

## What's the Pattern?

Grade Band: 3-5

### Student Objectives:

- Describe a healthy eating pattern
- Draw conclusions about the benefits of consuming a variety of nutrient-dense foods across and within food groups in recommended amounts
- Measure recommended daily serving sizes of different food groups for their age
- Create a visual representation of one or more elements of healthy eating patterns
- Analyze their own eating patterns

### Materials:

- Sticky notes
- Student Activity Sheet: Let's Get Balanced! (one per student)
- Student Activity Sheet: My Eating Pattern (one per student)
- Student Activity Sheet: How Much Should We Eat? (one per student)
- Measuring cups and a food scale
- One sample food from each food group (alternatives are given if it is not possible to bring in food)
- Various art materials

**Suggested Time Frame:** 2-3 class periods (based on 45-minute intervals)

### Instant Expert:

According to the Centers for Disease Control and Prevention (CDC), **health literacy** is defined as “the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make healthy choices, to think about and practice health-enhancing skills, to say kind words, and to learn about feelings and how to express them.”

An important foundation of helping children become health-literate is teaching them about **wellness**. Wellness is more than just being healthy. It is the active process of becoming aware of and making choices toward a healthy and fulfilling life.

In the first set of lessons, students learned about different types of wellness. One of those was **physical wellness**. Physical wellness is wellness related to our bodies. This includes taking care

of our bodies, being physically active, having good personal hygiene, having healthy eating patterns and nutrient intake, and being safe.

In this lesson, we will focus on the physical wellness subcomponent of nutrition. Students will be introduced to the concept of developing healthy eating patterns.

Healthy eating patterns help people meet their nutritional needs without exceeding calorie requirements and while limiting certain dietary components. Following a healthy eating pattern can help us get the nutrients we need to reduce the risk of chronic disease and maintain a healthy body weight. We know that nutrition and health are closely related, and evidence shows that healthy eating patterns are associated with positive health outcomes. Luckily, there are many choices we can make that support healthy eating patterns.

*The Dietary Guidelines 2015-2020* offer guidance about various healthy eating patterns, including U.S., Mediterranean, and vegetarian. The healthy U.S.-style eating pattern is based on the foods Americans typically consume, but in nutrient-dense forms and appropriate amounts. All serving ranges given in this lesson are based on the healthy U.S.-style eating pattern from the *Dietary Guidelines*. Because calorie needs vary based on age, sex, height, weight, and level of physical activity, the USDA actually provides patterns for 12 different calorie levels across the lifespan. For more information about key recommendations of the Dietary Guidelines 2015-2020, go to <http://health.gov/dietaryguidelines>.

In this lesson, students learn that healthy eating patterns are like a puzzle, with many different pieces that fit together. They are introduced to the “puzzle pieces” of balance, variety, and appropriate amount (recommended serving sizes). They are also briefly introduced to calories, since recommended serving sizes are based on calorie intake/requirements as well as gender, activity level, and age. More information about calories will be presented in lesson 2.

In addition to the *Dietary Guidelines 2015-2020*, the United States Department of Agriculture (USDA’s) MyPlate is another tool that can help students learn about and follow a healthy eating pattern. MyPlate is a pie chart that illustrates a place setting with a plate and glass divided into five food groups. For more information on MyPlate, go to [www.choosemyplate.gov](http://www.choosemyplate.gov).

As students learn about balance and variety, they will be introduced to or reminded about the five food groups, as well as the recommendation of including some oil. Students likely will be aware of what foods are part of which food groups, but they may not be familiar with recommended serving sizes related to those food groups. That is covered in this lesson. As a reminder:

Grains – Consists of foods made from wheat, rice, oats, cornmeal, barley, or another cereal grain. Bread, pasta, oatmeal, breakfast cereals, tortillas, and grits are examples. It is recommended that 8- to 11-year-olds have 5-6 ounces of grains every day. At least half of these grains should be whole.

Vegetables – Consists of any vegetable or 100% vegetable juice. Vegetables may be raw or cooked; fresh, frozen, canned, or dried/dehydrated; and may be whole, cut-up, or mashed. The Guidelines recommend a variety of vegetables from all of the subgroups. Recommended servings for 8- to 11-year-olds is 2-2 ½ cups every day.

Fruits – Consists of any fruit or 100% fruit juice. Fruits may be fresh, canned, frozen, or dried, and may be whole, cut-up, or pureed. Recommended servings for 8- to 11-year-olds is 1 ½-2 cups every day.

Dairy – Consists of all fluid milk products and many foods made from milk. Foods made from milk that retain their calcium content are part of the group (such as cheese or yogurt), while foods made from milk that have little to no calcium are not. Dairy choices that are low-fat or fat-free are encouraged. Recommended servings for 8- to 11-year-olds is 3 cups every day.

Protein – Consists of meat, chicken, turkey, fish, nuts, seeds, peas and beans (including soy), and any products made from these. Lean meats are encouraged. Recommended servings for 8- to 11-year-olds is 5 ounces every day.

Oil – Not an official food group, but it is important to consume some vegetable oils as part of a balanced diet.

As students will learn throughout the lesson, many foods are considered combination foods made up of more than one food group. Other foods may not easily fit into one of the food groups above. If students need additional help identifying food groups during the lesson, you may want to encourage them to research the recipes, read the ingredients on nutrition food labels or refer them to information at [www.choosemyplate.gov/myplate](http://www.choosemyplate.gov/myplate).

Note: As always, you will want to be sensitive to individual students' unique situations and follow your school's or district's policy when it comes to the collection of personal information related to minors. At this age, students' food choices are often most influenced by their parents and by what is available in their homes and schools. The "family connection" activity at the end of this lesson offers an opportunity to extend what is learned at home.

## Additional Resources

- Center for Disease Control and Prevention Youth Risk Behavior Survey (YRBS) <http://www.cdc.gov/healthyyouth/data/yrbs/data.htm>
- USDA Super Tracker <https://www.supertracker.usda.gov/foodtracker.aspx>
- USDA Dietary Guidelines for Americans 2015-2020 <http://health.gov/dietaryguidelines/2015/guidelines/executive-summary/>
- USDA ChooseMyPlate <http://www.choosemyplate.gov>

## Procedure:

### Session 1: Make a pattern

1. Write a pattern on the board like this one: A, A, B, A, A, B, A, A B.
2. Ask a volunteer to read what they see on the board and explain what the letters represent. Guide students to recognize that the letters form a pattern. Ask students what a pattern is. A pattern is often described as “something that happens in a regular and repeated way.” Ask:
  - What is repeated about the pattern you see on the board?
  - Does one letter make up the pattern, or is it more than one letter?
  - To continue the pattern, what would come next?
  - Could the pattern go on and on, or does it need to end?
  - What is the purpose of a pattern? (Shows a repeated theme, process, or idea)
  - Is there another way to make a pattern? (in music, arts, sewing, etc.)
3. Write the term, “eating pattern” on the board and ask students to share what they think the term means. Guide students to understand that eating patterns are the combination of foods and beverages that make up all of the things we eat and drink over time. One food or one choice does not make up a pattern; rather, a pattern is made up of a series of foods and choices over time.
4. Now, write the term “healthy eating pattern” on the board. Distribute sticky notes to students and ask them to write what they think the term “healthy eating pattern” means. Invite students to post all notes on a wall or board.
5. Read all notes aloud. Explain to students that a healthy eating pattern is like a completed puzzle of the things we should eat and drink over time to contribute to our overall good health. Today, we are going to explore some of the pieces that make up that puzzle.

6. Distribute the “Let’s Get Balanced!” activity sheet. Explain that one of the puzzle pieces that is part of a healthy eating pattern is getting a balance of foods from different food groups every day. The left side of the table shows those food groups. Invite students, individually or in groups, to complete the right side of the table by listing examples of each food group. As students investigate various food groups, share an example of a commonly-eaten food that contains multiple groups and how they might describe its parts. For example, spaghetti and meatballs is made from pasta (grain), uses tomato sauce (vegetable), has meatballs (protein), and sometimes includes parmesan cheese on top (dairy). These are called combination foods or meals, and they help to create balance in our diet. You can compare this to a meal that could have rice, green beans, chicken and an apple -- all separate food groups and were not cooked together. Then, invite them to report the examples they have listed and create combined class lists for each group.
7. Ask students why they think it’s important to eat foods from all of these food groups as part of a healthy eating pattern. Guide students to understand that different foods within these groups have different nutrients, such as vitamins and minerals, that contribute to their health. All of these foods and the nutrients they contain fit together like a puzzle to meet their nutritional needs. There are also certain nutrients that we should eat in moderation. Moderation means eating a small amount or eating less often. For more information about nutrients to encourage and nutrients to limit, refer to the Dietary Guidelines for Americans 2015-2020.
8. Now, distribute the “My Eating Pattern” activity sheet with students. Remind them that healthy eating patterns are formed over time. This activity sheet gives them a chance to record what they have eaten over the previous three days. It is a somewhat limited snapshot of their eating patterns. However, it can be a helpful way for them to see a pattern. Invite students to record the foods they have eaten during the previous three days. If they can’t remember, they can also list foods they commonly eat. Students can check with their parents, caregivers, or restaurants about what ingredients went to each dish or item for all meals and snacks.
9. Once they have completed the table, invite them to create tally marks that represent the food groups for the foods they have listed. For example, if they ate a banana for breakfast, they would create one tally mark next to “fruits.” If they ate a banana and a glass of orange juice, they would create two tally marks.

10. Once students have completed their tally marks, ask them to note any patterns they see. This might include food groups from which they eat a lot, food groups from which they don't eat enough, food groups they always eat from at certain meals, etc.
11. Then, invite them to list one thing they could do better to contribute to a healthy eating pattern. This might include a food group they could eat more from or an idea about including various food groups throughout the day. Invite student volunteers to share their pattern observations and ideas for better choices they could make. Be considerate of students who may not want to share or are sensitive about their food choices. Also be sensitive to cultural diversity and possible food access issues.

## Session 2: How Much Should We Eat?

1. Challenge students to list one thing they learned about healthy eating patterns in the first session. Remind them that healthy eating patterns fit together like a puzzle. In addition to eating a variety of foods from different groups, it's important to consider other pieces of the puzzle. Another piece of the puzzle relates to *how much* of each food group we eat as part of our eating pattern.
2. Distribute the "How Much Should We Eat?" activity sheet. Explain that there are recommended amounts of each food group that we should eat each day as part of a healthy eating pattern. These recommended amounts are based on many things, including age, gender, and activity level. They are also based on how many calories we consume in a day. Introduce the term "calorie" to students. Ask students what they know about calories. Explain that a calorie is a way to measure energy in foods and drinks. Moderately active kids their age should consume between 1,600–2,200 calories each day. More information about food groups and serving sizes can be found at [www.choosemyplate.gov](http://www.choosemyplate.gov). (Note: Students will learn more about calories in Lessons 2 and 3).
3. On the activity sheet, challenge students to match each food group to the recommended amount from that food group that kids their age should eat each day. Correct answers are provided in the Instant Expert section. Ask students why it's important to know how much from each food group they should eat each day.
4. Show students the measuring cups and the scale. Make sure students are familiar with the measurement levels on each. Have students think about comparing measuring cup size with common items to help them remember cups and scale. For example, 1 cup of fruits, vegetables, or dairy the size of a fist or tennis ball. Then, show the foods from each food group. If time allows, invite students to guess how much of each food they

would eat to meet the recommended amounts before measuring them out. Depending on food supply and the number of measuring tools, invite student groups or the class to measure out the recommended amount from each food group for kids their age. Ask: Which amounts, if any, surprise students as being more or less than they thought they would be?

### Session 3: Variety and Goal-Setting

1. Tell students that variety is another piece of the healthy eating pattern puzzle. The foods they measured in Session 2 are just a sampling of foods they could choose from each group. In fact, no one single food supplies all of the nutrients needed to contribute to good health. So part of a healthy eating pattern is making sure we are eating a variety of foods.
2. To illustrate how much variety there is within each food group, divide students into teams and challenge them to create a list of as many foods as they can in each food group in just five minutes!
3. Then, invite each group to compete in the Food Group Variety Challenge! To take on the challenge, start with one food group. Go around the room and ask each group to name a food from their list for that group. They cannot, however, name a food that has already been chosen. If their list is empty or if they repeat a food that has been named, they are out. They can only name foods that were on their lists. This will continue until only one student group is left. Repeat this game for each food group. The student group with the most individual Food Group wins will be named the Food Group Variety Challenge champions.
4. Finally, go around the room and ask each student to name one thing they have learned about healthy eating patterns. Be sure to review information from throughout the lesson.
5. Finally, invite students to create a visual reflection of what a healthy eating pattern means to them. This can be a drawing, photograph, painting, collage, sculpture, or digital image. Distribute art materials if they are available.
6. Give students ample time to complete their visual representations. If time allows, invite each student to present.

**You Decide:** *This feature helps to reinforce decision-making with students and can be integrated into the lesson or serve as an extension.*

Ask students who currently makes the decisions about what they eat. They may be made by a combination of the students, their parents or caregivers, their school cafeteria workers, and their friends. As they get older, they will make more and more decisions themselves about what they eat and drink.

Invite students to look back at the three-day tracker they created. Then, invite them to write down one decision they made about their eating pattern that they think contributed to a healthy eating pattern and one decision they made that did not. For the latter, invite students to share how they might make a different decision if given the chance.

### Family Connection:

The daily recommended amounts of each food group vary by gender, age, and physical activity level. Research and compare each family member's daily recommended amounts for each food group by going to <http://health.gov/dietaryguidelines/2015/guidelines/appendix-3/>.

For other tools to extend learning outside of the classroom, refer to the School-to-Home activities on TogetherCounts.com. Begin these activities together at school and then encourage students to continue them with their families

### Community Connection:

Many children don't get to make choices about the foods they eat because they don't have the money, resources, or support to choose a diet that supports a healthy eating pattern. Invite students to organize a school food drive with a variety of foods from different food groups, or have them prepare a balanced meal for a local shelter.

### Standards Correlations:

#### **National Health Education Standards**

- Students will comprehend concepts related to health promotion and disease prevention to enhance health.
- Students will demonstrate the ability to use interpersonal communication skills to enhance health and avoid or reduce health risks.
- Students will demonstrate the ability to access valid information, products, and services to enhance health.
- Students will demonstrate the ability to use goal-setting skills to enhance health.



- Students will demonstrate the ability to advocate for personal, family, and community health.

### ***SHAPE America, National Physical Education Standards***

- Analyzes the impact of food choices relative to physical activity, youth sports, and personal health.

### ***Common Core State Standards for English Language Arts***

- Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners building on others' ideas and expressing their own clearly.
- Write informative/explanatory texts to examine a topic and convey ideas and information clearly.
- Conduct short research projects that build knowledge about a topic.
- Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories.
- Draw evidence from literary or informational texts to support analysis, reflection, and research.

### ***Next Generation Science Standards***

- Use evidence to support the explanation that traits can be influenced by the environment.

\*\* Source: <http://www.choosemyplate.gov/snapshot-2015-2020-dietary-guidelines-americans>

## Student Activity Sheet: Let's Get Balanced!

It's important to get a balance of foods from different food groups each day. In the spaces on the right column, list examples of foods and beverages from the food groups in the left column. Some foods may contain more than one food group, if so put them in all the food groups they contain. For example, a turkey sandwich contains grains, dairy, and vegetables.

Food Groups	Examples
Vegetables	
Fruits	
Grains (at least half of our grains should be whole) whole grains	
Dairy (fat-free or low-fat is encouraged)	
Protein foods (Lean means are encouraged)	
Oils	

## Student Activity Sheet: My Eating Pattern

Record what you eat and drink for three days. Think about foods that contain more than one food group in your description (breakfast cereal with milk is two food categories- grains and dairy). Then, tally up the food groups and consider how much balance and variety was part of your diet. Note any patterns you see.

Day 1

Breakfast	Lunch	Dinner	Snacks

Day 2:

Breakfast	Lunch	Dinner	Snacks

Day 3:

Breakfast	Lunch	Dinner	Snacks

**Food group choices: Check all the food groups selected from your brown bag**

	Fruit	Vegetables	Grain	Protein	Dairy
Breakfast					
Lunch					
Snack					
Dinner					
What patterns do you see over the three days?					

I am unsure about which group these foods fit into: (Hints: You can research the recipe, read the ingredients list on the Nutrition Facts panel, or go to [www.choosemyplate.gov/myplate](http://www.choosemyplate.gov/myplate) for additional information).

## Student Activity Sheet: How Much Should We Eat?

Can you match the food group with the amount that an 8-11-year-old should eat each day? Hint: Fruits, vegetables, and dairy are measured in cups. Grains and proteins are measured in ounces.

Dairy Cups	2 – 2 ½ Cups
Fruits	5 Ounces
Grains	1 – 1 ½ Cups
Protein	5 – 6 Ounces
Vegetables	3 Cups

\*\* 1 cup of fruits, vegetables, or dairy the size of a fist or tennis ball

\*\* 3 ounces of beef, poultry or fish the size of a mini pack of tissues or box of 8 crayons

\*\* 1 ounces of grain the size of 1 slice of bread

## Nutrient Detectives

Grade Band: 3-5

### Student Objectives:

- Explain what a nutrient is
- Learn how different nutrients help the body in different ways
- Conduct research to learn about a specific nutrient
- Create a project that teaches other classmates about their nutrient
- Identify amounts of different nutrients from a Nutrition Facts label

### Materials:

- Orange or photograph of an orange
- Student Activity Sheet: Nutrient Detective Capture Sheet (one per student)
- Various art materials including construction paper, poster board, crayons, markers, scissors, and colored pencils
- Optional: Access to PowerPoint or Prezi
- Several Nutrition Facts labels
- Access to Internet

**Suggested Time Frame:** 2-3 class periods (based on 45-minute intervals). May need additional research time in class or at home.

### Instant Expert:

According to the Centers for Disease Control and Prevention (CDC), **health literacy** is defined as “the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make healthy choices, to think about and practice health-enhancing skills, to say kind words, and to learn about feelings and how to express them.”

An important foundation of helping children become health-literate is teaching them about **wellness**. Wellness is more than just being healthy. It is the active process of becoming aware of and making choices toward a healthy and fulfilling life.

In the first set of lessons, students learned about different types of wellness. One of those was **physical wellness**. Physical wellness is wellness related to our bodies. This includes taking care

of our bodies, being physically active, having good personal hygiene, having healthy eating patterns and nutrient intake, and being safe.

This lesson focuses on the physical wellness subcomponent of nutrition. Students are introduced to the term “nutrient,” and they learn how different nutrients in foods help the body in different ways. During the lesson, student teams are asked to select nutrients to research. They can select any nutrient found on a Nutrition Facts label, including but not limited to, fat (could break out saturated and trans), cholesterol, sodium, carbohydrates (could break out dietary fiber and sugars), protein, Vitamin A, Vitamin C, Vitamin D, calcium, iron, and potassium. Students can research information about these nutrients at the web resources listed below. It is most important that young children understand that different foods provide different nutrients that can help them stay healthy, another reason to maintain balance and variety. At this age, they can also be introduced to the fact that some nutrients are especially important to our health so they should be eaten in abundance while others, although needed to help our bodies, should be eaten in moderation.

As students will learn, there are many different nutrients needed to stay healthy. Since different nutrients have different jobs, they should eat a balance of different food groups and a variety of foods within each group so they get all of the nutrients they need.

- Foods in the vegetable group can include dietary fiber, potassium, Vitamin A, Vitamin C, Vitamin K, copper, magnesium, Vitamin E, Vitamin B6, folate, iron, manganese, thiamin, niacin, and choline.
- Foods in the fruit group can contain dietary fiber, potassium, and Vitamin C among other nutrients.
- Foods in the grains group, particularly whole grains, can include dietary fiber, iron, zinc, manganese, folate, magnesium, copper, thiamin, niacin, vitamin B6, phosphorus, selenium, riboflavin, and Vitamin A.
- Foods in the dairy group can include calcium, phosphorus, Vitamin A, Vitamin D (in products fortified with Vitamin D), riboflavin, Vitamin B12, protein, potassium, zinc, choline, magnesium, and selenium.
- Foods in the protein group can include protein, Vitamin B, niacin, Vitamin B12, Vitamin B6, and riboflavin; selenium, choline, phosphorus, zinc, copper, Vitamin D, and Vitamin E. Seafood includes polyunsaturated omega-3 fatty acids. Eggs and nuts have Vitamin E. Soy products include copper, manganese, and iron.

To help reinforce the real-world connection to nutrients in their foods, students will be introduced to a Nutrition Facts label. For information and resources to help children understand Nutrition Facts labels, go to

[www.fda.gov/Food/IngredientsPackagingLabeling/LabelingNutrition/ucm20026097.htm](http://www.fda.gov/Food/IngredientsPackagingLabeling/LabelingNutrition/ucm20026097.htm).

For specific information about these nutrients, including nutrients to encourage and limit, go to <http://www.choosemyplate.gov/nutrition-nutrient-density>. For information about other nutrients and key dietary recommendations, go to the Dietary Guidelines 2015-2020, <http://health.gov/dietaryguidelines> or to USDA's MyPlate at [www.choosemyplate.gov](http://www.choosemyplate.gov).

In addition to the *Dietary Guidelines 2015-2020*, the United States Department of Agriculture (USDA's) MyPlate is another tool that can help students learn about and follow a healthy eating pattern. MyPlate is a pie chart that illustrates a place setting with a plate and glass divided into five food groups. For more information on MyPlate, go to [www.choosemyplate.gov](http://www.choosemyplate.gov).

Note: As always, you will want to be sensitive to individual students' unique situations and follow your school's or district's policy when it comes to the collection of personal information related to minors. At this age, students' food choices are often most influenced by their parents and by what is available in their homes and schools. The "family connection" activity at the end of this lesson offers an opportunity to extend what is learned at home.

## Additional Resources

- Centers for Disease Control and Prevention- Body and Mind!  
<http://www.cdc.gov/bam/nutrition/index.html>
- USDA ChooseMyPlate- Eating healthier and feeling better using the Nutrition Facts Label  
<http://www.choosemyplate.gov/sites/default/files/sites/default/files/images/NutritionFactsLabel.pdf>
- USDA ChooseMyPlate <http://www.choosemyplate.gov>
- USDA ChooseMyPlate Games <http://www.choosemyplate.gov/games>
- ChooseMyPlate Nutrient-Density <http://www.choosemyplate.gov/nutrition-nutrient-density>
- USDA Super Tracker <https://www.supertracker.usda.gov/foodtracker.aspx>
- USDA Dietary Guidelines for Americans 2015-2020  
<http://health.gov/dietaryguidelines/2015/guidelines/executive-summary/>

## Procedure:

### Session 1: Nutrient Detectives

1. Divide students into teams and give each team a picture of an orange or, if possible, an actual piece of the fruit. Challenge the teams to list on a sheet of paper as many words



or phrases as they can in two minutes that describe the orange. Encourage them to be as quiet as possible since they will be competing with other teams. Likely descriptions will include terms like orange, round, hard, and juicy.

2. After two minutes, tell students that time is up. Ask them to count their descriptions. Then tell them that they have to cross off any descriptions that they would be able to see with their eyes. (This would include all of the descriptions listed above). Ask students to count the number of answers left on their papers. Tell them they will get an additional two minutes to add any descriptions of the orange that they wouldn't be able to see with their eyes. At the end of the time period, invite groups to again count answers. Then, go around the room and invite each group to read one answer at a time without repeating answers.
3. Explain to students that all foods have invisible elements like building blocks called nutrients that have specific jobs in our bodies. Ask students if they have any idea what nutrients are in an orange. Invite students to find a Nutrition Facts label for an orange or to go to this site where they can find one.  
[https://www.whatscooking.fns.usda.gov/sites/default/files/factsheets/HHFS\\_ORANGES\\_DEc2012.pdf](https://www.whatscooking.fns.usda.gov/sites/default/files/factsheets/HHFS_ORANGES_DEc2012.pdf)
4. Explain that Nutrition Facts labels are included on most packaged foods to let people know what makes up the food, including the nutrients. For fruits and vegetables, we often have to go online or look for information at the store. Challenge students to list all of the nutrients that are in an orange, according to the label. This includes carbohydrates (fiber and sugar), protein, calcium, Vitamin A, and Vitamin C. Explain that the percentages next to each nutrient show one serving of the food contributes to the amount of that nutrient we should consume each day.
5. Challenge students to identify which nutrient has the highest percentage daily value in an orange. (Vitamin C). Remind students that we need a balance of nutrients to keep our bodies functioning. Some nutrients are especially important to our health so we should try to get plenty of them each day. Other nutrients are also important to help our bodies function, but we should consume them in moderation because too much of them is not good for us. Today, they will be Nutrient Detectives to learn all they can about one nutrient found in foods. They then will need to create a project to help teach that information to the rest of the class.

6. Divide students into research teams. Assign each team of detectives one nutrient from the Nutrition Facts label or invite them to select one of their choice. Distribute the “Nutrient Detective Capture Sheet.” Explain that each research team’s job is to develop 5-8 questions they would like to learn about their nutrient and to then research to learn the answers. Suggested questions are included. Give students ample time and resources to conduct research. They can use books from the library or web sites included in the Instant Expert section. Each student should complete his or own research sheet but they can work together to find the information. Students may need additional time at home to complete research.
7. Inform students that when they have completed their research, they must develop an interesting, creative presentation or project to help teach other students about their nutrient. Their project could be a newspaper article, interview show, nutrient trading card, graphic novel poster, Prezi, PowerPoint presentation, graffiti wall, or poster. They must somehow include answers to all of the questions in their project.

## Session Two: Teach and Reteach

1. After research is completed, invite students to teach the rest of the class about their nutrient. Once all groups have presented, invite students to make connections between nutrients and to draw conclusions about why a balance of different types of nutrients are important.
2. Finally, distribute Nutrition Facts labels to each group. As the final part of their mission, challenge them to identify how much of the nutrients they researched are in the foods that the labels represent. You may want to share that the percentages next to each nutrient amount is a guide to the amount of that nutrient in one serving of food compared to what is needed each day. Distribute the “Nutrition Facts label capture sheet” to help them capture this information.
3. Invite groups to share their observations. Challenge students to identify knowing about nutrients can help them maintain wellness.

**You Decide:** *This feature helps to reinforce decision-making with students and can be integrated into the lesson or serve as an extension.*

Right now, students’ food choices may be primarily influenced by their parents, caregivers, and school cafeteria staff. But, as they get older, they will be able to make more food choices for

themselves. Invite students to identify nutrients that they may not get enough of along with strategies for how they could increase their daily intake of those nutrients.

### Family Connection:

Invite students to work with family members to identify all of the nutrients that are part of one family meal.

For other tools to extend learning outside of the classroom, refer to the School-to-Home activities on TogetherCounts.com. Begin these activities together at school and then encourage students to continue them with their families.

### Community Connection:

Invite someone from the school nutrition staff at your building or at the district-level to explain how information about nutrients play a role in the foods that are selected to be part of the school breakfast or lunch menu.

### Standards Correlations:

#### ***National Health Education Standards***

- Students will comprehend concepts related to health promotion and disease prevention to enhance health.
- Students will demonstrate the ability to access valid information, products, and services to enhance health.
- Students will demonstrate the ability to advocate for personal, family, and community health.

#### ***SHAPE America, National Physical Education Standards***

- Recognizes the “good health balance” of good nutrition with physical activity.

#### ***Common Core State Standards for English Language Arts***

- Participate in collaborative conversations with diverse partners about grade level topics and texts with peers and adults in small and larger groups.
- Ask and answer questions about what a speaker says in order to gather additional information or clarify something that is not understood.
- Add drawings or other visual displays to descriptions when appropriate to clarify ideas, thoughts, and feelings.
- With guidance and support from adults, recall information from experiences or gather information from provided sources to answer a question.

- Distinguish between information provided by pictures or other illustrations and information provided by words in text.
- Determine or clarify the meaning of unknown and multiple-meaning words and phrases.

\*\* Source: <http://www.choosemyplate.gov/snapshot-2015-2020-dietary-guidelines-americans>

## Student Activity Sheet: Nutrient Detective Capture Sheet

1. Choose a nutrient.
2. Develop 5-8 questions you would like to research about your nutrient.
3. Research and record answers below.
4. Once your research is finished, work with group members to develop an interesting, creative presentation to teach the rest of your class about your nutrient. Present answers to all of your questions. Be sure to involve all group members in the presentation.

Name of nutrient:

Question 1:

Question 2:

Question 3:

Question 4:

Question 5:

Question 6:

Question 7:

Question 8:

### **Possible questions**

What is my nutrient?

Why is my nutrient important?

What job does my nutrient have in the body?

Why does the body need my nutrient?

Which food groups commonly have this nutrient?

Which foods are good sources of my nutrient?

Is there more than one type of this nutrient?

How much of this nutrient should kids your age have each day?

Is it considered a nutrient we want to eat plenty of or a nutrient we want to eat in moderation, and why?

What's one strategy for eating more (or less) of my nutrient?

What is one interesting fact about my nutrient?

Does the way foods are prepared or cooked affect my nutrient?

Student Activity Sheet: Nutrition Facts Label Capture Sheet

Food:

Nutrient	Serving Size	Amount of Nutrient	%DV

My observations about this food:

## Food for Thought

Grade Band: 3-5

### Student Objectives:

- Understand how calories are used for energy
- Investigate how our food choices are influenced by social and cultural norms, values, settings, and personal preferences
- Create an interactive presentation to share nutrition information with classmates and others in the community

### Materials:

- Clay or material that can be shaped into an object
- Student Activity Sheet: What's Your Influence? (one per student)
- Photos, images, or models of three different types of foods (or the foods themselves)
- Food for Thought presentation rubric- (one per student)

**Suggested Time Frame:** 2-3 class periods *(based on 45 minute intervals)*

### Instant Expert:

According to the Centers for Disease Control and Prevention (CDC), **health literacy** is defined as “the degree to which individuals have the capacity to obtain, process, and understand basic health information and services needed to make healthy choices, to think about and practice health-enhancing skills, to say kind words, and to learn about feelings and how to express them.

An important foundation of helping children become health literate is teaching them about **wellness**. Wellness is more than just being healthy. It is the active process of becoming aware of and making choices toward a healthy and fulfilling life.

In the first set of lessons, students learned about different types of wellness. One of those was **physical wellness**. Physical wellness is wellness related to our bodies. This includes taking care of our bodies, getting physical activity, having good personal hygiene, having healthy eating patterns and nutrient intake, and being safe.

In this lesson, we will focus on the physical wellness subcomponent of nutrition. Students will focus on three important questions:



1. Why do we eat?
2. Who and what influences our eating choices?
3. How can we influence others to make healthy eating choices?

Knowing why we eat is important in understanding how food is used as fuel in the body. Calories are the fuel or energy burned in the body to support physical activity and basic body processes. Human beings need energy to survive – to breathe, move, pump blood, and think – and they get this energy from calories in foods and beverages. When a food or beverage contains 100 calories, that is a way of describing how much energy our body gets from eating or drinking it. How many calories we need each day depends on many things: our gender, height, weight, age, and activity level among them. The average 8-11-year old needs between 1,600 and 2,200 calories each day. Energy is then used (burned) by the activities we do each day and the basic body processes we need to survive. These include sleeping, thinking, pumping blood, etc.

Calories are a measurement of the potential energy contained in what we eat or drink. Calories fuel the body just like gasoline fuels a car. Three nutrients – carbohydrate, protein and fat – contain calories. When we eat or drink something that contains carbohydrates, protein, or fat, the body breaks down the nutrients to release energy. That energy can then be used to do all the physical activities we want to do. Even when we're at rest, our body needs energy for all its "hidden" functions or body operations, such as breathing, circulating blood, and growing and repairing cells. Without energy, we could not survive.

Food choices can be influenced by our culture, family, friends, school, media, personal preferences, and society. Events and emotions can also influence food choices. And accessibility to food can play a significant role in determining food choices in some areas and with some socioeconomic groups. Teaching children about what can influence food choices can lead to greater awareness and potentially greater control as they get older.

In this lesson, students will analyze what influences their food choices and explore ways that they can positively influence other people's food choices. Advocacy is important strand in health education. After all, everyone has a role in helping to create and support healthy eating patterns for all. Children are no exception.

Note: As always, you will want to be sensitive to individual students' unique situations and follow your school or district's policy when it comes to the collection of personal information related to minors.

## Additional Resources

- Learning about Calories. <http://kidshealth.org/en/kids/calorie.html>
- U.S. Food and Drug Administration- Nutrition Facts Label: Read the Label Youth Outreach Campaign  
<http://www.fda.gov/Food/IngredientsPackagingLabeling/LabelingNutrition/ucm281746.htm>
- U.S. Food and Drug Administration “Make Your Calories Count – Use the Nutrition Facts Label” <http://www.accessdata.fda.gov/videos/CFSAN/HWM/hwmintro.cfm>
- The Centers for Disease Control and Prevention BAM! Body and Mind: Under the Microscope, The Nutrition Facts Label  
<http://www.cdc.gov/bam/nutrition/microscope.html>
- Super Tracker website from the USDA  
<https://www.supertracker.usda.gov/foodtracker.aspx>
- 2015-2020 Dietary Guidelines for Americans USDA  
<http://health.gov/dietaryguidelines/2015/guidelines/executive-summary/>
- USDA Choose My Plate <http://www.choosemyplate.gov>

## Procedure:

### Session 1: Why do we eat?

1. As students enter the class, have them conduct a series of physical activities at different activity levels for 30 second spurts. These activities could include walking around the room, doing jumping jacks, dancing, stretching, singing, answering a question, or even reading.
2. Challenge students to name one thing they needed in order to do all of those activities. You may need to give them a hint that the word starts with an “e” and ends with a “y.” The word is “energy.” Write the word “energy” on the board and invite students to share something that we need energy to do. Explain that we need energy to survive. In addition to needing energy for physical activities, humans also need energy to breathe, move, think and pump our blood.
3. Ask: Where do you think the body gets the energy needed to do all of these activities like sleeping, playing sports, thinking, reading, or watching television?”
4. Guide students to understand that the energy comes from what we eat and drink. Specifically, energy comes from something called calories. Ask students to share what they think the term calorie means and to share their definition with a partner. Challenge partners to reach consensus on one definition and then have volunteers share definitions. Challenge the class to reach one class definition, based on answers.

5. Explain that calories are a measurement tool, like inches or cups. Calories measure the energy a food or beverage provides from the carbohydrate, fat, and protein it contains. (Carbohydrates, fat, and protein are all nutrients found in many foods and beverages.) We use or burn calories by doing physical activity. The balance between the calories taken in from foods and the calories burned from physical activity and metabolic processes is called calorie balance.
6. Ask students if they know how many calories they should be consuming each day. Explain that the answer is based on many things: age, weight, gender, and even physical activity. If time allows, direct students to (insert link here). Make sure that students know that they don't need to count calories at their age, but it is important that they think about the healthiest way for them to get calories. Ask students what tools and information they can use as they make decisions about where they will get their calories. Remind them about what they learned in Lesson 1.

## Session 2: What influences our food choices?

1. Give individual students or student groups a block of clay and let them know that they have three minutes to build a model that represents a breakfast food. Give students three minutes to form their models.
2. Debrief: Ask students to share their models and the reasons they chose the foods they did. Was it easy, is it their favorite. did friends influence them, is it something that represents their culture?
3. Introduce the term, "influence" and explain that when something or someone causes us to do something, it's called "influencing. Why do students think it's important to know what influences us to make certain decisions?
4. Ask students to think about or list the different things that they identified as influencing their model: family, culture, something they personally liked, or convenience, among others.
5. Now, have them think about what they actually ate for breakfast this morning. Did any of the factors on their list influence that food choice? Poll students to see how many of them were influenced by parents, convenience, culture, a commercial, or other factors.
6. Explain that many factors can influence our food choices and those factors can change over time. For example, their parents or caregivers may have a big influence right now

over what they eat but, as they get older, that influence may not be as big. They may be more influenced by friends or by personal preference.

7. Distribute the “What’s Your Influence?” student activity sheet. Read the directions and invite students to complete the activity sheet.
8. Discuss answers. What influences seem to be most common among the class? Remind students that our food influences are as unique as we are! It’s fine if they are different from a friend’s and they may be different next year than they are today. Individual preferences (favorite foods), culture, family, and more are all influences that may make our healthy eating patterns look different and that is okay.
9. Ask students how knowing about healthy eating patterns can influence their food choices.

### Session 3: How Can I Influence Others?

1. Divide students into three teams and distribute a photo, image or model of a food item to each team. Tell each team that their job is to try to get you to choose their food to include in your next meal. They will have five minutes to come up with reasons why you should choose their food. Set a timer for five minutes and let students brainstorm ideas for influencing you to choose their food.
2. After five minutes, direct each team to give you their “pitch.” Encourage other teams to listen for facts, words, and images that the other teams use to influence you. After each team goes, invite other teams to share the techniques that were used.
3. Ask teams to evaluate each other’s pitches. What facts and information was most convincing? Did anyone use facts and information related to healthy eating patterns?
4. Ask students to come up with ideas about how they can influence others in positive ways related to their food choices. Ideas include sharing information, hanging signs on their refrigerator, making informational pamphlets and posters, and creating presentations. Talk with students about ways they can positively and respectfully influence others about making healthy food choices. Encourage students to be sensitive to each other’s cultural differences and to different choices. As always, be mindful of limited access to foods for some students.
5. Tell students that, in the final activity of the lesson, they will develop a presentation to positively influence others about food choices using technology like Prezi, PowerPoint or another interactive digital media. If technology is not available, they can also create a

poster, a book, a pamphlet or another creative model. The goal of their presentation is to:

- Reflect on important things they have learned about healthy eating patterns.
  - Share the information with classmates.
  - Use research and data to support their presentation (like the *USDA Dietary Guidelines for Americans 2015-2020* and USDA's My Plate).
  - Influence others to develop healthy eating patterns.
6. Distribute the "Food for Thought" activity sheet. Review the rubric with students. Give students ample time to complete their presentations. Invite students to present their presentations to a partner, group or the entire class.

**You Decide:** *This feature helps to reinforce decision-making with students and can be integrated into the lesson or serve as an extension*

You know you have a big soccer tournament this weekend so you will need extra energy. Decide what you will do to get that extra energy in the days leading up to the tournament. What foods and beverages will you choose, and why?

### Family Connection:

Ask your family or another family how culture and family traditions influence the food they buy for the house. Create a family cookbook of traditional recipes so that the important cultural influences of your family are passed down from generation to generation.

For other tools to extend learning outside of the classroom, refer to the School-to-Home activities on TogetherCounts.com. Begin these activities together at school and then encourage students to continue them with their families.

### Community Connection:

Invite the school cafeteria staff or food and nutrition services employees from your school to come to your class. Have them share the school menu for the week. Encourage students to develop questions about what influences the school menu.

### Standards Correlations:

#### **National Health Education Standards**

- Students will analyze the influence of family, peers, culture, media, technology, and other factors on health behaviors.
- Students will demonstrate the ability to use decision-making skills to enhance health.

- Students will demonstrate the ability to advocate for personal, family, and community health.

### ***SHAPE America, National Physical Education Standards***

- Analyzes the impact of food choices relative to physical activity, youth sports, and personal health.

### ***Common Core State Standards for English Language Arts***

- Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners building on others' ideas and expressing their own clearly.
- Engage effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners building on others' ideas and expressing their own clearly.
- Write informative/explanatory texts to examine a topic and convey ideas and information clearly.
- Write opinion pieces on topics or texts, supporting a point of view with reasons.
- Conduct short research projects that build knowledge about a topic.
- Recall information from experiences or gather information from print and digital sources; take brief notes on sources and sort evidence into provided categories.
- Draw evidence from literary or informational texts to support analysis, reflection, and research.

### ***Next Generation Science Standards***

- Use evidence to support the explanation that traits can be influenced by the environment.
- Analyze and interpret data to determine similarities and differences in findings.

## Student Activity Sheet: What's Your Influence?

<b>Questions</b>	<b>Student Answer</b> Write your response below	<b>Reflection</b> Why is this your favorite food? How did you decide? Who shared the food with you?
<b>What is your favorite food?</b>		
<b>What is your favorite breakfast?</b>		
<b>What is your favorite snack food?</b>		
<b>What is your favorite lunch?</b>		
<b>What is your favorite dinner?</b>		

Count how many choices were in each category and put the number below the title.

Family	Culture	School	Society	Media	Me

What factor influences your food choices the most?

Why do you think this is?