the School Day just got Healthier

United States Department of Agriculture

Toolkit For Educators and Students

The School Day Just Got Healthier Toolkit

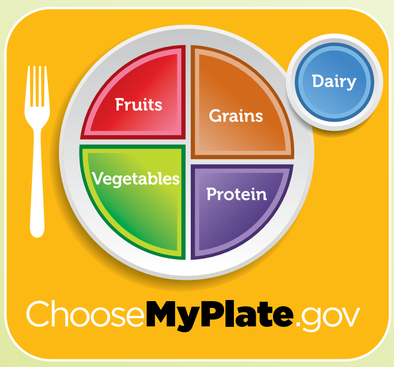
is a collection of resources including brochures, fact sheets, FAQs, fliers, school lessons, templates and much more, to help prepare educators and students for the changes to school meals this school year.

This toolkit provides parents with the resources you need to help you eat healthy and learn healthy habits that last forever.

USDA

At School.
At Home. Eating Out.

Make Half Your Plate Fruits & Vegetables



Find these recipes and more ideas at ChooseMyPlate.gov

TeamNutrition.USDA.gov

U.S. Department of Agriculture • November 2011
Food and Nutrition Service • FNS-431
Center for Nutrition Policy and Promotion • CNPP-27
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Healthier Middle Schools
Every **teacher** can help.

Two changes. Countless benefits.

There are short-term and long-term advantages to making healthier foods and regular physical activity priorities at your school. These healthy changes can:

- ✓ **Help kids concentrate better in class**
- ✓ **Strengthen academic performance**
- ✓ **Reduce behavioral problems**
- ✓ **Build healthier habits for life**
- ✓ **Lower obesity rates**

It takes a community.

The USDA is reaching out not only to middle school teachers but also to principals, parents, food service managers, and students. Why? Schools that have made healthy changes report that success is most likely when the entire school community gets involved and works together. So, why not bring up this topic at your next staff meeting?

What teacher doesn't want better classroom performance?

Studies show that kids with healthy eating and physical activity patterns tend to do better academically.[1,2,3,4,5] While you are not their parent, you are an important role model for your students. So, when you support healthier food choices and more physical activity at school, the students will get the idea that these are important.

Experience is the best teacher.

On the back of this flyer, you'll find ideas other middle schools have used to make healthier changes. It's best to start small with one or two steps that are relatively simple and inexpensive. Even small changes school-wide will help our kids get healthier habits that can serve them well in school and life.

1. Florence MD, Asbridge M, Veugelers PJ. Diet quality and academic performance. *J Sch Health.* 2008; 78:209-215.
2. Fu ML, Cheng L, Tu SH, Pan WH. Association between unhealthful eating patterns and unfavorable overall school performance in children. *J Am Diet Assoc.* 2007; 107:1935-1943.
3. Sigfúsdóttir ID, Kristjánsson AL, Allegrante JP. Health behaviour and academic achievement in Icelandic school children. *Health Educ Res.* 2007; 22:70-80.
4. Kim HY, Frongillo EA, Han SS, Oh SY, Kim WK, Jang YA, Won HS, Lee HS, Kim SH. Academic performance of Korean children is associated with dietary behaviours and physical status. *Asia Pac J Clin Nutr.* 2003; 12:186-192.
5. Centers for Disease Control and Prevention. *The association between school based physical activity, including physical education, and academic performance.* Atlanta, GA: U.S. Department of Health and Human Services; 2010.

Middle schools get healthier when **teachers** use their influence.

Build nutrition and physical activity into your curriculum.

Math, science, English, social studies, and health are all likely subjects. You may also want to take learning outside the classroom, for example, to the school garden, gym, or cafeteria.

Don't use food as incentives or rewards.

Try giving nonfood prizes or privileges, like a chance to listen to music in the classroom.

Everybody loves a little friendly competition.

Why not start one between classes, grades, or schools? See what group spends the most time being physically active or eats the most vegetables at lunch.

Walk the talk.

Let your students see you making healthy food choices and being active at school. Ask other teachers, staff, or students to join you for a walk, to shoot some hoops—whatever activity works for you.

Keep the ball rolling at TeamNutrition.usda.gov.

On the USDA's Team Nutrition Web site, you'll get ideas from other teachers, as well as ready-to-use materials such as lesson plans and talking points to use at a staff meeting or Back to School Night.

Thanks for your help.

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November 2011, *FNS-433*

Healthier Middle Schools
Every **student** can help.

You're not a little kid any more.

In middle school, you have more say in deciding things for yourself. You can also help to make your school healthier. There's a lot you can do to get more healthy food choices and more opportunities for physical activity for everyone.

There is power in numbers.

We are reaching out not only to middle school students but also to teachers, principals, parents, and food service managers. Working together is the best way to make your school healthier. When you get involved, you have a say in what decisions are made. That's better than letting others make all the decisions for you, right?

It's your school. Help to make it healthier.

Do you want to:

- ☐ Feel your best?
- ☐ Do your best in school?
- ☐ Have energy for all that you do?

Did you know that good nutrition and regular physical activity can help with all that and help you look your best? Since you spend so much of your day in school, it's up to you to make healthy food choices while you're there. Make physical activity part of every day, too, so you can be your best.

On the back of this flyer are some ideas other kids are using to make their middle schools healthier. Take them to your favorite teacher or the student council, and get things started.

Middle schools get healthier when **students** get involved.

Sign up. Join in.

Maybe your principal, a teacher, or the food service manager is starting a group to make school food healthier and taste better. Sign up and be part of it.

Find out what kids in your school want.

Start a survey or petition to figure out what new after school sports or activities your school could offer that kids will like.

Everybody likes a little competition.

So, how about a healthy eating or physical activity challenge between grades or schools in your area? Ask teachers and parents to help.

Look around.

What snacks and beverages are offered in your school store or vending machines? Could they be healthier? Take your ideas to the student council.

Find more ideas at TeamNutrition.usda.gov.

Remember, it's your school. So, do what you can to make it healthier.

And thanks for your help.

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November 2011, *FNS-437*

Dear Educator,

Welcome to *Nutrition Voyage: The Quest To Be Our Best*, Team Nutrition's new lessons for grades 7 and 8. Using a theme of exploration, the three lessons (treks) for each grade include:

- **Engaging ways for students to learn** about making healthy food and physical activity choices
- **Standards-aligned activities** for Math, Science, and English Language Arts
- **Opportunities for students** to investigate, participate in a challenge, evaluate, and reflect

Don't worry; you don't need a lot of time or fancy supplies for these treks. *Nutrition Voyage's* lessons are ready to go and simple to use. Lesson activities require few supplies and include reproducible handouts. You can also download and print these handouts from the Team Nutrition Web site at **http://teamnutrition.usda.gov**. The lessons are designed to be easy for Math, Science, and English teachers to integrate into their course curricula.

We also encourage you to check out the *Healthier Middle Schools: Everyone Can Help* communication tools, which are also available through the Team Nutrition Web site. These tools include video clips and print materials about school wellness. There are materials for students, principals, teachers, school food service, and parents.

We wish you and your class a happy nutrition voyage! Whether your class is embarking on the challenge to reach "Produce Peak," investigating nutritious snack choices to fuel their trek, or conducting a school survey, it's sure to be an exciting adventure. Trek on!

Sincerely,

Your Friends at Team Nutrition

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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THE QUEST TO BE OUR BEST

TREK 1 Grade7

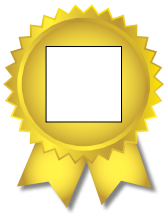
Reaching Produce Peak

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.

Example 50%



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:

Breakfast Lunch Dinner

Fruit/veggie snacks: banana, carrots

New fruits/veggies: kiwi

3 Medals Earned

Start

Week Total

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

Day 7
Breakfast Lunch Dinner
Fruit/veggie snacks: _____
New fruits/veggies: _____
Medals Earned

Day 6
Breakfast Lunch Dinner
Fruit/veggie snacks: _____
New fruits/veggies: _____
Medals Earned

Day 5
Breakfast Lunch Dinner
Fruit/veggie snacks: _____
New fruits/veggies: _____
Medals Earned

Day 4
Breakfast Lunch Dinner
Fruit/veggie snacks: _____
New fruits/veggies: _____
Medals Earned

Day 3
Breakfast Lunch Dinner
Fruit/veggie snacks: _____
New fruits/veggies: _____
Medals Earned

Day 2
Breakfast Lunch Dinner
Fruit/veggie snacks: _____
New fruits/veggies: _____
Medals Earned

Day 1
Breakfast Lunch Dinner
Fruit/veggie snacks: _____
New fruits/veggies: _____
Medals Earned

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TREK 2 Grade 7

Field Correspondents: Conducting a School Survey

Time Required:

Three 40-minute sessions

Sample timing:

First Session – **Investigate**
Second Session – **Challenge: Conduct a Survey**
Third Session – **Evaluate** and **Reflect**

Supplies:

Food Journals from Lesson 1 *(optional)*, laptops *(optional)*, poster-board or chart paper *(optional)*; Student Printable: **Table Talk – School Survey**.

Standards:*

Students will…

Math

- Solve real-world and mathematical problems involving the four operations with rational numbers. (7.NS.3)
- Understand that statistics can be used to gain information about a population by examining a sample of the population. (7.SP.1)

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: Math

Lesson Overview:

From music to fashion to what they select from the vending machine, middle schoolers are highly influenced by their peers. By studying dietary behaviors of those around them, students can gain an awareness of how classmates and trends affect their own eating habits, and spot improvements that could be made by friends and family.

In this lesson, students will begin by reviewing their own eating patterns. From this analysis, they will create hypotheses about the eating patterns of others in their school community, and develop a survey to identify food trends. By the end of the lesson, students will know the most and least popular foods at their school, understand relevant trends, and have recognized areas for change in their environment.

Learning Objectives:

Students will be able to…

- Hypothesize and predict based on personal experiences.
- Create, write, and conduct a survey investigating the eating preferences and habits of their peers.
- Communicate survey findings creatively, in visual/graphic ways.
- Identify relevant influences on food choices (e.g., family, school personnel, media, and technology).
- Collaborate with others to advocate for healthy eating at home, in school, or in the community.

Questions for This Trek

1. Why do I like the foods that I do?
2. How healthy is my community?
3. How healthy do my friends and I eat at school?
4. What healthy food and beverage options are my friends eating at school?

Instructional Steps

1 Investigate

1. **Why do I like the foods that I do?**
   Ask students about their favorite foods. (If you've completed **Trek 1**, have students analyze their **Food Journals** for their most frequent choices.) Why do they like these foods? If they grew up in a different State or country, would they have different favorites? Why or why not?

2. **How healthy is my community? What foods are the most and least popular?**
   Tell students that their next mission is to uncover how healthfully their community eats. First, ask and discuss what students think it means to be "healthy." How does making healthy choices (such as following the *Dietary Guidelines for Americans* at **http://www.choosemyplate.gov**) help kids to do better at the things they enjoy (for example: sports, dance, art)? Next, talk about healthful eating at your school. What foods do students think are the most and least popular among their peers?

2 Challenge: Conduct a Survey

3. **Introduce the Student Printable: Table Talk – School Survey.** Ask students how they might go about finding out about food habits at school. For example, how can they find out how healthfully their friends eat at school? Or, what healthy options are available at school? (Prompt them with the idea of creating a survey.) Invite small groups to review **Table Talk – School Survey**. Have them become familiar with the questions, and add additional questions they'd like to explore/investigate.

4. **Use the printable to create hypotheses.** Ask the groups to predict how *they* think the survey will turn out. Have them create hypotheses that the survey will answer. What do they think they will uncover? How might they rephrase certain questions to best suit their own school/community?

5. **Undertake the Class Survey.** Have groups discuss goals for the survey—what can students do with the information to inspire change? Together, create a master survey using the best wording, and add on questions from each group. The survey may be conducted in person or distributed via email, blog, Web site, or by hand. If distributing surveys, let respondents know how, and by when, their surveys will be collected. For example, participants can email them, print them out, or fill them in by hand. Decide on a method beforehand that will make it most convenient for your class and survey participants.

Tips for Conducting Surveys

- **Avoid leading questions.** For example, "Don't you drink water every day at school?" leads people to say "yes." Instead, try "Do you drink water at school? How often?"
- **Use measurable questions.** It can be difficult to analyze questions that are too broad or open-ended. Yes or no questions, multiple choice, and those with a "defined" answer (such as a number) can be more easily categorized and compared.

Continue

3 Evaluate

6. **Analyze.** Once surveys have been collected, compile and inventory the results. You may want to create a master list, using either a spreadsheet or document program, to make it easier to analyze the answers. Next, divide the questions and their results among groups. Have each group analyze the results of the question(s), and come up with a visual way to communicate and represent the information. Students may create graphs and charts, and display them in a poster, slideshow, on a blog or wiki, or even in a 3-D art installation using food packaging. Encourage students to be creative with their presentations!

7. **Share.** Have each group present its findings to the class. What overall trends do students notice? Are students' favorite foods generally healthy choices? Discuss how the availability of healthy foods might influence how often students eat those foods and how students' food preferences are formed over the years.

4 Reflect

8. **Explore the idea of "influence." Ask:** How do your friends and family influence your food choices? What other factors influence you (for example: ads, marketing, and availability)? Invite students to write in their journals about the connections between the survey results and their own eating habits. How are their food choices similar to or different from other kids at your school? What influences do they see?

9. **Strategize.** As a class, discuss where students see room for improvement. What changes can the community make to enable students to feel and do their best (for example: eat more fruits, vegetables, and whole grains in accordance with the *Dietary Guidelines for Americans*)? What messages would students like to share with others? Brainstorm the different ways students can share messages with the community (for example: posters, blog entries, newsletters, videos, or presentations).

End of Trek

Extension Ideas

- Have students turn their healthy messages into posters to display around school.
- Publish and discuss the survey results in the school paper.
- Repeat the survey after completing **Trek 3: Leading the Way** to see if any changes have resulted from students' efforts.
- Create a challenge to encourage other classes or grades to try a new healthy food they haven't tried before.
- Have students read newspaper articles or watch online videos about other communities that are introducing healthier food to their schools.

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TREK 2 Grade 7

Table Talk: School Survey

Use the survey below to discover more about the eating habits at your school. How healthy do you and your friends eat at school? What healthy options are available? Alternatively, use the questions as inspiration to write your own survey. **Attention participants:** If you run out of space, use the back of this sheet.

	More than once a day	Once a day	2-3 times a week	Once a week	Less than once a week
1. How often do you eat **fruits** at school? (Check one)					
2. How often do you eat **vegetables** at school?					
3. How often do you eat **whole grains** at school (whole-wheat bread, pasta, or tortillas; brown rice; oatmeal; popcorn)?					
4. How often do you eat food from…					
The school vending machine					
The school cafeteria					
School fundraisers					
Other school sources (snack bar, kiosk)					

5. What beverage do you drink most often at school?	☐ Milk	☐ Soda	☐ 100% Juice	☐ Water	☐ Other: _____

6. What are your **three** favorite foods available at school? Why are they your favorites?						
7. What are your **three least** favorite foods available at school? Why are they your least favorites?						
8. Why do you choose the foods you do? Rank the reasons from most to least important: (1-5; 1 = **most** important, 5 = **least** important)	___ Packaging	___ Cost	___ Taste	___ Convenience	___ Health	___ Locally grown
9. What whole grains, fruits, vegetables, or other healthy foods do you **wish** were available at school?						
Insert other food-related questions:						
10.						
11.						
12.						

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NUTRITION VOYAGE
THE QUEST TO BE OUR BEST

TREK 3 Grade 7

Leading the Way [as Agents of Change]

Subject Focus: English Language Arts

Lesson Overview:

As teachers, we want to empower our students and enable them to make a difference. But middle schoolers often don't recognize the impact they can have on the world. In this lesson, students will see how they can effect change by using the survey results generated in **Trek 2: Field Correspondents** to make a plan to increase healthy eating at their school, and then present that plan to school leaders. (Students who have not completed **Trek 2** can begin by creating their own survey.)

By the end of the lesson, students will have created their own healthy living campaigns, and ideally will have seen results of their campaigns in action.

Learning Objectives:

Students will be able to…

- Explain how the school environment can influence healthy or unhealthy eating.
- Develop strategies for overcoming barriers to achieving a healthier diet.
- Advocate for healthy and appealing food choices at school.
- Educate family and peers about choosing healthy foods.
- Explain positive outcomes from choosing healthy foods.

Questions for This Trek

1. What are the most and least favorite foods at our school? Do students eat enough fruits, vegetables, and whole grains?
2. Does my school offer fruits, vegetables, and whole grains in the cafeteria, vending machines, and school store?

Time Required:

Three 40-minute sessions

Sample timing:

First Session – **Investigate**
Second Session – **Challenge: Create a Persuasive Campaign**
Third Session – **Evaluate** and **Reflect**

Supplies:

Notebooks, pens, pencils, laptops (optional), chart paper or poster-board (optional); Student Printable: **Spread the Word: Write a Healthy Motto**.

Standards:*

Students will…

English Language Arts

- Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples. (7.SL.4)
- Include multimedia components and visual displays in presentations to clarify claims and findings and emphasize salient points. (7.SL.5)
- Write arguments to support claims with clear reasons and relevant evidence. (7.W.1)

Math

- Understand that statistics can be used to gain information about a population by examining a sample of the population. (7.SP.1)

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

Instructional Steps

1 Investigate

1. **What are the most and least favorite foods at our school? Do students eat enough fruits, vegetables, and whole grains?** Begin by reviewing why it is important to eat fruits, vegetables, and whole grains. (If you completed **Trek 2: Field Correspondents**, you may skip to step #4.)

2. **Does my school offer fruits, vegetables, and whole grains in the cafeteria, vending machines, and school store?** Revisit your discussion of nutrient-dense foods from **Trek 1: The Path to Fruits and Veggies.** If you did not complete Trek 1, discuss with students how some foods and beverages are *nutrient-dense*. They provide many nutrients per serving but contain relatively few calories. All vegetables, fruits, whole grains, seafood, eggs, beans and peas, unsalted nuts and seeds, fat-free/low-fat milk and dairy products, and lean meats and poultry (when prepared without solid fats or added sugars) are nutrient-dense foods.

   Explain that some foods and beverages contain *extra calories* from added sugars and solid fats. Foods high in added sugars and solid fats provide many calories, but few, if any, essential nutrients (for example, vitamins, minerals, or proteins). Solid fats and added sugars add extra calories to foods and beverages such as sodas, energy drinks, sports drinks, candies, cookies, and ice cream.

   So, the most important thing to remember is that nutrient-dense foods provide your body with the nutrients it needs to grow and stay healthy without too many extra calories.

3. **Table Talk – School Survey.** Next, invite students to create a survey that will uncover classmates' favorite foods, as well as how often students eat fruits, vegetables, and whole grains. (Utilize the survey in Trek 2 "as is," or use it to inspire your own.) The survey may be conducted in person or distributed via email, blog, Web site, or by hand. If distributing surveys, let respondents know how, and by when, their surveys will be collected. For example, participants can email them, print them out, or fill them in by hand. Decide on a method beforehand that will make it most convenient for your class and the survey participants.

   Ask whether students chose any fruits, vegetables, whole grains, protein foods, and fat-free or low-fat dairy foods as their favorites. See **http://www.choosemyplate.gov** for examples of these foods. How often are students choosing fruits and vegetables and whole grains (such as whole-wheat breads and cereals, popcorn, and oatmeal) at school? Do students choose milk as a drink at school? What are some reasons beyond taste (for example, packaging, cost, convenience, time) that people choose the foods they do?

4. **Does my school offer fruits, vegetables, and whole grains in the cafeteria and in vending machines?**

   Ask students to inventory the food sources at your school (for example: the cafeteria, vending machines, school store). What options do these sources offer? How does this analysis compare to the survey results? Are students choosing less healthy options because those are what is available? What's the access to healthy food, and is it presented in appealing ways? You might have students conduct additional research by interviewing food service staff or those responsible for vending machine selections.

Continue

2 Challenge: Create a Persuasive Campaign

5. **Challenge small groups to brainstorm healthy changes.** Remind them to refer to survey results and conduct further research, if needed. Each group should identify specific foods they want to see more of, and why, as well as ways to increase the amount of whole grains, low-fat dairy, fruits, and vegetables students eat (both school- and student-led solutions). Have the groups present their ideas to the class.

6. **Create a campaign for the school community.** Have students use the Student Printable, **Spread the Word: Write a Healthy Motto**, to help jump-start their campaigns. Then, challenge students to turn their mottos into a chant, rap, song, jingle, or some other form of creative communication. You might share samples of existing songs or videos designed to promote healthy eating (for example: the videos available at **http://fruitsandveggies.challenge.gov**). Share students' work online or have them perform for other groups of students and school leaders. Choose the best ideas to form the basis of a healthy living campaign to share with the entire school.

3 Evaluate

7. **Analyze.** After sharing students' work, discuss the reaction it received from students and from school leaders. Do students think their presentation was effective? Why or why not? Encourage students to brainstorm next steps.

4 Reflect

8. Have students reflect in their journals about their campaign. Ask them to consider:

- Did they inspire change?
- What improvements were made? What barriers still exist?
- Do they have any ideas for what they can do next?
- How will the campaign influence their own eating decisions?

End of Trek

Extension Ideas

- Have students meet with school leaders and food service staff to discuss changes that can be made in the cafeteria, school store, and vending machines.
- Make a Web video to inspire change beyond the school.
- Read about other schools that have made a change. Start a school-to-school communication campaign, sharing stories, ideas, challenges, and successes.
- Invite chefs and registered dietitians to visit the school and share healthy recipes.

NUTRITION VOYAGE
THE QUEST TO BE OUR BEST

TREK 3 Grade 7

Spread the Word: Write a Healthy Motto

How can YOU inspire change?

Use what you've learned about eating well to create a catchy motto that will motivate your friends, family, teachers, school leaders, and others in your community to embark on their own healthy expedition and do their best by choosing nutritious foods. Cut out the word cards below to use as inspiration. Arrange and rearrange them until you discover a powerful slogan. Use your own words, too—write them on the blank cards.

For example: ***"Eat Fruits and Veggies, Be Active, Love Your Life!"***

Fruits	Feel	Live	Delicious	Life
Vegetables	Best	Champion	Energy	Be
Whole Grains	Strong	Winner	Powerful	Discover
Low-Fat Dairy	Healthy	Love	Eat	Balanced
Lean Protein	Inspire	Active	Do	Food
Confident	Choice	Cook	Smart	Fun
Colorful	Energized	Action	Voyage	Trek

Write your ideas

Use your motto to create a chant, haiku, song, rap, or jingle to help spread the word even further! Film or perform your routine to share with your classmates, teachers, and school leaders. Post it to your class blog or Web site, or share with a local media station.

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NUTRITION VOYAGE
THE QUEST TO BE OUR BEST

TREK 1 Grade 8

Finding Fitness!

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: **Keep On Trekking: An Hour a Day!**, 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)

English Language Arts

- Conduct short research projects to answer a question (including a self-generated question), drawing on several sources and generating additional related, focused questions that allow for multiple avenues of exploration. (8.W.7)

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

Subject Focus: Science

Lesson Overview:

Staying active and finding physical activity that one enjoys are skills that last a lifetime. In this lesson, students will learn that there are many fun ways to be physically active — team sports are not the only option. They will come to understand the physical activity guidelines for their age group, analyze their own physical activity levels, and take part in a challenge to increase their minutes spent being physically active.

By the end of the lesson, students will better understand the importance of physical activity and identify fun ways to get moving.

Learning Objectives:

Students will be able to…

- Explain that incorporating daily moderate or vigorous physical activity into one's life does not require a structured exercise plan or special exercise equipment.
- Describe the recommended amounts and types of moderate and vigorous physical activity for adolescents.
- Identify ways to increase daily physical activity.

Questions for This Trek

1. What's my current level of physical activity?
2. Why does being physically active matter?
3. How much physical activity do I need, and what "counts" as physical activity?
4. How can I fit more physical activity into my daily life?

Instructional Steps

1 Investigate

1. **What's my current level of physical activity?** Tell students they are about to embark on a challenge. To begin, they will use their notebooks to record how many minutes they spend being physically active for 3 consecutive days. At least 1 day should be a weekend day. Students should estimate the number of minutes they spend being physically active throughout the day, such as by climbing the stairs, walking, running, dancing, skateboarding, and playing basketball. Even short 5- to 10-minute periods of physical activity count.

   For example: ***Monday:*** *Walked the dog (10 minutes), played soccer (45 minutes), did sit-ups (5 minutes), danced to music (5 minutes).*

2. **Why does being physically active matter?** Have students bring their notebooks to class. **Ask:** What do they think was the purpose of their research? Why does being physically active matter? How does physical activity help us to do what we love to do, but do it better? Discuss the many health benefits of physical activity for the mind and body. For example, physical activity can make you stronger; make you feel like you have more energy; and help maintain a healthy heart, bones, muscles, and joints. Being physically active can also help you improve attention and learning, as well as help you to reduce stress and relax. Invite students to share examples of times when physical activity made them feel better. How did they feel better?

   Finally, physical activity is important for maintaining a healthy weight. Discuss some of the health consequences of obesity, such as heart disease, Type 2 diabetes, and increased risk of a variety of cancers.

2 Challenge: Make a Plan

3. **Introduce the Student Printable: Keep On Trekking: An Hour a Day!** This printable introduces the third question for this Trek. Help students use their notebooks to complete the **Day 1** column on the printable. How many minutes did they spend doing low-, moderate-, and vigorous-intensity activities? How close did they come to meeting the recommendation that kids and teens ages 6 to 17 get 60 minutes or more of physical activity a day, the majority of which is moderate to vigorous? Learn more about exercise by selecting "Physical Activity" at **http://www.choosemyplate.gov**.

4. **Brainstorm ways to "step up" fitness.** Divide students into four groups—**before school**, **during school**, **after school**, and **weekends**. Invite groups to brainstorm ways to incorporate more physical activity into their categories, focusing on moderate- to vigorous-intensity activities. (See the Student Printable for the descriptions of vigorous versus moderate activity.) For example, the "during school" group might suggest walking around the track or athletic field during lunch.

   Remind students to be creative in using the facilities and equipment available in unique ways. For example, students might design an obstacle course or choreograph a dance routine to a favorite song. Have the groups make posters or write blog posts that will inspire peers at their school to "move more."

   Ask students to think about their personal physical activity goals. Have them write down any ideas or new activities to try, to help them meet their goals on the student printable.

Continue

Challenge Check-In

- **Check in midweek.** Are students on their way to meeting their goals? Create a master spreadsheet using graph paper or spreadsheet software in order to analyze the results.
- **Invite the before-school, during-school, after-school, and weekend 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.

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5. **Challenge another class!** Challenge another class! Have students challenge another class to see which group can spend the most time being physically active over the course of 1 week, at a moderate-to-vigorous level. If everyone in the class met the 60-minute-per-day recommendation, how many minutes would that be? Set that as a benchmark and ask students to write this as the **"class goal"** on the printable. Have students use the activity log on the printable to record their time spent being physically active, as well as the level of intensity for each physical activity.

   Find a list of physical activity options to use as a guide at: **http://www.choosemyplate.gov/physical-activity.html**.

3 Evaluate

6. **Tally.** At the end of the competition timeframe, have students calculate the total number of minutes spent being physically active. Which class spent the most time doing all types of physical activity? Which class spent the most time doing *moderate* and *vigorous* activities?

7. **Celebrate!** Award prizes for each category, such as planning a mini field day or talent show through which students can demonstrate their favorite physical activities. Invite the winning class on a walk with the principal or teachers.

4 Reflect

8. **Journal accomplishments.** Invite students to reflect on their own level of activity in their notebooks. Did they meet their personal goals? How did getting more physical activity make them feel? Are they inspired to keep going? Why or why not?

9. **Have a class discussion** in which students share their reflections, challenges, and any further questions they would like to explore.

End of Trek

Extension Ideas

- Sponsor a school-wide **Field Day** to try different exercises and activities together as a school.
- Direct students to create a physical activity or dance video that other students can use for personal physical activity. Include modifications for students with different abilities.
- Identify existing physical activity options at school, gather suggestions from peers, then brainstorm new activity ideas to be included at physical activity breaks, or before or after school.
- Collaborate with the physical education teacher to learn what equipment is available for school-wide use outside of physical education class.

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NUTRITION VOYAGE
THE QUEST TO BE OUR BEST

TREK 1 Grade 8

Keep On Trekking: An Hour a Day!

Getting up and moving doesn't happen only when playing sports! Track your trekking by writing down what you do each day and for how long. Count any length of time you are not lying down or seated (unless you're on a bike – then that counts, too!).

The goal is to be up and moving at least **60 minutes a day**, the majority of which is of "moderate to vigorous" intensity.

Class goal:_____ total minutes
(60 minutes x # of students)

Is it Moderate ... or Is it Vigorous?
During **moderate activity**, you can talk, but you can't sing.
During **vigorous activity**, you can only say a few words without stopping to catch your breath.

Physical Activity Log

Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7
_____ minutes	_____ minutes	_____ minutes	_____ minutes	_____ minutes	_____ minutes	_____ minutes
+ _____ minutes	+ _____ minutes	+ _____ minutes	+ _____ minutes	+ _____ minutes	+ _____ minutes	+ _____ minutes
Sub-Total: Moderate + Vigorous Activity						
_____ minutes	_____ minutes	_____ minutes	_____ minutes	_____ minutes	_____ minutes	_____ minutes
Plus: Low-intensity Activity						
+ _____ minutes	+ _____ minutes	+ _____ minutes	+ _____ minutes	+ _____ minutes	+ _____ minutes	+ _____ minutes
= **Total: Daily Physical Activity**						
_____ minutes	_____ minutes	_____ minutes	_____ minutes	_____ minutes	_____ minutes	_____ minutes

Ideas for meeting my goals/new physical activities to try:

Did you know?

Playing soccer, taking your dog for a walk, dancing to the radio—it all counts as physical activity and helps keep your mind and body healthy.

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NUTRITION VOYAGE: THE QUEST TO BE OUR BEST

TREK 2 Grade 8

Backpack Full of Snacks!

Time required:

Three 40-minute sessions

Sample timing:

First Session – **Investigate**
Second Session – **Challenge: Understand the Label**
Third Session – **Evaluate** and **Reflect**

Supplies:

Notebooks, pens, pencils, laptops or computers (optional), Student Printables: **Learn the Label** and **Snacks for Your Journey**.

Standards:*

Students will…

Math

- Investigate patterns of association in bivariate data. (8.SP)
- 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. (8.W.7)
- Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples. (8.SL.4)

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

Subject Focus: Math

Lesson Overview:

The reality is that by middle school, kids are making their own dietary choices, especially when it comes to between-meal snacks. How can we give them the tools to make the best possible decisions? In this lesson, students will learn how to evaluate the snack options at school based upon the Nutrition Facts label and the *Dietary Guidelines for Americans*. They will use mathematical analyses to evaluate the most nutritious snacks available at school and to think critically about how the school could offer healthier snacking choices.

By the end of the lesson, students will better understand what constitutes a healthy snack and will have made a direct impact on their school environment.

Learning Objectives:

Students will be able to:

- Analyze the nutrition information on food labels to compare products.
- Make healthier food and beverage choices.
- Develop strategies for making healthier choices at school.
- Describe strategies a person can use to reduce the amount of empty calories consumed.

Questions for This Trek

1. What snack options are available at my school?
2. Why choose healthier snacks? How do I know if a snack is a healthy choice?
3. How do I read a Nutrition Facts label?

Instructional Steps

1 Investigate

1. **What snack options are available at my school?** Ask students where they can purchase snacks at school (for example: cafeteria, vending machines, or school store). Divide students into teams and challenge each team to document the snacks available at one of these sources. Students might take pictures of each snack and add them to a class blog or journal. Or, they might record the names of each snack in their notebooks.

2. **What's the impact of choosing certain snacks? How do I know if a snack is the right choice for me?** Discuss the impact of choosing certain snacks. For example, of the snacks students documented, which do they think will help them stay healthy, learn, and be their best? Ask students to share their reasoning. Explain that evaluating the ingredients list, the **Nutrition Facts label** found on packaged foods and beverages, and **MyPlate** (found at **http://www.choosemyplate.gov**) can help them discover the answers to these questions and decide whether or not a particular snack is a smart choice for them.

3. **How do I read a Nutrition Facts label?** Distribute the **Student Printable: Learn the Label**. Give small groups 15 minutes to complete the activity. Then discuss students' responses to the questions as a class, evaluating the different terms found on the Nutrition Facts label. Explain that the Nutrition Facts label does not show the amount of *added* sugars or whole grains in a food product. To identify these, the ingredients list on the food package must be used instead. (Note to teachers: The Nutrition Facts label lists only total sugars, which includes both the naturally occurring sugars found in many healthy foods and any added sugars.) Are Spicy Cheese-Flavored Puffs a healthy choice? Why or why not?

Share: Remind students that all packaged foods and beverages include a Nutrition Facts label. Then, explain that they can find nutrition information for foods and beverages that *don't* come with a Nutrition Facts label, such as fresh fruits and vegetables, at Food-a-Pedia (**http://www.choosemyplate.com/foodapedia**).

Learn the Label Answer Key

- **a.** Grains; not a whole-grain snack
- **b.** 1 ounce (28 grams/about 18 pieces)
- **c.** 3
- **d.** 180
- **e.** 540 (c x d)
- **f.** 450 (d x 2.5)
- **g.** 22 grams (11 g x 2)
- **h.** 45 grams (15 g x 3)
- **i.** 3% (2% x 1.5)
- **j.** 250 milligrams; 750 mg (250 mg x 3)
- **k.** 0 grams; 4 g. (Note to teachers: When *trans* fat is below 0.5 grams per serving, it is labeled as having 0 grams.)
- **l.** 10%; no
- **m.** No
- **n.** No

4. **What are the Five Food Groups?** Explain to students that the Nutrition Facts label is not the only way to evaluate whether a snack is a smart choice. Students should also consider how a snack contributes to a healthy diet. Explain that five food groups form the building blocks of a healthy diet: Fruits, Vegetables, Protein Foods, Grains, and Dairy.

MyPlate's Five Food Groups

The Five Food Groups and a few examples of each.*

Fruits
Apples, grapefruits, lemons, limes, blueberries, watermelon, bananas, kiwi fruit, papaya, oranges, 100% fruit juice.

Vegetables
Tomatoes, black beans, spinach, avocados, beets, carrots, plantains, lettuce, mushrooms, corn, potatoes.

Protein Foods
Meats (beef, pork, lamb), poultry (chicken, turkey), eggs, beans and peas (black beans, chickpeas, lentils), processed soy products (tofu, veggie burgers), nuts and seeds (almonds, peanut butter, sesame seeds), seafood (cod, salmon, shrimp, tuna).

Grains
Whole grains (brown rice, oatmeal, whole-wheat bread/pasta/cereal/tortillas, popcorn), refined grains (white rice, white bread, flour tortillas, pretzels, cornbread, corn flakes).

Dairy
Milk, cheese (cheddar, American, cottage cheese), yogurt, calcium-fortified soymilk (soy beverage).

Not a complete list. Visit http://www.choosemyplate.gov for more.

Students can see a daily food plan that indicates how much food they need from each food group each day at **http://www.choosemyplate.gov/supertracker**.

Discuss how snack choices might provide foods from the five food groups (for example: a snack of strawberries and fat-free yogurt provides foods from the Fruit and Dairy groups, respectively). Note that some snacks contain only fats and added sugars and do not contribute to any food group (for example: candy, soda, and sports drinks).

Continue

Some foods within the various food groups are also higher in solid fats and added sugars (for example, cookies in the Grains group). These foods provide extra calories. Calories that our bodies don't use are stored as fat.

2 Challenge: Understand the Label

5. **Explore the snacks that are available at school.** Revisit the snacks each team documented at the beginning of the lesson. Invite teams to evaluate the Nutrition Facts label on each of the snacks they found. (If the Nutrition Facts label for the snack isn't available, students can research nutrition information at Food-a-Pedia (**http://www.choosemyplate.gov/foodapedia**). Have teams use each snack's Nutrition Facts label (and ingredients list, to spot added sugars and whole grains), along with the five food groups at **http://www.choosemyplate.gov** to complete the activity on the **Snacks for Your Journey** printable, then share their reasoning with the class.

   - What patterns do students notice from this activity?
   - Do higher calorie snacks also tend to be higher in saturated fat and added sugars?
   - What foods or beverages are high in saturated fat or added sugars?
   - Are most snacks from the Grains food group whole grains?
   - How does each snack contribute to the five food groups? Are all of the food groups represented?

   Invite students to make posters featuring charts or graphs comparing two or more snack products (for example: the saturated fat and calories per serving in two similar products). Display the posters along with the snack packaging and Nutrition Facts label in the hallway or school cafeteria for others to learn from.

6. **Consider: Do snack options need to be improved at school?** After evaluating the snacks available at school using the Nutrition Facts labels and the five food groups, what do students think about the choices offered? Are there enough snacks that can help students to do their best? Why or why not? For each of the food sources at school (cafeteria, vending machines, school store), are each of the food groups represented? In particular, are fruits, vegetables, whole grains, and fat-free or low-fat dairy products available? If students only ate snack foods during the day, would they get the foods they need to grow and be their best? What recommendations would students make to improve the snack options available at school and to encourage their classmates to make better choices?

3 Evaluate

7. **Share knowledge with peers.** Based upon their research, invite students to create a piece of visual communication that will inspire their peers to make healthier snack choices. For example, this might be an interactive nutrition label to teach others how to use it, a 3-D continuum of healthy to not-so-healthy snacks with nutrition labels and packaging, a snack recipe book, or a video blog/investigative piece to share online.

4 Reflect

8. **Journal lesson outcomes.** Have students reflect in their journals about the project. Did they inspire change? What improvements were made? What barriers still exist? Do students have any ideas for what they can do next? How will their learning influence their own eating? What change do students still wish to see?

End of Trek

Extension Ideas

- Have students share their success stories about improving school snacks with local media by writing a press release.
- Invite a chef, Cooperative Extension agent, or local dietitian into the classroom to teach students how to prepare simple, healthy snacks.

NUTRITION VOYAGE
THE QUEST TO BE OUR BEST

TREK 2 Grade 8

Learn the Label

MyPlate and the **Nutrition Facts label** can help you in your quest to do your best. Use this label for **Spicy Cheese-Flavored Puffs** to answer the questions below. You'll need to do a bit of math, so use your notebooks for extra space.

1. Identify How This Snack Fits on MyPlate:

a. Does this snack fit into a food group? Which one(s)? _____

2. Check Serving Size and Calories:

b. What is the **serving size**? _____

c. How many **servings** are in the package? _____

d. How many **calories** are in a single serving? _____

e. How many **calories** are in the whole package? _____

f. How many **calories** are in 2.5 oz.? _____

3. Explore What's Inside:

The label helps you choose those snacks that are lower in saturated fat and sodium and that have 0 grams of *trans* fat. If a food has a % Daily Value that is 5 percent or lower in a specific nutrient, it is considered "low" in that nutrient. Practice label-reading to see what's inside each serving of **Spicy Cheese-Flavored Puffs**!

g. How many **grams of total fat** are there in two servings? _____

h. How many **grams of total carbohydrates** are there in the whole package? _____

i. What is the **% Daily Value** of **dietary fiber** in one and a half servings? _____

j. How many milligrams of **sodium** are in one serving? _____ In the whole package? _____

k. How many grams of ***trans* fat** are in one serving? ____ Grams of **saturated fat** in two servings? _____

l. What is the **% Daily Value** of **saturated fat** in one serving? ____ Is this snack "low" in saturated fat? ____

The Truth About Fat

Not all fats are bad! Fat is a necessary nutrient for your body to grow and remain healthy. But certain fats like **saturated** and ***trans* fat** can increase **blood cholesterol** and the risk for heart disease.

4. Use the Ingredients List:

m. Choose grains that are whole-grain rich. If the word "whole" is before the first ingredient listed, then it's whole grain. Is this snack **whole-grain** rich? _____

n. Choose snacks that are low in added sugars (such as: high-fructose corn syrup, sugar, brown sugar, corn syrup, fructose, honey, molasses, anhydrous dextrose, and crystal dextrose). Does this snack include **added sugars** in the first three ingredients?

_____

Tip! *Ingredients are listed in order of amounts by weight. So, for example, if sugar is listed as the first ingredient, the snack contains more sugar than any other ingredient!*

Sample Nutrition Label:
Spicy Cheese-Flavored Puffs

Nutrition Facts

Serving Size 1oz (28g/about 18 pieces)
Servings Per Package about 3

Amount Per Serving

Calories 180 — Calories from Fat 100

	% Daily Value*
Total Fat 11g	**17**%
Saturated Fat 2.0g	**10**%
Trans Fat 0g	
Cholesterol	**0**%
Sodium 250mg	**10**%
Total Carbohydrate 15g	**5**%
Dietary Fiber less than 1g	**2**%
Sugars 0g	
Proteins 1g	

Vitamin A 0% • Vitamin C 0%
Calcium 0% • Iron 2%

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

	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Saturated Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

1 Serving Size
2 Amount of Calories
3 Limit These Nutrients
4 Get Enough of These Nutrients
5 Percent (%) Daily Value
6 Footnote With Daily Values (DVs)

For educational purposes only. This label does not meet the labeling requirements described in 21 Code of Federal Regulations 101.9.

Ingredients: Enriched Corn Meal, Vegetable Oil, Spicy Seasoning, Partially Hydrogenated Soybean and Cottonseed Oil, Sunflower Oil, Cheddar Cheese (Milk, Cheese Cultures, Salt, Enzymes), Corn Syrup Solids, and Salt.

5. Ask: Is this food right for me? Why or why not? What snack could I choose instead? _____

_____

_____

_____

_____

_____

_____

_____

_____

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NUTRITION VOYAGE
THE QUEST TO BE OUR BEST

TREK 2 Grade 8

Snacks for Your Journey (page 1 of 2)

You are going on an important journey. You can only take up to 500 grams of snacks in your backpack—and they have to be obtained from your school! You'll want to choose the healthiest snacks so that you can keep up your energy level and do your best on your mission.

What snacks would you bring?

Too Sweet= Extra Calories Without Extra Nutrition

- **Sodas and sports, energy, and fruit drinks**
- **Candy, ice cream, cookies, and cakes**

Energizing Snacking Tips:

- Pick snacks that help you get foods from each food group.
- Choose foods that won't weigh you down with a lot of extra calories from added sugars and solid fats.
- Pick some snacks that are not "prepackaged," like fresh fruits.

Power-up Snacks:

- Fresh fruit like apples, pineapple, tangerines, bananas.
- Baby carrots with low-fat dip.
- Fat-free yogurt.
- Baked whole-grain chips with salsa.
- Nuts and raisin mix.

Hint: Use the Nutrition Facts label and the five food groups to evaluate your options! If the Nutrition Facts label for a snack isn't available, you can research its nutrition information at **http://www.choosemyplate.gov/foodapedia**.

Look for snacks that:

- Contribute to at least one of the five food groups
- Are low in saturated fat (5% DV or less)
- Contain 0 grams of *trans* fat
- Contain less than 200mg of sodium per package
- Have a whole grain as the first ingredient (if it's a grain product, such as corn chips, crackers, or cookies)
- Are low in added sugars (a form of sugar is not one of the first three ingredients)

Remember:

*The information on the Nutrition Facts label is based upon **one serving**. If there are multiple servings in a package, be sure to do the math!*

Nutrition Facts
Serving Size 1 oz (28g/about 18 pieces)
Servings Per Container about 3

Amount Per Serving	
Calories 180	Calories from Fat 100
	% Daily Value*
Total Fat 11g	**17**%
Saturated Fat 2.0g	**10**%
Trans Fat 0g	
Cholesterol 0mg	**0**%
Sodium 250mg	**10**%
Total Carbohydrate 15g	**5**%
Dietary Fiber less than 1g	**2**%
Sugars 0g	
Proteins 1g	

Vitamin A 0% • Vitamin C 0%
Calcium 0% • Iron 2%

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

	Calories:	2,000	2,500
Total Fat	Less than	65g	80g
Saturated Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

Calories per gram:
Fat 9 • Carbohydrate 4 • Protein 4

The sources of our snacks (for example: vending machine, school store, cafeteria)**:**

_____

_____

_____

_____

_____

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THE QUEST TO BE OUR BEST

TREK 2 Grade 8

Snacks for Your Journey (page 2 of 2)

Snack name	Weight in grams per package	Calories per package	Food group	% Daily Value for Saturated Fat per package	Grams of *Trans* Fat per package	Milligrams of Sodium per package	Added Sugars in first three ingredients
Sample: Spicy Cheese-Flavored Puffs	84g	540	Grains; not a whole grain	30% (too high)	0g	750mg (too high)	None. (corn syrup solids shown at end of ingredients list)
1.							
2.							
3.							
4.							
5.							
6.							
7.							
8.							
9.							
10.							
Total:	500 grams						

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NUTRITION VOYAGE: THE QUEST TO BE OUR BEST

TREK 3 Grade 8

From Farm to You

Time Required:

Three 40-minute sessions

Sample timing:

First Session – **Investigate**
Second Session – **Challenge: Get Fresh!**
Third Session – **Evaluate** and **Reflect**
Field Trip – Full or partial day

Supplies:

Notebooks, pens, pencils, laptops or computers (optional), Student Printable: **Favorite Food Scavenger Hunt**, atlas or digital mapping tool.

Standards:*

Students will…

English Language Arts

- Conduct short research projects to answer a question, drawing on several sources and generating additional related, focused questions. (8.W.7)
- Write arguments to support claims with clear reasons and relevant evidence. (8.W.1)
- Present claims and findings, emphasizing salient points in a focused, coherent manner. (8.SL.4)
- Integrate multimedia and visual displays into presentations to clarify information, strengthen claims and evidence, and add interest. (8.SL.5)

Science

- Understand that populations of organisms can be categorized by the function they serve in an ecosystem. (National Academy of Sciences, Content Standard C)
- Present claims and findings, emphasizing salient points in a focused, coherent manner with pertinent descriptions, facts, details, and examples. (8.SL.4)

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

Subject Focus: English Language Arts

Lesson Overview:

Where does our food come from? Your average middle schooler might tell you it comes from the supermarket, corner store, or restaurant. In this lesson, students will learn about local agriculture, determine if any of the fruits and vegetables they consume regularly are locally grown, and write a report.

Learning Objectives:

Students will be able to:

- Identify local agricultural operations (school/community garden, farmers market/co-op, farm, greenhouse) in their community.
- Discuss when fruits and vegetables grown in their area are available (i.e., seasonality).
- Explain the benefits and challenges of local, regional, and imported sourcing.

Questions for This Trek

1. What foods do I like to eat? Where do these foods come from?
2. What foods grow in our area? How does this vary through the seasons?

Instructional Steps

1 Investigate

1. **What foods do I like to eat? Where do these foods come from?** Talk with students about some of their favorite fruits and vegetables. Do students know where these foods come from? Not just where they are purchased, but also where they are grown? Explain that food can travel a long way to reach us. A food may need specific growing conditions that are not available where you live all year long. It may be grown somewhere else within the United States or imported from other countries. But many foods can be grown locally, meaning closer to where you live. Local foods do not have to travel as far to get to you. Sometimes people can buy directly from local farmers, such as at a farmers market or pick-your-own farm. Ask students to share their ideas about steps a food may take to get from a farm to their plate. After students have offered their suggestions, write down the following on the board: Farm —> processing plant (such as to turn apples into applesauce) —> packaging plant —> distribution plant —> supermarket/grocery store —> consumer —> plate. Can students think of any additional steps or factors? (For example: restaurants and schools may provide food to the consumer; not all foods are packaged and processed.)

   Give students their challenge: Find out where 10 of their favorite fruits and vegetables come from. Distribute the **Student Printable: Favorite Food Scavenger Hunt** for students to complete. Ask students to think about how they can find out where food is originally grown or raised. After hearing their ideas, explain that one can find out where a food comes from by looking at its sticker, the food package, or a sign at the store. Students can also use the following resource to get more information about where their food comes from: **http://www.nass.usda.gov/Charts_and_Maps/index.asp**.

   Students may want to use a digital mapping tool or atlas to help them calculate distances. Discuss students' findings. What was the most surprising thing they discovered?

2. **What foods grow in our area? How does this vary through the seasons?** Have students explore local gardens, farmers markets, greenhouses, or farms. You and your students can find local agricultural sources by doing a search online. For a list of farmers markets, visit **http://search.ams.usda.gov/farmersmarkets**. Students might use an online digital mapping tool to plot these nearby resources. Then, plan a visit to one of the agricultural sources students researched. Ask students to prepare questions for farmers and others they meet. Visit the local agricultural source and encourage students to note what crops are grown, how this varies through the seasons, the steps taken to bring the crops to consumers, and the costs involved. Chart which locally produced foods are available at different times of the year. What are some ways schools might be able to use foods grown locally during the summer, during the school year (for example, purchasing locally grown broccoli that has been frozen)? Can any of the nonlocal foods students discovered in the Scavenger Hunt also be grown closer to home? If so, why do students think they didn't encounter a local option for that fruit or vegetable during the Scavenger Hunt? Compare the distance and paths some of the fruits and vegetables take compared to those from a local producer.

   Lesson Alternative: If it's not possible to visit a local agricultural source due to time or location, try your local greengrocer or supermarket. Interview a grocery or market manager. Or, invite a local farmer or supermarket manager to visit the school. For an additional resource to help you and your students learn about local agricultural sources, visit **http://www.usda.gov/knowyourfarmer**.

2 Challenge: Get Fresh!

3. **Examine the benefits—and challenges—of consuming locally grown produce.** Invite small groups to share reflections from the **Favorite Food Scavenger Hunt** and agricultural source visit. What

Continue

are some of the benefits and challenges of eating locally? How does it impact the ecosystem, the job market, and students' own lives? For example, eating local food creates and supports jobs in the community. However, there may be fewer local choices, depending on the climate and time of year. Cost can also be a factor. Local food is sometimes cheaper because the transportation cost is less. However, sometimes local food is more expensive than nonlocal because it is coming from a small grower with a limited supply.

4. **Consider a taste test!** If desired, invite students to conduct a taste test comparing nonlocal fresh fruits and vegetables to those recently picked by a nearby grower. Try tomatoes, lettuce greens, carrots, apples, and berries. Have students record their findings in their journals.

3 Evaluate

5. **Raise awareness about consumption of local produce.** Challenge students to use the results of the **Favorite Food Scavenger Hunt** and exploration of local agriculture to convince people in the community of the benefits of eating locally grown produce. Have them create a multimedia presentation (for example: a blog, video, or slideshow) to share with their community, summarizing what they've learned about local produce and the journey food takes to arrive at their tables. Encourage them to focus on easy action steps that organizations and individuals can take to increase their consumption of local fruits and vegetables. They should include links and resources the community can use to learn more about eating local produce.

4 Reflect

6. **Journal.** Have students reflect in their journals about eating local produce and their efforts to spread the word. Did they inspire change? How will what they've learned about local produce influence their own eating and that of others?

End of Trek

Extension Ideas

- Visit a supermarket and meet with the produce manager to discuss available produce and where it comes from (unless you have already completed the Lesson Alternative in Part 1: Investigate). What foods are locally grown? Are there cost factors related to local versus nonlocal produce? Challenges with buying local? As a reflection, students will write a news report and share on the class blog or e-newsletter.
- Invite students to chat with your school's food service director about incorporating locally grown produce on the cafeteria menu or having a "locally grown day" where all of the fruits and vegetables at lunch come from nearby growers.
- Start your own school garden. Even a small container garden can offer students the chance to put what they've learned into action.
- Create a Public Service Announcement video to share with school, local community, and/or media to promote the consumption of fruits and vegetables.

NUTRITION VOYAGE
THE QUEST TO BE OUR BEST

TREK 3 Grade 8

Favorite Food Scavenger Hunt

Your final challenge is to choose your **10 favorite fruits and vegetables** from the cafeteria, your refrigerator, or pantry at home.

1. List your favorite fruits and vegetables in the chart to the right. Add a descriptive word about the flavor, or texture too. (For example: sweet, crunchy, tangy, crisp.) Where do these foods originally come from? Where were they packaged — and before that, grown? Write down as much information as you can find about where they came from.

Hint: Use the food label to find out where it originated. For fresh produce, check the sticker or information posted in the display case, or ask the merchant about the food's origins. You can also research online http://www.nass.usda.gov/Charts_and_Maps/index.asp or ask food service staff!

Food item	Descriptive word	Where does my food come from? (*Origin / miles to my house*)
Sample: Clementine	Sweet, juicy	Spain (produce sticker) / 3,600 miles
1.		
2.		
3.		
4.		
5.		
6.		
7.		
8.		
9.		
10.		

2. How far does your food have to travel from where it was grown until it reaches your plate? List each food item, and the number of "food" miles it traveled from where it was grown to where you are, under the appropriate distance column below. Use an atlas, an online mapping tool, or a search engine to help you measure the distance your food travels. Was it what you expected? What would you define as being "regionally" or "locally grown" within the State, grown within 400 miles, or something else? Does your school food service have a definition for "locally grown"? Is its definition different than yours? How does the availability of "local" fruits and vegetables change based on various definitions of "local"?

Less than 10 miles:

_____
_____
_____
_____

10 to 50 miles:

_____
_____
_____
_____

51 to 100 miles:

_____
_____
_____
_____

101 to 500 miles:

_____
_____
_____
_____

More than 500 miles:

Sample: Clementine (3,600 miles)
_____
_____
_____

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Healthy Meals Resource System

http://healthymeals.nal.usda.gov

Need resources?

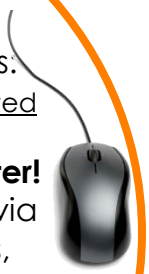
Check out the Resource Library!
http://healthymeals.nal.usda.gov/resource-library

Find materials in these areas:

- Bulletin Board Resources
- Chef Resources
- Child Nutrition Programs
- Cooking with Kids
- Farm to School
- Food Safety
- Fruits and Vegetables
- Newsletters
- Nutrition Education
- School Gardens
- Whole Grains

Get Connected!

Join MealTalk, an email discussion group for Child Nutrition Professionals:
http://healthymeals.nal.usda.gov/get-connected



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http://1.usa.gov/KdulEk

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Share your resources, or learn from others!
http://healthymeals.nal.usda.gov/bestpractices

In the *Best Practice Sharing Center,* search by topic, format, or audience to find menus, recipes, checklists, training materials, success stories, and other tools that will help implement the new school meal regulations.

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