NUTRITION VOYAGE
THE QUEST TO BE OUR BEST

TREK 1 Grade 7
The Path to Fruits and Veggies

Time Required:
Three 40-minute sessions

Sample timing:

First Session – **Investigate**
Second Session – **Challenge: Make a Plan**
Third Session – **Evaluate** and **Reflect**

Supplies:
Notebooks, pens, pencils, laptops or computers (optional), Student Printable: **Reaching Produce Peak**, graph paper or spreadsheet software.

Standards:*
Students will…

Science

- Understand that energy is a property of many substances and is transferred in many ways. (National Academy of Sciences, Content Standard B)
- Understand that cells require nutrients, which they use to provide energy for the work that cells do and to make the materials that a cell or an organism needs. (National Academy of Sciences, Content Standard C)

Math

- Solve real-world and mathematical problems involving the four operations with rational numbers. (7.NS.3)

English Language Arts

- Conduct short research projects to answer a question, drawing on several sources and generating additional related, focused questions for further research and investigation. (7.W.7)

**Sources: Science education standards: National Academy of Sciences, Math and English Language Arts education standards: Common Core.*

Subject Focus: Science

Lesson Overview:
Do your students really know what "healthy eating" is? Most middle schoolers can tell you that vegetables are good for you and that cookies are not. However, they don't necessarily comprehend **why** that's the case; how different foods affect their bodies; and what food choices to make at school, home, and when eating out.

In this lesson, students will use investigative questions to examine their own eating habits and explore why fruits and vegetables are integral to good health. Then, they'll brainstorm ways to eat **more** fruits and vegetables, and take part in a challenge to increase their fruit and vegetable intake. By the end of the lesson, students will understand the reasons fruits and vegetables are good for their bodies, will have personal nutrition goals, and will take the first steps toward a lifetime of good health—eating more fruits and veggies!

Learning Objectives:
Students will be able to…

- Set goals to eat more fruits and vegetables.
- Describe why fruits and vegetables are part of a healthy meal pattern, and set personal goals to include more of these foods in their diet.
- Explain the importance of choosing healthy foods and beverages.
- Define the terms "nutrient dense" and "calorie" as they relate to food and beverage choices.
- Track and analyze daily fruit and vegetable consumption.
- Create a graph to represent data results.

Questions for This Trek
1. What are my current eating habits?
2. What is a nutrient? How can nutrients help me do what I like to do, but do it ***better***?
3. What is a calorie?

Instructional Steps

1 Investigate

1. **What are my current eating habits?** Tell students they are about to embark on an expedition. To begin, they will use their notebooks as **Food Journals** to record everything they eat and drink for one day, including all meals and snacks. Remind them to eat the same foods they would typically eat, and write them down. The purpose of the activity will soon be revealed!

Keeping a Food Journal

Help your students keep a **Food Journal** by offering the following tips:

- **What to write down.** Students should keep track of everything they eat and drink in a day, including snacks, dressing on a salad, butter on toast, and cheese or lettuce on a sandwich. Separate the entries by meal to keep the journal organized.
- **Organize!** Suggest creating a table to keep information organized. For example, they may want to have the day and date, "What I Ate" and "Amount" across the top row, and a vertical column showing the time of day, such as "Morning," "Midday," "Evening," and "Snacks."
- **Measure amounts/portion sizes.** Encourage students to record amounts (for example: "1 apple" or "13 baby carrots"). Students may use measuring cups and spoons to measure their portion sizes of foods like cereal, rice, and pasta. If they are not sure, they may estimate.

They may also wish to draw a picture of their plate, beverage, or snack for each meal if there is room on the page.

2. **What is a nutrient? How can nutrients help me do what I like to do, but do it *better*?** Ask students what they think the purpose of the assignment was. Explain that they are embarking on a challenge to discover what types of foods they are eating, and how often. Foods provide the body with energy and nutrients that it uses to grow and stay healthy. (See the **Know Your Nutrients** box on the next page.) "Essential" nutrients are vitamins, minerals, and other substances our body needs from foods. Eating foods from each of the five food groups (*Fruits, Vegetables, Grains, Protein Foods,* and *Dairy*) provides our body with the nutrients it needs to be healthy. Did students eat from all five food groups each day? Ask them to check their **Food Journals**.

3. **What is a calorie?** Ask if students have ever heard the term *calorie*. Calories are a measure of the energy that foods give us to grow and play. We use energy from foods to make our bodies work and for physical activity like running and jumping. If we eat and/or drink more energy (calories) than we use in physical activity and body processes (like breathing and our heart beating), we store the extra energy as fat in our bodies.

   Explain that to maintain a healthy weight, a person must balance the calories he or she eats and drinks with the calories his or her body uses for physical activity and body processes. A professional athlete, for example, would need more calories because he/she is more physically active.

4. **How do nutrients and calories fit together?** Discuss how some foods and beverages are *nutrient-dense*. Nutrient-dense foods provide many essential nutrients, such as vitamins and minerals, without many extra calories from solid fats and added sugars. Vegetables, fruits, whole grains, seafood, eggs, beans and peas, unsalted nuts and seeds, fat-free and low-fat milk, yogurt and cheese, and lean meats and poultry are nutrient-dense foods.

   Explain that solid fats and added sugars add *extra calories* to some foods and beverages. Solid fats are solid at room temperature, like butter, stick margarine, chicken fat, and beef fat. Added sugars are those added to a food during preparation or processing, such as sugar added to make cakes and cookies. Foods high in solid fats and added sugars provide many extra calories.These foods are not nutrient-dense, because the good-for-you nutrients have been "diluted" by extra calories.

   Foods high in solid fats include pizza, full-fat cheese, sausages, and hot dogs. Examples of foods and beverages with many added sugars include soda, energy drinks, sports drinks, and candy. Some foods, like cakes, cookies, some candy, and ice cream, contain many added sugars *and* solid fats. Choosing nutrient-dense foods most of the time helps us grow, be healthy, and feel our best.

5. **Where are the solid fats and added sugars in the food and beverages I consumed?** Look for examples of nutrient-dense foods and extra calories in students' journals. Point out those foods that contain solid fats and added sugars. Emphasize that making healthy food choices can help students look and feel their best.

Continue

Know Your Nutrients

Nutrients include carbohydrates, proteins, fats, vitamins, and minerals. Briefly discuss how the body uses each of these nutrients:

Carbohydrates are the body's main energy source. Sugars and starches are forms of carbohydrates. Some sugars are found naturally in foods like fruits and milk. Other sugars are added to foods, such as the high-fructose corn syrup in regular sodas. Most carbohydrates are consumed in the form of starches, which are found in grains, beans and peas, potatoes, and corn.

Proteins are nutrients the body uses to grow, repair itself, and fight disease. Proteins also provide energy. Muscle, skin, bone, and hair are largely made up of proteins. Proteins are found in meat, poultry, seafood, eggs, nuts, seeds, beans and peas, soy products, and dairy foods.

Fats serve as an energy source, promote healthy skin and growth, and help the body absorb some vitamins.

Solid Fats are ones that are not liquid at room temperature. Some common solid fats include butter, beef fat, chicken fat, pork fat, stick margarine, coconut oil, palm oil, and shortening. Foods high in solid fats include full-fat and whole dairy products, ground beef, bacon, sausages, and many baked goods (such as cookies, doughnuts, crackers, and pastries). Most Americans eat too many solid fats, which provide extra calories and few nutrients. Eating too many foods with solid fats increases the risk of heart disease.

Oils are fats that are liquid at room temperature. Some common oils include canola, corn, olive, safflower, soybean, and sunflower oils. A number of foods are naturally high in oils, such as nuts, olives, some fish, and avocados. Replacing solid fats in the diet with oils can help keep the heart healthy.

Vitamins do not provide energy, but help to regulate body processes such as metabolism, digestion, and the immune system. Vitamins commonly found in food include Vitamins A, C, D, E, and K, and the B vitamins (for example: thiamin, riboflavin, and niacin).

Minerals include nutrients such as calcium, iron, potassium, and zinc. Some of these nutrients help the body regulate processes, while some become part of body tissues.

2 Challenge: Make a Plan

6. **Introduce the Student Printable: Reaching "Produce Peak,"** which helps students track the amount of fruits and vegetables they eat, with the goal of increasing that amount over time. Help students use their **Food Journals** to complete Day 1 of the chart. **Ask:** How often did at least half of their meals consist of fruits and vegetables? Did they eat any fruits or vegetables as snacks? How many **medals** did they earn for the day?

   Remind students: Fruits and vegetables are "nutrient-dense" and contain nutrients like potassium, dietary fiber, vitamins A and C, and folate. Most are low in fats and calories, too. For a healthy expedition, make sure to fill half your plate with fruits and veggies so you can do what you like to do, but do it better! Moving forward, have students use the Printable to track the amount of fruits and vegetables they eat. Students gather medals when 50 percent or more of their plate contains fruits and/or vegetables. A maximum of one bonus medal per day is earned if they consume a fruit and/or vegetable as a snack. If they try new fruits or vegetables, they receive a bonus medal for each item they tried. Remind students that deep-fried vegetables do not count (for example: potato chips, French fries), and they may count 100% fruit juice as fruit, but not sweetened fruit drinks.

7. **Brainstorm ways to eat more fruits and vegetables.** Divide students into four groups—**breakfast**, **lunch**, **dinner**, and **snacks**. Invite groups to brainstorm ways to incorporate more fruits and veggies into their categories so that at least half of each meal/snack consists of fruits and vegetables.

Challenge Check-In

- **Check in midweek.** Are students on their way to meeting their goals? Create a master spreadsheet using chart paper or spreadsheet software to analyze the results.
- **Invite the breakfast, lunch, dinner, and snack teams to regroup** and brainstorm additional strategies for their categories. Students can discuss what has and hasn't been working for them and share their ideas with the class.

Continue

8. **Group share.** Have the groups make posters or write blog posts sharing their ideas and recipes. Encourage groups to research and include foods that are new to them, especially in the **Dark-Green Vegetables**, **Red and Orange Vegetables**, and **Beans and Peas** vegetable subgroups, which are generally underconsumed. (For more ideas, visit: **http://www.choosemyplate.gov** and select "Sample Menus and Recipes.")

9. **Engage other classes!** Invite students to challenge another class to see which group can earn the most medals over the course of 1 week. If everyone in the class were to make half of their plates fruits and vegetables at every meal for the entire week, how many medals would that be? Set that as a benchmark and encourage students to set their own personal goals as well.

3 Evaluate

10. At the end of the competition, have students tally the total number of medals they have earned, both individually and as a class. Then, **compare**: Which class earned the highest total number of medals? Which class earned the most medals for trying new fruits and vegetables? Award nonfood prizes for each category, such as allowing the class extra free reading time, the opportunity to listen to music, or provide coupons for a yoga class or an opportunity to use a rock-climbing wall, if possible. Finally, throw a **Fresh Foods Party** to which students can bring in any new fruits and vegetables they tried during the challenge to share with the class.

4 Reflect

11. **Record.** Invite students to reflect on their own fruit and vegetable intake in their journals. Prompt them with questions in the following areas:

    Personal insight: Did you meet your personal goals? How did eating more fruits and vegetables make you feel? What are your favorite fruits and vegetables, and how can you eat more of them? What new ones did you try?

    Energy level: Do certain foods boost your energy levels while others don't? How do you feel when you eat too many sweets or drink too much soda?

    Long-term impact: Are you inspired to keep looking for ways to eat more fruits and vegetables? Why or why not?

12. **Share.** Have a discussion during which students share their reflections, challenges, and any further questions they would like to explore.

End of Trek

Extension Ideas

- Start a class blog to enable students to document and share what they've learned.
- Visit **http://www.choosemyplate.gov** and click on "SuperTracker & Other Tools" in the top menu bar. Have students calculate the exact amount of fruits and vegetables they need using the Daily Food Plan calculator or the SuperTracker.
- Have students compile their favorite vegetable and/or fruit-focused snack and meal recipes into a classroom recipe book. Make copies for every student to bring home to their families.

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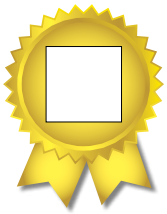
TREK 1 Grade7

Reaching Produce Peak

As you complete your **Food Journal**, track where you stand with your trek on the Path to Fruits and Vegetables!

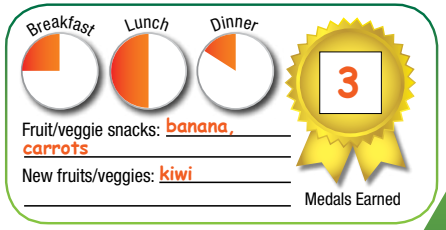
What I Ate

Review your **Food Journal** to see what you ate for each meal and snack. Estimate what percentage of each meal were **fruits** and **vegetables** (for example: 25 percent, 50 percent ...). Color in the plate to show that percentage. Add in your snacks, and list any new foods you tried.



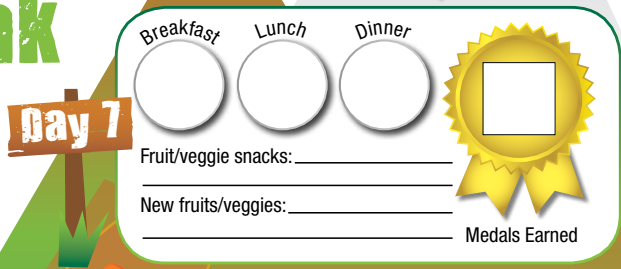
Now, review your filled-in "plates" for meals. Each time it is 50 percent or greater, give yourself a **medal**. You also earn a bonus **medal** if you have fruits or vegetables for snacks, and for each new fruit or vegetable you try!

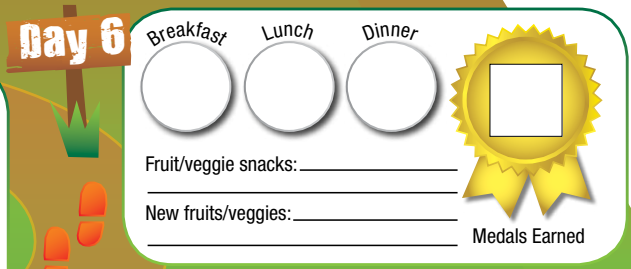
Example:

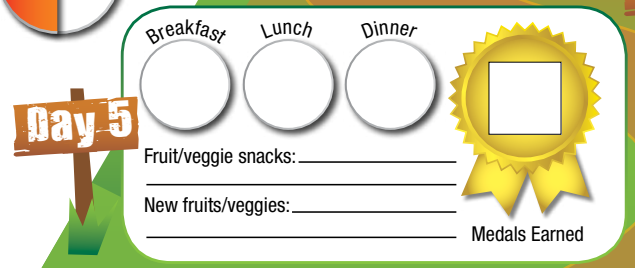


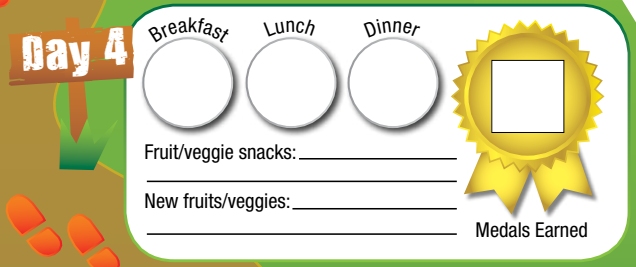
Start

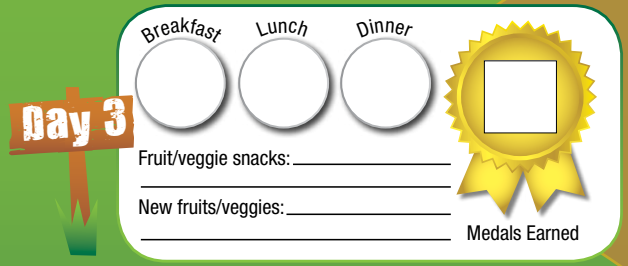
Be trek smart!
In your quest to do your best, choose fruits and vegetables at meals and snacks.

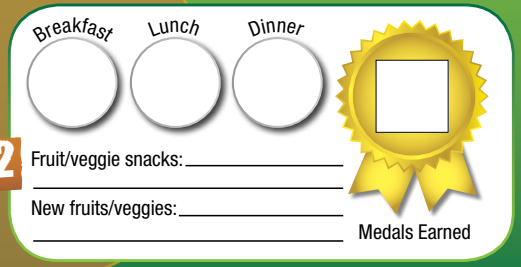


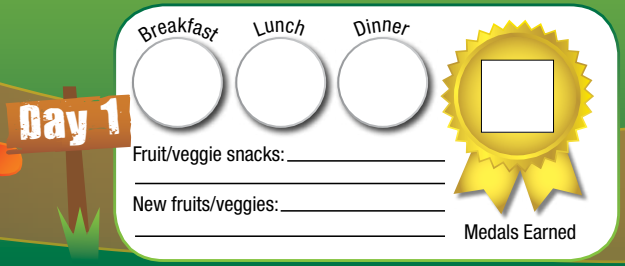












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