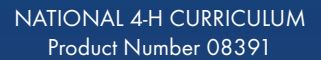


# to a **Healthy Teen**

# FACILITATOR'S GUIDE



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# TABLE OF CONTENTS

TOC



<b>Overview</b>	<b>STEPS to a Healthy Teen curriculum</b> .....	<b>2</b>
<b>Activity 1.</b>	<b>On the Right Track!</b> .....	<b>3</b>
<b>Activity 2.</b>	<b>Getting a Handle on Nutrition</b> .....	<b>9</b>
<b>Activity 3.</b>	<b>The Balancing Act</b> .....	<b>23</b>
<b>Activity 4.</b>	<b>Label Lingo</b> .....	<b>29</b>
<b>Activity 5.</b>	<b>The Importance of Hydration: Avoiding Energy Drinks</b> .....	<b>35</b>
<b>Activity 6.</b>	<b>Physical Fitness Options</b> .....	<b>43</b>
<b>Activity 7.</b>	<b>Healthy Body Image</b> .....	<b>51</b>
<b>Activity 8.</b>	<b>Building a Physical Activity Plan or Fitness Plan</b> .....	<b>59</b>
<b>Activity 9.</b>	<b>Building a Nutrition Plan</b> .....	<b>65</b>
<b>Activity 10.</b>	<b>In the Zone With YOUTH</b> .....	<b>71</b>
<b>Culture &amp; Food</b> .....		<b>79</b>
<b>Combined Glossary</b> .....		<b>81</b>

Activity 1: On The Right Track



# OVERVIEW

The National 4-H Curriculum, *STEPS to a Healthy Teen: Segments To Emphasize Physical activity and nutrition Steps*, is a part of the 4-H Healthy Living Mission Mandate. The curriculum consists of 10 activities that target youth ages 14 to 19.

The purpose of the curriculum is to help youth develop skills and knowledge in physical education and nutrition. Using identified learner outcomes and success indicators, facilitators can easily lead fun, interactive learning experiences. Participants experience a variety of learning methods and tools such as games, case scenarios, computer software programs, cooking demonstrations, and fitness challenges. These interactive activities enhance learning and retention. Most activities range from 45 to 60 minutes and include accompanying handouts.

Each activity includes a **Teen Research (TR) Challenge** take-home task. The **TR Challenge** encourages healthier lifestyles through thought-provoking activities for teens to solve themselves or with their families.

The 10 activities are:

1. **On the Right Track!** – learning about personal health plans and nutrient-rich foods
2. **Getting a Handle on Nutrition** – understanding the functions of various nutrients
3. **The Balancing Act** – identifying food groups and understanding portion sizes in a meal plan
4. **Label Lingo** – exploring food labels and learning what they tell about packaged foods.
5. **The Importance of Hydration: Avoiding Energy Drinks** – learning the importance of drinking water and understanding energy drinks
6. **Physical Fitness Options** – learning about the five pillars of physical fitness
7. **Healthy Body Image** – learning about healthy body image and ways advertisements may help create distorted perceptions of body image
8. **Building a Physical Activity Plan or Fitness Plan** – achieving physical fitness by developing SMART goals
9. **Building a Nutrition Plan** – using SMART goal setting to develop a nutrition plan
10. **In the Zone With YOUTH** – understanding community factors that influence food access and physical activity

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**Skill Level**

- Beginner

**Learner Outcomes**

- Youth will create personalized targets for physical activity, caloric limit, and food groups.
- Youth will understand empty calories and nutrient-dense foods.

**National Health Education Standards**

- Standard 1: Students will comprehend concepts related to health promotion and disease prevention.
- Standard 3: Students will demonstrate the ability to practice health-enhancing behaviors and reduce health risks. (Joint Committee on National Health Education Standards, 1997)

**Success Indicators**

Youth will be able to:

- Navigate the MyPlate website and use SuperTracker to establish a personal health plan.
- Compare foods and discuss the importance of choosing nutrient-rich foods and beverages as part of a healthy lifestyle.

**Life Skills**

- Decision making
- Healthy lifestyle choices

**Time Needed**

- 45 minutes

**Materials List**

- Computers, ideally one per participant
- Printer and paper
- Page 4 in the Youth Notebook: Which Is It – Nutrient Dense or Empty Calories?

**Space Needed**

- Classroom or computer lab

**Suggested Group Size**

- 15–20 youth



# ON THE RIGHT TRACK!

**ACTIVITY 1**

## INTRODUCTION

The United States Department of Agriculture's Dietary Guidelines for Americans include two main recommendations:

- Maintain caloric balance over time to achieve and sustain a healthy weight. That means balancing the number of calories consumed with the number of calories the body uses or “burns off.” People who are most successful at achieving and maintaining a healthy weight do so through constant attention to (1) consuming only enough calories from foods and beverages to meet their needs and (2) being physically active.
- Focus on consuming nutrient-dense foods and beverages. Today most Americans consume too much sodium and too many empty calories from solid fats, added sugars, and refined grains. These empty-calorie foods replace nutrient-dense foods and beverages in the diet, making it difficult to achieve the recommended nutrient intake. A healthy eating plan includes nutrient-dense foods such as vegetables, fruits, whole grains, fat-free or low-fat milk and milk products, seafood, lean meats and poultry, eggs, beans and peas, and nuts and seeds.

This activity gives participants the opportunity to create a personal health plan using SuperTracker, a free interactive tool on the website of the United States Department of Agriculture (USDA). SuperTracker allows individuals to track their food consumption and physical activities in a secure and confidential environment.



## OPENING QUESTIONS

- Where would you find specific information about your needs for nutrition and physical activity?
- Have you used a tracking system to monitor your food intake or physical activity?

## PREPARATION

- Read the activity and review its concepts.
- Be sure each participant has one Youth Notebook. During this activity, ask youth to refer to page 4 in the Youth Notebook: Which Is It – Nutrient Dense or Empty Calories?
- Test computers to ensure they are not blocked from the website <http://www.choosemyplate.gov>
- Become familiar with the ChooseMyPlate website by creating two generic profiles, one male and one female.
- If computers are not available to participants, go to MyPlan and print the plans and associated sample meal plans for the male and female profiles.
- Review *Use SuperTracker: Your Way: 10 Tips to Get Started* from <http://www.choosemyplate.gov/food-groups/downloads/TenTips/DGTipsheet17SuperTracker.pdf> (Optional: make one copy as a handout for each participant).

### Procedure

1. Ask the **Opening Questions**.
2. Introduce participants to the web-based SuperTracker tool. The SuperTracker can be used to plan and track nutrition and physical activity.
3. Have each participant log on to a computer, open a web browser, and navigate to the SuperTracker website at <http://www.choosemyplate.gov/SuperTracker>. On that page find GET STARTED and then click CREATE YOUR PROFILE. Encourage youth to complete the three steps: (1) Personalize your profile, (2) Register to save your profile, and (3) Submit to view your plan. Encourage youth to choose a username and password they can recall easily. They should click the SUBMIT button when finished.
4. Once participants have created and submitted their profiles, they will have access to personalized recommendations. Instruct them to click MY PLAN at the top menu bar, save anything they want to take home as PDF files, and print or email the information. Encourage



teens to save their login name and password so they can build on the data in future sessions. All of the tools in SuperTracker can be saved as Adobe PDF files, printed, and emailed.

- Discuss the major sections of the plan – physical activity target, daily calorie limit, daily food group targets, calories, and empty calories.
- Next, have participants click FOOD-A-PEDIA on the top menu bar. There, they can look up a food's nutrition information by typing the name of the food in the search box, narrowing the choices by selecting the food group, and then clicking GO. Under SEARCH RESULTS, click the specific food of interest. You can compare 2 foods by repeating the procedure with a different food.

Example: Let's compare cheddar cheese to low-fat cheddar cheese.

Select DAIRY from the SEARCH menu, type *cheddar cheese* in the search box, then click GO.

Under SEARCH RESULTS, click *cheddar cheese* and watch its nutrition information fill 1 of the 2 empty-page icons.

Then under SEARCH RESULTS, click *cheddar cheese*, low fat. Ask: What happens when you do that? (Nutrition information for low-fat cheddar cheese fills the other empty-page icon.) Now you have products to compare.

How many calories are in 1 ounce of cheddar cheese? (114) How many calories are in 1 ounce of low-fat cheddar cheese? (49)

What's the difference between the two cheeses in the number of empty calories? (75–16 = 59 calories difference.)

What's the difference in solid fats? (75–16 = 59 calories difference.) In saturated fat? (6 grams–1 gram = 5 grams difference.)

In what ways are the two foods alike or nearly alike? (Both have added sugars and sodium.)

- Have participants work in pairs to complete the Worksheet in the Youth Notebook on page 4: **Which Is It – Nutrient Dense or Empty Calories?**, using the FOOD-A-PEDIA comparison tool.
- When participants have finished the worksheet, have them click MY FEATURES on the top menu bar, then explore Food Tracker to see how daily food choices stack up to their food group targets and daily limits. Have participants explore the Physical Activity Tracker tool to see how their physical exercise activities stack up against their physical targets.

**WHICH IS IT-NUTRIENT DENSE OR EMPTY CALORIES?**

Food (Compare A with B)	Total Calories	Empty Calories	Solid Fats (calories)	Saturated Fat (grams)	Added Sugars (calories)	Sodium (milligrams)
(A) Macaroni and cheese, made from dry mix with butter						
<input type="checkbox"/> Fruits <input type="checkbox"/> Vegetables <input type="checkbox"/> Grains <input type="checkbox"/> Dairy <input type="checkbox"/> Protein (Check all food groups this food supplies)						
(B) Pasta, whole wheat, with salt and vegetable oil						
<input type="checkbox"/> Fruits <input type="checkbox"/> Vegetables <input type="checkbox"/> Grains <input type="checkbox"/> Dairy <input type="checkbox"/> Protein (Check all food groups this food supplies)						
Subtract A and B to find the differences:						
Which food is healthier? <input type="checkbox"/> A or <input type="checkbox"/> B						
(A) Apple Jacks cereal						
<input type="checkbox"/> Fruits <input type="checkbox"/> Vegetables <input type="checkbox"/> Grains <input type="checkbox"/> Dairy <input type="checkbox"/> Protein (Check all food groups this food supplies)						
(B) Apple Cinnamon Cheerios cereal						
<input type="checkbox"/> Fruits <input type="checkbox"/> Vegetables <input type="checkbox"/> Grains <input type="checkbox"/> Dairy <input type="checkbox"/> Protein (Check all food groups this food supplies)						
Subtract A and B to find the differences:						
Which food is healthier? <input type="checkbox"/> A or <input type="checkbox"/> B						
(A) Blueberry yogurt, whole milk						
<input type="checkbox"/> Fruits <input type="checkbox"/> Vegetables <input type="checkbox"/> Grains <input type="checkbox"/> Dairy <input type="checkbox"/> Protein (Check all food groups this food supplies)						
(B) Chocolate milk, fat free						
<input type="checkbox"/> Fruits <input type="checkbox"/> Vegetables <input type="checkbox"/> Grains <input type="checkbox"/> Dairy <input type="checkbox"/> Protein (Check all food groups this food supplies)						
Subtract A and B to find the differences:						
Which food is healthier? <input type="checkbox"/> A or <input type="checkbox"/> B						
Two foods you'd like to compare						
(A)						
<input type="checkbox"/> Fruits <input type="checkbox"/> Vegetables <input type="checkbox"/> Grains <input type="checkbox"/> Dairy <input type="checkbox"/> Protein (Check all food groups this food supplies)						
(B)						
<input type="checkbox"/> Fruits <input type="checkbox"/> Vegetables <input type="checkbox"/> Grains <input type="checkbox"/> Dairy <input type="checkbox"/> Protein (Check all food groups this food supplies)						
Subtract A and B to find the differences:						
Which food is healthier? <input type="checkbox"/> A or <input type="checkbox"/> B						

4

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*Which Is It – Nutrient Dense or Empty Calories?*  
Full size page can be found in the Youth Notebook on page 4.



9. Discuss the worksheet using the **Talk It Over** questions. Ask participants to keep their SuperTracker information for future sessions. Tell them that SuperTracker saves their information automatically. Participants should be sure to memorize their user name and password so they can retrieve their data later. All of the tools in SuperTracker can be saved as Adobe PDF files, printed, and emailed.
10. Assign teens the **Teen Research (TR) Challenge**.

## TALK IT OVER

**Share**  
How did you like using the SuperTracker tool from the choosemyplate.gov website?

Would you use SuperTracker again? Why or why not?

**Reflect**  
Do you think it is realistic to be able to eat according to the daily food plan you looked at today?

**Generalize**  
How likely are you to track your food and physical activity intake on SuperTracker? Why is your likelihood high or low?

**Apply**  
If someone asks you where to find information about what food groups they need and how much of each they should eat per day, where would you tell them to find the information?

### THE TR CHALLENGE

Research and find a recipe that uses two nutrient-dense foods: spinach and pineapple. It must be something you would eat. Post the recipe on your favorite social media with the hashtag #4HHealthyTeen so others can find it and try preparing it at home.




5

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## RESOURCES



Learn more at  
[www.4-H.org/curriculum/  
STEPSforHealth](http://www.4-H.org/curriculum/STEPSforHealth)

### Glossary

**Calorie:** a unit of energy used in measuring food intake. The number of calories in a meal is a measurement of stored energy, which acts as fuel for the body. Technically, a calorie is the amount of energy, or heat, it takes to raise the temperature of 1 gram of water 1 degree Celsius (1.8 degrees Fahrenheit).

**Caloric balance:** consuming roughly the same number of calories the body uses. Consuming more calories than the body uses results in weight gain. Consuming fewer calories than the body uses results in weight loss.

**Empty calories:** a measurement of the energy stored in foods and beverages that are high in calories but low in vitamins and minerals.

**Nutrient-dense foods:** foods and beverages that provide vitamins, minerals, and other substances that benefit health with relatively few calories. Conversely, foods low in nutrient density supply calories but have little health benefit.

**Nutrition:** the process of nourishing or being nourished, especially the process by which a living organism takes in food and uses it to grow and to replace tissues.

**SuperTracker:** a web-based USDA program used to plan and track nutrition and physical activity.

### VARIATION

Show a sample My Plan for the group if computers are not available to the teens.



## DID YOU KNOW?

- The size of a deck of cards is about equal to the size of one serving (3 ounces) of meat or other protein.
- One serving of ice cream is about equal to the size of half a baseball.

### References

Academy of Nutrition and Dietetics. (2012). *Tip of the day: What is nutrient density?*  
Retrieved from <http://www.eatright.org/Public/content.aspx?id=6442464242>

Joint Committee on National Health Education Standards. (1997). *National health education standards: Achieving health literacy*. 97-20M-No. 2027-CSHE. Atlanta, Georgia: American Cancer Society. Retrieved from <http://opi.mt.gov/pdf/health/nhes.pdf>

U.S. Department of Agriculture and U.S. Department of Health and Human Services, (2010). Dietary guidelines for Americans, 2010. Retrieved from U.S. Department of Agriculture, Center for Nutrition Policy and Promotion website: <http://www.cnpp.usda.gov/DGAs2010-PolicyDocument.htm>

U.S. Department of Agriculture. (n.d.). *Choosemyplate.gov*. Retrieved from <http://www.choosemyplate.gov>

U.S. Department of Agriculture. (n.d.). *SuperTracker: My coach center*. Retrieved from <https://www.supertracker.usda.gov>

U.S. Department of Agriculture. (n.d.). *Use SuperTracker your way: 10 tips to get started*. Retrieved from <http://www.choosemyplate.gov/food-groups/downloads/TenTips/DGTipsheet17SuperTracker.pdf>

**Skill Level**

- Beginner and intermediate

**Learner Outcomes**

- Youth will identify the main functions of major nutrients and name foods that contain those nutrients within each food group
- Youth will describe how empty-calorie foods interfere with getting enough nutrients
- Youth will identify healthy alternatives to energy drinks

**National Health Education Standard**

- Standard 3: Students will demonstrate the ability to practice health-enhancing behaviors and reduce health risks.

**Success Indicators**

Youth will be able to:

- Create snacks that demonstrate nutrient-dense food choices that are low in fat, sodium, and sugar.
- Discuss the functions of nutrients and how nutrients contribute to health.
- Describe foods they can eat from each food group to get their personal recommended amounts.

**Life Skills**

- Healthy lifestyle
- Critical thinking
- Self-responsibility

**Time Needed**

- 1 hour

**Materials List**

- See Page 10

**Space Needed**

- Room large enough to set up a large food table and several smoothie stations with electrical outlets for blenders – ideally, with a place to wash hands nearby

**Suggested Group Size**

- 6–18 youth



# GETTING A HANDLE ON NUTRITION

## INTRODUCTION

In Activity 1, youth created personal health plans with targets for physical activity, limits on calories, and recommended number of servings to eat daily from each of the five food groups. It looks good on paper, but what does it all mean?

Each food has a unique nutrient profile and each nutrient has a specific role in helping our bodies function smoothly. Our bodies cannot make the six essential nutrients – carbohydrates, fats, proteins, vitamins, minerals, and water. We get the nutrients we need from consuming foods and beverages.

Foods that are similar in nutritional value are grouped into food groups. Knowing which foods are in each group and how much we should eat makes it easier to get the nutrients we need. If someone were to eat only foods from one group, they would miss out on several nutrients contained in foods from other food groups.

The best way to get all the nutrients we need is to eat a variety of foods from all the food groups, as suggested in the personal health plans we created in Activity 1. Each food group has a wealth of choices to meet our taste preferences. Today's session provides a perfect time to try new foods in each group!

This activity includes a game, **Components of a Healthy Diet**, and a fun **Smoothie-Off Challenge**. Through their participation, teens will understand the variety and quantities of foods needed every day to get the nutrients they need for optimal growth and energy. They will learn to think about foods in terms of health benefits, in addition to preferences.



## OPENING QUESTIONS

- What is a nutrient?
- Why does it matter what we eat? (Accept a variety of answers to promote thought and discussion.)
- What are the five food groups?
- Why do we have food groups? (Foods are categorized into groups based on nutrients they have in common. Knowing the foods in each group and the recommended amount of each to eat enables people to devise a balanced meal plan that fits their needs and tastes.)
- What are the main nutrients each food group supplies?

## PREPARATION

1. Read the activity and review its concepts.
2. Prepare for **Components of a Healthy Diet Game**:
  - Copy and cut apart the **Components of a Healthy Diet Game: Playing Cards** and the **Components of a Healthy Diet Game: Nutrient Descriptions and Answers**, one set for every three or four teens.
  - Decide whether to record scores and award prizes for the game.
  - On the table for participants, place sets of **Components of a Healthy Diet Game: Playing Cards** face up and spread them out, but avoid mixing sets together. Place the **Components of a Healthy Diet Game: Nutrient Descriptions and Answers** in separate piles nearby.
  - Review rules found on page 11.
3. Prepare for **Smoothie-Off Challenge**:
  - Set up blender stations. Wipe the tables with hot, soapy water and paper towels. Equip each station with a blender, knife, cutting board, bowls, spoons, paper towels, and 2-ounce and 12-ounce cups.
  - Prepare food selected from **Food Chart: Vitamins and Minerals in Various Foods**. Wash fruits and vegetables. Precut some of the larger fruits to make it easier for participants to use them. Place the food on a table where participants can easily select the foods they want to use in creating their smoothie.

## Procedure

1. Ask the **Opening Questions** and discuss the teens' answers.
2. Facilitate the game, **Components of a Healthy Diet**:
  - a. Divide the group into teams of three or four people. Allow each team to choose a team name.
  - b. Give each team a bell (or buzzer or noisemaker).
  - c. Discuss the rules of the game (see sidebar).
  - d. Read the printed description of one nutrient found in **Components of a Healthy Diet Game: Nutrient Descriptions and Answers**. Then ask: Which nutrient does that describe?
  - e. Allow teams to discuss possible answers among themselves, and then ring the bell if they think their team has the correct answer.
  - f. Recognize the team that rang first, inviting the team to call out its response.
  - g. Decide whether the answer is correct. If an incorrect answer was given, call on the team that rang second. If another incorrect answer is given, give the correct answer.
  - h. Continue the game by reading descriptions, one at a time, until all descriptions have been read.
  - i. Record scores by team if you wish. A simple way to keep score is to post team names on newsprint or a flip chart. Award one point for each correct answer. Subtract one point for each incorrect answer. Optional: award prizes to the winning team.
3. Review the importance of all nutrients and their various functions. Give examples of empty-calorie foods and beverages (chips, fast foods, energy drinks, soft drinks). Discuss how filling up on empty-calorie foods displaces nutrient-dense choices. The key is to eat nutrient-dense foods rather than empty-calorie foods so the nutrients can do their job.

# RULES

## Components of a Healthy Diet Game

1. Each team of three or four people gets a bell, buzzer, or noisemaker. Place it where everyone on the team can reach it.
2. The facilitator reads a description of a nutrient. Teams are to determine which nutrient is being described.
3. Teams may discuss possible answers and agree on a response. When ready to answer, press the ringer.
4. The facilitator calls on the team judged to be the first to ring. A team member may call out a response only after the facilitator has recognized the team.
5. Once a team answers, the facilitator judges whether it is correct. If the answer is not correct, the facilitator calls on the team that rang second. If that team's answer is incorrect, the facilitator gives the answer and continues the game with the next description.
6. Optional: Teams receive one point for each correct answer. For each incorrect answer, one point is subtracted. The team with the most points wins.

# COMPONENTS OF A HEALTHY DIET GAME

## NUTRIENT DESCRIPTIONS AND ANSWERS

These nutrients help other nutrients do their jobs. For example, one is needed for calcium to be absorbed into our bones and teeth; another is necessary for iron to build blood cells. Others help our immune system and keep our skin healthy. These can be found in milk, fruits, vegetables, grains, and meats.

**Answer: Vitamins**

This nutrient helps form hemoglobin, which carries oxygen in our blood, and helps make DNA and RNA. It is found in dark green vegetables such as spinach and in fruits such as oranges.

**Answer: Folate**

This nutrient transports oxygen in the blood cells and produces energy. It also helps fight infections and makes body proteins. It is found mainly in grain foods and meat products.

**Answer: Iron**

This nutrient builds and maintains bones and teeth, is necessary for muscle contraction, helps the nervous system, and helps blood clot. The best way to get enough of it is to eat at least three servings of dairy products every day. Other foods that contain this nutrient include broccoli and fortified orange juice, cereals, and tofu.

**Answer: Calcium**

This nutrient provides energy, regulates body temperature, and protects organs. It carries vitamins A, D, E, and K throughout the body. It's easy to get too much of it in our diets, so we should eat foods low in this as much as possible and eat foods high in this only occasionally or in small portions.

**Answer: Fats**

This nutrient is the main source of energy, helps maintain blood sugar, and makes up part of our genetic DNA and RNA. It's not fattening because it contains 4 calories per gram, half as much as fat. But eating too much of it can lead to weight gain if we don't burn the calories through activity.

**Answer: Carbohydrates**

This type of carbohydrate has many benefits to us. It helps the digestive process and helps us feel full faster by holding water. It helps regulate blood sugar and decreases disorders of the intestine. Sources include fruits, vegetables, whole-wheat bread, and oatmeal.

**Answer: Fiber**



# COMPONENTS OF A HEALTHY DIET GAME (cont.)

## NUTRIENT DESCRIPTIONS AND ANSWERS

This nutrient helps regulate body temperature, lubricates and cushions our joints to prevent injury, helps dissolve and transport nutrients, and aids digestion.

**Answer: Water**

This nutrient helps vision, promotes bone growth and tooth development, and helps maintain healthy skin, hair, and mucous membranes. It's found in spinach, sweet potatoes, carrots, mangos, and other fruits and vegetables.

**Answer: Vitamin A**

This nutrient is important for metabolism. It helps form red blood cells and helps maintain the central nervous system. Found in fish, red meat, poultry, milk, cheese, and eggs, it's also added to some breakfast cereals.

**Answer: Vitamin B-12**

This nutrient plays an important role as an antioxidant. Antioxidants protect our cells against the effects of free radicals, which can damage cells. It's found in fruits such as oranges, peaches, and grapefruit.

**Answer: Vitamin C**

This nutrient promotes absorption of calcium and magnesium, which helps build bones. It also helps maintain adequate levels of calcium and phosphorus in the blood. It's found in dairy products such as milk, cheese, eggs, and yogurt.

**Answer: Vitamin D**

The body needs this nutrient to regulate blood pressure and blood volume. The nutrient helps regulate fluid balance in the body. It's found in salt, but is added to many processed foods. It can cause high blood pressure. Most Americans have too much of it in their diets.

**Answer: Sodium**

This nutrient is essential for the body's growth and maintenance. It keeps a normal water balance between the cells and body fluids. Bananas, refried beans, and peanut butter all contain it.

**Answer: Potassium**

This nutrient that makes up 45% of the human body and 20% of muscle mass is vital because it contains essential amino acids which build and repair body tissues. This nutrient gives a person energy, helps the body resist disease, and aids muscle contraction, water balance, and nutrient transportation. Sources include fish, poultry, meat, cheese, eggs, beans, and nuts.

**Answer: Protein**



# COMPONENTS OF A HEALTHY DIET GAME PLAYING CARDS

Folate	Vitamins	Vitamin A
Iron	Calcium	Vitamin B 12
Fats	Carbohydrates	Vitamin C
Fiber	Water	Vitamin D
Potassium	Sodium	Protein

# FOOD CHART: VITAMINS AND MINERALS IN VARIOUS FOODS

Food Source	Contains
Apple juice	Potassium, vitamin A, vitamin C
Bananas	Magnesium, manganese, potassium, selenium, vitamin B-2, vitamin B-6
Blueberries	Manganese, vitamin E, vitamin K
Carrots	Vitamin A, vitamin K
Grapes	Iron, vitamin B-1, vitamin B-2, vitamin B 6, vitamin K
Greek yogurt	Calcium, iron, vitamin A, vitamin C
Honey	Calcium, copper, iron, magnesium, manganese, phosphorous, potassium, sodium, zinc, vitamin B-1, vitamin B-2, vitamin B-3, vitamin B-6
Kiwi	Copper, iron, magnesium, phosphorous, potassium, vitamin C, vitamin E, vitamin K
Low-fat yogurt	Calcium, magnesium, phosphorous, potassium, sodium, zinc, vitamin B-1, vitamin B-2, vitamin B-5, vitamin B-9, vitamin B-12, vitamin C
Mango	Copper, selenium, vitamin A, vitamin B-1, vitamin B-2, vitamin B-3, vitamin B 6, vitamin B-9, vitamin C, vitamin K
Milk	Calcium, potassium, sodium, vitamin A, vitamin B-1, vitamin B-5, vitamin B-12, vitamin D
Natural peanut butter	Calcium, copper, iron, magnesium, phosphorous, potassium, zinc, vitamin E, vitamin B-1, vitamin B-2, vitamin B-3, vitamin B-6, vitamin B-9
Orange juice	Calcium, potassium, vitamin B-1, vitamin B 6, vitamin B-9
Peaches	Potassium, phosphorous, magnesium, calcium, iron, manganese, copper, zinc, vitamin A, vitamin B-1, vitamin B-2, vitamin B-3, vitamin B-6, vitamin B-9, vitamin C, vitamin E, vitamin K
Pineapple	Manganese, vitamin B-1, vitamin B-6, vitamin B-9, vitamin C
Protein powder	Iron, phosphorous, potassium, vitamin B-1, vitamin B-2, vitamin B-3
Raspberries	Potassium, phosphorous, magnesium, calcium, iron, manganese, copper, zinc, vitamin A, vitamin B-1, vitamin B-2, vitamin B-3, vitamin B-6, vitamin B-9, vitamin C, vitamin E, vitamin K
Spinach	Vitamin B-9, vitamin K
Strawberries	Iron, manganese, vitamin B-9, vitamin C



4. Announce that participants will compete in a **Smoothie-Off Challenge** to determine which team can create the tastiest, healthiest smoothie. The challenge connects the nutrients we learned about to foods that provide the nutrients. Everyone needs to understand the nutritional benefits of healthy foods, and this challenge will help teens understand.
  - a. Announce that participants will be gathered into teams, each of which will be presented a **Smoothie-Off Challenge** scenario card describing a situation in which a young person seeks new foods with high nutritional content. Using the scenario as their challenge, each team will create a smoothie to fulfill the young person's nutritional requirements.
  - b. Divide the group into teams of two–four people. Instruct teams to:
    - Wash hands using good hand-washing practices. Use hand sanitizer if hand washing is impossible.
    - Go to a blender workstation.
5. Distribute one **Smoothie-Off Challenge** scenario card to each team. Allow time for teams to read their scenarios and discuss ingredients that would meet the dietary goals of the scenario.
6. Allow teams freedom in selecting foods to include in their smoothie. Although it is an option, they do not have to make a smoothie for the scenario they read and discussed. Teams may use any available ingredients to make a smoothie of their choice.

## SAFETY 1<sup>ST</sup>

- Monitor participants using knives and blenders.
- Stress how to use knives safely. Slice away from your hand and keep fingers clear of the blade. Never slice toward yourself or use the palm of your hand as a cutting board.
- Remind participants to keep their hands out of the blender, whether it is switched on or not. Use a spoon – not hands – to scrape the blender container, and scrape only when it is not running. Do not overfill a blender. Avoid dropping food into a running blender. Secure the blender cover tightly before turning on the blender.
- Ask participants whether they are allergic to any foods available for the activity. Be sure participants with allergies are not exposed to their allergens.
- Youth will be working around electricity. Discuss the importance of avoiding water spills near electricity.

7. Stress kitchen safety rules and food allergies (see Safety First sidebar).
8. Give directions for making a smoothie:
  - a. Using the larger cups, pour 1–2 cups of liquid into the blender, and then add fruit or vegetables and ice. The juicier the fruit, the less liquid is needed. If using frozen fruit, decrease the ice. Be careful not to overfill the blender.
  - b. Cover the blender tightly.
  - c. Blend 5 to 10 seconds.
9. After each group has finished making their smoothie, direct them to pour samples into the smaller, 2-ounce cups. Allow everyone in the full group to taste each smoothie.

# SMOOTHIE-OFF CHALLENGE CARDS

## Scenario 1

Binh has track practice after school every day from 3:30 to 6:00 p.m. He has only about 30 minutes to go home and grab a snack. What kind of smoothie will keep him full and energized for practice?

## Scenario 2

Keiko is starting to get a cold, but she still has to go to school to prepare for final exams. What kind of smoothie will boost her immune system and help keep her energized throughout the day?

## Scenario 3

Cristina is 13 years old. She wants to make sure she grows up to have strong and healthy bones, teeth, and skin. What kind of smoothies would help ensure she grows up healthy?

## Scenario 4

Miles is running late for work. He wants to make sure he has a nutritious breakfast but he doesn't have much time to eat it. What kind of smoothie can keep him energized, fight against infections, and help keep his body healthy?

## Scenario 5

Maddie likes to drink smoothies. She usually drinks smoothies made from oranges but wants to try something new. What kind of smoothie would be nutritious in vitamin C without using oranges in the recipe?

## Scenario 6

Oscar exercises for 30 minutes every morning before he goes to school. What kind of smoothie can help him recover from his workout and keep him energized all day?

## Scenario 7

Miguel has decided to substitute his bad eating habits with healthier ones. He wants a healthier alternative to eating potato chips and drinking soft drinks after school. What kind of tasty smoothie will add vitamins and minerals to his diet?

## Scenario 8

Serena's doctor just told the teenager that her body is deficient in calcium and iron. What kind of smoothie would give her more calcium and iron?



10. Distribute the Smoothie Rating Cards (see page 20). Ask participants to try each smoothie and rate it, writing a numeric rating on a slip of paper.
  - a. Use the scale: 4 very good; 3 good; 2 so-so; 1 won't drink again.
  - b. Ask participants to give their rating slips to the team that created the smoothie.
11. Have teams tally scores to determine which smoothie rates the best. Consider giving the team prizes if any prize items remain after the **Components of a Healthy Diet** game.
12. Lead a discussion of what participants liked about the winning smoothie.
13. Discuss the **Talk It Over** questions.
14. Assign teens the **Teen Research (TR) Challenge**.

**Share**  
What are the benefits of smoothies?

What did you like about this activity?

**Reflect**  
What are minerals? Why are they important to our general well-being?

What are vitamins? Why are they important to our general well-being?

What foods are high in calcium? (Repeat question, substituting other vitamins and minerals for calcium.)



TALK IT OVER



9

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(continued)

# TALK IT OVER

Why is vitamin B-3 important for our bodies? (Repeat the question, substituting other vitamins and minerals for vitamin B-3.)

## Generalize

How likely are you to track your food and physical activity intake on SuperTracker?

Why is your likelihood high or low?

## Apply

If someone asks you where to find information about what food groups they need and how much of each they should eat per day, where would you tell them to find the information?

## THE TR CHALLENGE

Find a tasty, nutrient-rich smoothie recipe that uses kale and mangos. Post the recipe on your favorite social media with the hashtag #4HHealthyTeen so others can find it.

10

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# SMOOTHIE RATING CARDS

Rating Scale:

4 - very good 3 - good 2 - so-so 1 - won't drink again




## Glossary

**Calcium:** builds and maintains bones and teeth, is necessary for muscle contraction, helps the nervous system, and helps clot blood. The best way to get enough calcium is to eat at least three servings of dairy every day. Other foods that have some calcium include broccoli and calcium-fortified orange juice, cereals, and tofu.

**Carbohydrates:** the main source of energy, carbohydrates help maintain blood sugar and make up part of our genetic DNA and RNA. About half to two thirds of our daily calories should be from carbohydrates. Carbohydrates are the body's preferred source of energy, but eating too much carbohydrate can lead to weight gain if we don't burn the calories through activity.

**Fats:** provide energy, regulate body temperature, and protect organs. Fat carries the fat-soluble vitamins A, D, E, and K throughout the body. It's easy to get too much fat in our diets, so we should eat low-fat foods as much as possible and limit foods high in saturated or trans fat.

**Fiber:** a type of carbohydrate that helps the digestive process and makes people feel full by holding water. Fiber helps regulate blood sugar and decreases disorders of the intestine. Sources of fiber include fruits, vegetables, and whole grains.

**Folate (folic acid):** helps form hemoglobin, which carries oxygen in our blood, and helps make DNA and RNA. Folate is found in dark green vegetables such as spinach and in fruits such as oranges.

**Iron:** transports oxygen in the blood cells and produces energy. Iron helps fight infections and makes body proteins. It is found mainly in grain foods and meat products.

**Minerals:** elements that originate in the soil and cannot be created by living things such as plants and animals. Yet plants, animals, and humans all need minerals. Minerals help the body grow, develop, and stay healthy. The body uses minerals to perform many different functions, from building strong bones to transmitting nerve impulses. A few of the minerals are calcium, iron, phosphorus, and fluoride.

**Protein:** a nutrient that makes up 45% of the human body and 20% of muscle mass. Protein is vital because it contains essential amino acids which build and repair body tissues. Protein in the diet also gives a person energy, helps the body resist disease, and aids muscle contraction, water balance, and nutrient transportation. Protein sources include fish, poultry, meat, cheese, eggs, beans, and nuts.

**Vitamins:** help other nutrients do their jobs. For example, vitamin D is needed so calcium can be absorbed into our bones and teeth, and vitamin C is necessary for iron to build blood cells. Vitamins are essential for proper body function, growth, energy, and general well-being.

**Water:** helps regulate body temperature, lubricates and cushions joints to prevent injury, helps dissolve and transport nutrients, and aids digestion.

## VARIATIONS

- **Nutrient Matching Game:** Divide the group into teams of three or four people. Distribute Components of a Healthy Diet Game: Playing Cards and Components of a Healthy Diet Game: Descriptions and Answers. When you prepare the latter, be sure to remove the answers that are printed below the description. Ask participants to match each nutrient with its description. Review the answers, emphasizing the importance of each nutrient's functions.
- As the facilitator, make a smoothie that includes spinach or kale; allow participants to taste it.

## DID YOU KNOW?

- A person may need to be exposed to a new food 15 to 20 times (or even more) to learn to like and eat it regularly (Satter, 2012).
- One serving of asparagus (6 spears) contains only 22 calories and less than ½ gram of fat, yet it provides vitamin C, beta carotene, and other nutrients (Achieve Solutions, 2010).

## RESOURCES



Learn more at  
[www.4-H.org/curriculum/STEPSforHealth](http://www.4-H.org/curriculum/STEPSforHealth)

## References

- Achieve Solutions. (2010, July 30). *Nutrition facts: Did you know that...* Retrieved from <https://www.achievesolutions.net/achievesolutions/en/covacare/Content.do?contentId=23262>
- Coleman, G., et al. (2001). *Eating right is basic – enhanced*. East Lansing: Michigan State University Extension.
- Joint Committee on National Health Education Standards. (1997). *National health education standards: Achieving health literacy*. 97-20M-No. 2027-CSHE. Atlanta, Georgia: American Cancer Society. Retrieved from <http://opi.mt.gov/pdf/health/nhes.pdf>
- Majewski, C., Wruble, M., Lonsberry, M., Olson, B., Song, W., Padgitt, A., & York, J. (2002). *Science and art of nutrition education*. East Lansing: Michigan State University Extension.
- Martin, K., et al. (2007). *Eating right is basic – 4. (Lesson 2, My Pyramid)*. East Lansing: Michigan State University Extension.
- Nemours Center for Children's Health Media. (2009, December). *Vitamins*. Retrieved from [http://kidshealth.org/teen/misc/vitamin\\_chart.html](http://kidshealth.org/teen/misc/vitamin_chart.html)
- Satter, E. (2012). *How children learn to like new food*. Retrieved from <http://www.ellynsatter.com/how-children-learn-to-like-new-food-i-37.html>
- U.S. Department of Agriculture. (n.d.). *Choosemyplate.gov*. Retrieved from <http://www.choosemyplate.gov>
- U.S. Department of Agriculture. (n.d.). *Food groups*. Retrieved from <http://www.choosemyplate.gov/food-groups>
- U.S. Department of Agriculture. (2005). *MyPyramid*. Retrieved from <http://www.choosemyplate.gov/print-materials-ordering/mypyramid-archive.htm>