedded videos - to present it in your classroom, regardless of whether you access the Prezi via the direct internet link or via the CD.

- **This program is in a Prezi format.** If you are not familiar with a Prezi, think of it as sort of a nonlinear version of a PowerPoint presentation, that allows the presenter to: (1) show a “big picture” of how key concepts fit together; (2) zoom in and out of the concepts presented and related content; and (3) embed links to supplemental materials from the internet or other sources.

- **A direct link to the Prezi presentation is available at the following URL,** which we recommend that you save as a “favorite” on your internet browser:
  
  http://prezi.com/hgfkbrxymho0/?utm_campaign=share&utm_medium=copy&rc=ex0share

- **If you are new to Prezi, and need information on how to present this type of program,** please go to https://prezi.com/support/article/presenting/ for more information.

- **NOTE:** We recommend that you preview this Prezi in the setting in which you intend to present it. Depending on the location in which you are presenting the Prezi, there is a chance that access to the Prezi itself, and/or some of the embedded items (such as YouTube videos), may be blocked by your website administrator, depending on its policies. If this occurs, you may need to ask the website administrator to unblock the access to these URLs.

- **ZOOMING TIP:** *Your Road to Health* has been pre-programmed to automatically zoom in and out of part or all of many of the slides as you hit the forward arrow keys. However, there are certain slides for which you need to manually zoom in by clicking on a section of the slide that you want to highlight.
Optional Videos
These 3 videos are already embedded into the Prezi, so that you simply need to click on the arrow icon to start them (as long as the link to each video’s URL is working properly; see note above).

NOTE: Since these videos are linked to their source on YouTube, you will need to click on the “X” to remove the ads at the bottom of the video.

TIP: After watching the video, please be sure to simply hit the “forward” key to move on the next Prezi slide, rather than inadvertently clicking on the “X” in the upper right corner of the screen, which will close out the entire Prezi, and require you to re-start it to resume where you left off on the presentation!!

- **Sugar in Foods**
  Source: BuzzFeed (posted on YouTube at [https://www.youtube.com/watch?v=hWzeSbCwwjU](https://www.youtube.com/watch?v=hWzeSbCwwjU))
  Length: About 1 minute
  Description: This video provides a visual representation of the amount of sugar found in various foods and beverages.

- **Major Food Label Makeover**
  Source: ABC News (posted on YouTube at [https://www.youtube.com/watch?v=wZ2QcMsKn6M](https://www.youtube.com/watch?v=wZ2QcMsKn6M))
  Length: About 2 minutes
  Description: This news blurb discusses and shows proposed upcoming changes to the Nutrition Facts labels (if approved by the U.S. government) to have serving sizes more realistically reflect the amounts that people actually consume. There is a brief mention of the concept of empty Calories as well.

- **Physical Activity Break**
  Source: Brain Gym/Brad Weber (YouTube, [https://www.youtube.com/watch?v=wrgp9cpYyLo](https://www.youtube.com/watch?v=wrgp9cpYyLo))
  Length: About 4½ minutes
  Description: Brad Weber leads a set of 4 students though a set of routines to get their bodies moving.

Hands-on Activities
Red stop signs appear in the Prezi at the end of each section of the presentation. These can be used as good “stopping points” to incorporate any of the recommended hands-on activities that corresponding to each section, so students can practice what they learn. The activities can be completed in class or as homework. You can decide to use as many activities that you feel are appropriate for your students, along with any other activities of your own.

*For the purpose of administering the pre/post test, it is advisable to include these activities as a means of reinforcing the content provided in the Prezi presentation.*

**Stop sign #1: End of Step 1 (Know Why You Should Choose High Quality Fuel)**

Optional Activity: “Create a MyPlate Meal”
Using the handout provided, have students create a healthful meal based on the MyPlate Guidelines. After using a “ChooseMyPlate” graphic provided as a guideline, and writing in the names of their own food and beverage selections in the appropriate sections of the blank graphic, they should then explain why they made these food and beverage choices in the space provided below the graphic. Next, have several students volunteer to share their responses as a way to emphasize the variety of creative ideas they may have for their meals, and to make sure that students have understood the lesson.
Stop Sign #2: End of Step 2 (Learn How to Make Healthier Food Choices)

Optional Activity: “5 Tips to Choose Healthful Foods”
This activity can be conducted either as a homework assignment with food packages found in the student’s kitchen, or in class with food packages that the students or teacher bring in from home. NOTE: PDF documents with color photos of examples of beverages, cereals, cookies, crackers, and snack bars are available on request from the Yale-Griffin Prevention Research Center.

- **Instructions to use this as an “in-class” activity option:**
  - Divide the class into teams of 2-3 (or 3-4) students, depending on the class size and the number of available food packages. Give each team a variety of food packages representing products in a given category (examples are cereals, snack bars, crackers, chips, and cookies).
  - Briefly review the “5 Tips” that they learned in the presentation. Tell them that their goal to apply these 5 Tips to determine which items in their assigned category are “Take It” choices (that meet the criteria of all 5 Tips) and which are “Leave It” choices (that don’t follow one or more of the Tips). They should also look for any possibly deceitful wording on the front of the packages that appears to contradict the Nutrition Facts label and ingredient list. Give them roughly 1 minute for each item. While the teams work on their assigned task, visit each team to offer comments, guidance, and encouragement.
  - When they have finished, have each team designate 1 or 2 delegates to report their findings to the class. As they do this, make any necessary corrections and recognize each team for its success, while working to maintain the attention of the other teams.
  - Provide a quick summary of what the teams have learned. If time allows, remind them that “Take It” foods tend to be wholesome and closer to nature, while “Leave It” foods tend to be highly processed, with ingredients that are unhealthful or present in excess amounts, or are grain products that contain < 2g of fiber per serving.

Stop Sign #3: End of Step 3 (Apply Your Knowledge)

Optional Activity: “Empty Calories”
Students will examine the 4 sets of product pictures and Nutrition Facts labels shown on the handout. Below each set of pictures/labels, they will indicate whether each product shown represents an “empty Calorie” food or beverage. They should use critical thinking strategies and their understanding of the concept of empty Calories to guide their decision. They should then explain each response.

Optional Activity: “Track a Day”
This can be given as a homework assignment, or students can be asked to sit in class and recall what they consumed on the day prior to (or the day of) this activity. For an entire day, students should write all of the foods and beverages they consumed for each meal and snack. Then using an online resource such as the USDA’s FoodTracker database [https://www.supertracker.usda.gov/foodtracker.aspx](https://www.supertracker.usda.gov/foodtracker.aspx), they should record the amount of Calories, fat, sugar, sodium, and dietary fiber. They should then add up the totals for each meal and then the totals for the entire day. The last section of the activity asks students to reflect on their choices for the day, compare them to the daily recommendations provided for Calories, fat, sodium, and dietary fiber, and consider how they can make improvements. **NOTE:** If you need more information about how to use the FoodTracker database, please refer to Chapter 3 of the SuperTracker User Guide, available at [https://www.supertracker.usda.gov/userguide.aspx](https://www.supertracker.usda.gov/userguide.aspx).
Optional Activity: “Fast Food Feast”

- Students will use Part 1 of this activity to think about their favorite fast food meal. After writing down the name of the restaurant, they will complete the first 2 columns of the table.

- For column 1 (“name of food or beverage”), they should write down each item that they would typically order on a separate line, including the beverage. Example: McDonald’s McChicken Sandwich, small French fries, and a large sweetened iced tea will go on separate lines.

- For column 2, they should enter the amount of each food or beverage that they typically consume.

- For the remaining columns on the table, students will then use the USDA FoodTracker website (https://www.supertracker.usda.gov/foodtracker.aspx) or other online resource (such as nutrition information posted at fast food restaurants’ own websites) to complete the remaining columns in the table. If this is not feasible for individual students to complete this activity in the classroom setting, they could either complete this activity as a homework assignment, or during class as a group activity, using one computer and a few of the students’ food choices.

- After learning about how to make more healthful food choices, students will now complete Part 2, this time making changes to their original choices from Part 1. After this is done, they should then describe why they consider these choices to be more healthful alternatives to their typical choices.

Stop Sign #4: End of Step 4 (Get Moving)

Optional Activity: “A Day in the Life of a Healthy You”

This activity will help the students apply the information they have learned from Your Road to Health. Students will answer questions that simulate a “day in the life” of a student who makes healthy and balanced lifestyle decisions. For each of 5 hypothetical situations provided, they should select the option that they would most likely choose, and then explain their rationale for each choice.

Stop Sign #5: Summary (Reaching Your Destination/Destination Ahead)

Optional Activity: “SMART Goals”

Using what they’ve learned about setting SMART goals, students will create two goals of their own (one for healthy eating, and one for physical activity), and list steps they will take to reach that goal.

Supplemental Materials

Choose My Plate (U.S. Department of Agriculture)
http://www.choosemyplate.gov/
USDA’s My Plate has replaced the Pyramid as a nutrition education tool. Different materials on the website are appropriate for students of different ages and for parents.

My Plate Supertracker (U.S. Department of Agriculture)
http://www.choosemyplate.gov/supertracker-tools/supertracker.html
This online tool can help students plan, analyze, and track their diet and physical activity. They can look up foods to see or compare their nutritional value, find recommendations for what and how much to eat, compare their food choices to these recommendations and to their nutrient needs, and assess personal physical activities and identify ways to improve.
GLOSSARY OF KEY TERMS

- **Aerobic Activity:** Activity in which the body’s large muscles move in a rhythmic manner for a sustained period of time. Examples include walking, running, swimming, and bicycling.

- **Calorie:** A term used in two different ways to represent units of energy:
  
  (1) “calorie” with a lower-case C is the amount of energy needed to raise the temperature of 1 gram of water by 1 degree Celsius, and is usually used in a scientific context.

  (2) “Calorie” with a capital C is the amount of energy needed to raise the temperature of 1 kilogram of water by 1 degree Celsius, and is equal to 1000 small calories. The term “Calorie” is commonly used when discussing nutrition, but technically refers to kilocalories.

  Our bodies have a constant demand for energy, and use the Calories from food as fuel to provide this energy. The main energy sources are protein, carbohydrates, and fat. Proteins and carbohydrates each provide about 4 Calories per gram, and fat provides about 9 Calories a gram. Alcohol also is a source of energy, providing about 7 Calories a gram.

  The Calories that we consume are either used by our bodies for energy, or stored within our bodies as fat. Each day, our bodies use a small amount of Calories for basic body functions, and other Calories to fuel the activities that we perform. It converts any unburned Calories to fat to store as an energy reserve to draw upon as needed.

  Weight management is a balancing act between Calories consumed vs. Calories burned off through physical activity. If we consume more Calories than we burn, we gain weight. Because 3,500 Calories roughly equals about 1 pound of fat, someone would need to burn 3,500 Calories more than he/she takes in to lose 1 pound of body fat. So cutting 500 Calories each day from that person’s typical diet would lead to a weight loss of 1 pound per week (500 Calories x 7 days = 3,500 Calories).

- **Carbohydrates:** All carbohydrates are made from units of sugar.
  
  o **Simple sugars** are made of 1 or 2 units of sugar. They are quickly digested, leading to a fast increase in blood sugar. Those made of 1 unit are monosaccharides (e.g., glucose, fructose, and galactose). Those made of 2 units are disaccharides. Examples are: sucrose (table sugar, made from glucose + fructose), and lactose (milk sugar, made from glucose + galactose). See “High Fructose Corn Syrup” and “Sugars”.

  o **Complex carbohydrates** are made from several units of sugar linked together. They are found in starchy vegetables (e.g., corn, potatoes, peas), breads, cereals, rice, and grains. There are two forms of complex carbohydrates: starch and fiber. Starch is broken down into simple sugars during digestion, causing it to be processed more slowly by the body. Fiber is made of sugars that are linked together in a way that makes it difficult for the body to digest. See “Dietary Fiber.”

- **Diabetes:** A disorder of metabolism - the way the body uses digested food for growth and energy. In diabetes, the pancreas either produces little or no insulin (a hormone that helps glucose, the body’s main source of fuel, to get into cells), or the cells fail to respond appropriately to insulin.
  
  o **Type 1 diabetes** is a chronic condition in which the pancreas produces little or no insulin. It usually appears during childhood or adolescence, but can also start in adulthood. In most people
with Type 1 diabetes, their immune system (which normally fights harmful bacteria and viruses) mistakenly destroys islet cells in the pancreas that make insulin. Although the specific cause is unknown, possible factors that may play a role include genes or a family history that may increase the risk, and environmental factors such as exposure to certain viruses.

- **Type 2 diabetes** is a chronic condition in which the islet cells in the pancreas still function, but either the body becomes resistant to insulin, or the islet cells don’t make enough insulin. Factors that increase the risk include excess weight, extra fat stored in the abdomen, and physical inactivity. This type of diabetes has traditionally been more common in adults, but has been increasingly found in children as well as the rates of childhood obesity have increased.

- **Symptoms of both types of diabetes** include increased thirst, frequent urination, increased hunger, unintended weight loss, blurred vision, fatigue, and irritability or other mood changes. Type 1 diabetes signs and symptoms can develop over a short period of time. Type 2 diabetes symptoms often develop slowly; some people can have the disease for years without knowing it.

- **Possible complications of diabetes** include damage to many major organs, including the heart, blood vessels, nerves, eyes and kidneys. Some of these complications can eventually become life-threatening. Controlling blood glucose levels can help delay or prevent these complications.

- **Diabetes treatment** depends on which type of diabetes a person has. Regardless of which type, the goal is to keep blood sugar levels as close to normal.
  - **Type 1 diabetes** treatment includes taking insulin, counting the daily carbohydrate intake from foods and beverages (since carbohydrates are broken down into glucose), monitoring blood glucose, eating healthful foods, exercising regularly, and maintaining a healthy weight.
  - **Type 2 diabetes** can often be managed through healthy eating, regular exercise, and monitoring blood glucose levels. If diet and exercise aren’t enough to manage blood glucose levels, diabetes medications or insulin may also be required.

- For more information on diabetes, refer to [http://www.mayoclinic.org/diseases-conditions/](http://www.mayoclinic.org/diseases-conditions/) and click on the letter “T” to access detailed information on type 1 and type 2 diabetes.

- **Dietary Fiber**: The part of plant foods that humans cannot digest. It is found in fruits, vegetables, legumes (lentils, split peas, and dried beans), whole grains, nuts, and seeds. Dietary fiber can help prevent constipation, help control blood sugar, and is thought to reduce the risk of heart disease. There are two kinds of dietary fiber: soluble (which partly dissolves in water) and insoluble (which cannot dissolve in water). See “Carbohydrates” and “Grains.”

- **Empty Calories**: Calories from solid fat (trans and saturated fat) and added sugars that do not have any other added nutrients. For some foods and beverages, such as most candies and sodas, _all of the Calories are empty Calories_. For example, soda is made from water, added sugar(s), and other additives, and provides Calories but no vitamins or minerals. For other foods and beverages, _some of the Calories are empty Calories_. For example, ground beef provides protein and other nutrients, but also a certain amount of solid fat, and the proportion of Calories coming from the solid fat would count as “empty Calories.” French fries include some nutrients (such as vitamin C) from the potatoes from which the fries are made, but also are often made with hydrogenated oils, which would count as “empty Calories.” However, for the purpose of this program, we have simplified the concept to explain it to students and only show examples of foods in which all of the Calories are empty Calories.
• **Grains:** Plant foods such as wheat, barley, rice, corn, millet, oats, rye, or maize.
  
  o **Whole Grains** are grains in their natural form, which have not been processed. They are a rich source of dietary fiber, vitamins, and minerals. Examples are brown rice, oatmeal, and whole wheat flour.
  
  o **Refined Grains** have been processed to give them a fine texture and longer shelf life. Examples are white rice and white flour. Refined grains have been stripped of much of their dietary fiber, iron, and B vitamins. Although the manufacturers often add back some B vitamins and iron that were lost when processed, they don’t add back any fiber.

• **Heart Disease:** A range of conditions that affect the heart, including blood vessel diseases, such as coronary artery disease; heart rhythm problems (arrhythmias); and heart defects that someone is born with (congenital heart defects), among others. The term "heart disease" is often used interchangeably with the term "cardiovascular disease." Cardiovascular disease generally refers to conditions that involve narrowed or blocked blood vessels that can lead to a heart attack, chest pain (angina) or stroke. Other heart conditions, such as those that affect the heart's muscle, valves or rhythm, also are considered forms of heart disease.

• **High Fructose Corn Syrup (HFCS):** A form of added sugar made by processing corn syrup to convert its glucose (a sugar) into fructose (another sugar). Because it is inexpensive and extends the shelf life of foods, it is found in many processed foods and beverages, some of which tend to be high in Calories and low in nutritional value. See “Carbohydrates” and “Sugars: Naturally Occurring vs. Added.”

• **Hydrogenation:** The conversion of liquid vegetable oils into solid or semi-solid fat ("trans" fat), such as those present in non-liquid forms of margarine, in baked goods such as donuts and pies, in deep-fried foods such as French fries and fried chicken, and in many snack foods. The purpose of hydrogenation is to increase the shelf life of certain commercially prepared food products, and provide a desirable texture to baked goods due to the way the fat mixes with flour. See “Partially Hydrogenated Oil”.

• **Ingredients:** Items such as foods, spices, other flavors, colors, sweeteners, nutrients, or preservatives that are used to make a food product.

• **Ingredient List:** Found on packaged food products produced in the U.S. By law, the ingredient that weighs the most is listed first, and the one that weighs the least is listed last.

• **Nutrition Facts:** A standard label found on packaged food products produced in the U.S. It contains product-specific information (e.g., serving size, Calories, and nutrient content). For more information, refer to “How to Understand and Use the Nutrition Facts Label”, available at the U.S. FDA website [http://www.fda.gov/Food/IngredientsPackagingLabeling/LabelingNutrition/ucm274593.htm](http://www.fda.gov/Food/IngredientsPackagingLabeling/LabelingNutrition/ucm274593.htm)

• **Partially Hydrogenated Oil** is another name for “trans” fat. It has been artificially “transformed” from liquid oil to make it more solid. Because it is inexpensive to produce and has a longer shelf life than liquid oils, it is used by many companies to make processed food products such as French fries, donuts, cookies, crackers, pie crusts, pastries, stick margarine, and shortening. “Trans” fat can increase the risk of developing heart disease and stroke, because it acts like saturated fat in the body and can clog blood vessels. See “Hydrogenation” and “Solid Fat.”
• **Solid Fat:** Fat that is solid at room temperature, such as the fat in beef, butter, and shortening. Solid fat mainly comes from animal products (in the form of saturated fat), but can also be made from vegetable oils through a process called hydrogenation. See “Hydrogenation” and “Partially Hydrogenated Oil.”

• **Sugars: Naturally Occurring vs. Added**
  o Naturally occurring sugars are found naturally in foods such as fruit (fructose) and milk (lactose).
  o Added sugars are sweeteners added to foods or beverages as they are being processed by a manufacturer (such as adding syrup to canned fruit), or prepared at home or in a restaurant (such as stirring sugar into coffee). The sugars being added to these foods and beverages might either be from natural sources (such as brown sugar or honey) or chemically manufactured sources such as high fructose corn syrup.
  o As currently designed, Nutrition Facts labels do not distinguish between naturally occurring vs. added sugars. Rather, the line listing “sugars” indicates the total amount of sugars in a product. However, although it is not possible to directly quantify the amount of added sugars, it is possible to check the ingredient list for the presence of any added sugars.
  o See “Carbohydrates” and “High Fructose Corn Syrup.”

• **Trans Fat:** See “Hydrogenation,” “Partially Hydrogenated Oil,” and “Solid Fat.”