Name_____

Harvest of the Month

TEACHER GUIDE

6th GRADE

BROCCOLI
TASTY
BERRIES
DELICIOUS
SQUASH
APPLES
CRUNCHY
ORANGES
JUICY
CARROTS







Harvest of the Month

TEACHER GUIDE

Table of Contents

Introduction

This resource from the California Department of Public health contains 4th-6th grade lesson plans and workbook activities that support the goals of the Harvest of the Month program. The goals are to increase:

- access of fruits and vegetables
- participation in physical activity
- preferences for fruits and vegetables
- consumption of locally grown fruits and vegetables, and
- to expand familiarity with California grown fruits and vegetables.

Each lesson has a theme that addresses one of these goals directly while focusing on a California-grown fruit or vegetable of the month. The Harvest of Month are apples, winter squash, broccoli, oranges, carrots, and berries.

The curriculum integrates grade level-specific Nutrition Competencies, from the California Department of Education's Health Standards, as well as the Common Core Language Arts and Math Standards. Each lesson incorporates movement to reinforce the importance of physical activity, increase student engagement, and provide a useful context to understand the lesson content.

Using this Resource

There are six Harvest of the Month lesson plans per grade. They support matching activities in the student workbook. Each section in the lesson plan begins with a summary page that provides:

- the learning objectives
- the goals, competencies and standards addressed
- a list of materials, and
- a guide to the sections of the lessons

The lessons are 60 minutes in length. The Harvest It section is itself a separate lesson which may be taught before the main lesson to give background knowledge. The table below describes each section and the instructional time needed.

Lesson Sections	Topic	Time
Harvest It	Background about the Harvest of the Month	20 minutes
Move It	Physical Activity, Content for Link It	20 minutes
Link It	Guided Practice	10 minutes
Try It	Independent Practice	20 minutes
Digest It	Tasting, Reflection, and Informal Assessment	10 minutes

Each section begins with a name for the activity and descriptions about what the students and teacher will do. Pictures of what the student workbook looks like for that section are often included for reference.

Important Note: The Move It activity provides content necessary to conduct the Link It and Try It sections that follow. The instructions for leading the Move It activity are located in the lesson plan, not in the student workbook.

Nutrition Resources and Health Messages follow the Digest It section of each lesson plan. They explain MyPlate and the Nutrition Facts label. The materials for the lesson are located after the Nutrition Resources and Health Messages.

Harvest of the Month - Apple
Grade 6, Lesson 1

Summary

Learning Objectives

- Identify the health benefits of eating fruits and vegetables of various colors.
- Create recipes using apples, and other fruits and vegetables of different colors.
- Taste apples and make a plan to eat them.

Goals, Competencies, and Standards

- Harvest of the Month Goal
  Increase access to fruits and vegetables through school meal programs, farm-to-school programs, classrooms, school gardens, farmers' markets, grocery stores, community gardens, worksites, and other community-based locations.

- Health Standard: Nutrition Competency
  5.6. Identify ways to choose healthy snacks based on current research-based guidelines.

- Common Core Standards
  CCSS.ELA-LITERACY.W.6.3. D
  Use precise words and phrases, relevant descriptive details, and sensory language to convey experiences and events.

  CCSS.ELA-LITERACY.W.6.4
  Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

Materials: Harvest of the Month workbooks, 1 apple slice per student, colored fruit and vegetable sheets (cut strips), Educator Newsletter, Family Newsletters

Lesson Sections	Topic	Time
Harvest It	Background about the Harvest of the Month	20 minutes
Move It	Physical Activity, Content for Link It	15 minutes
Link It	Guided Practice	10 minutes
Try It	Independent Practice	20 minutes
Digest It	Tasting, Reflection, and Informal Assessment	15 minutes

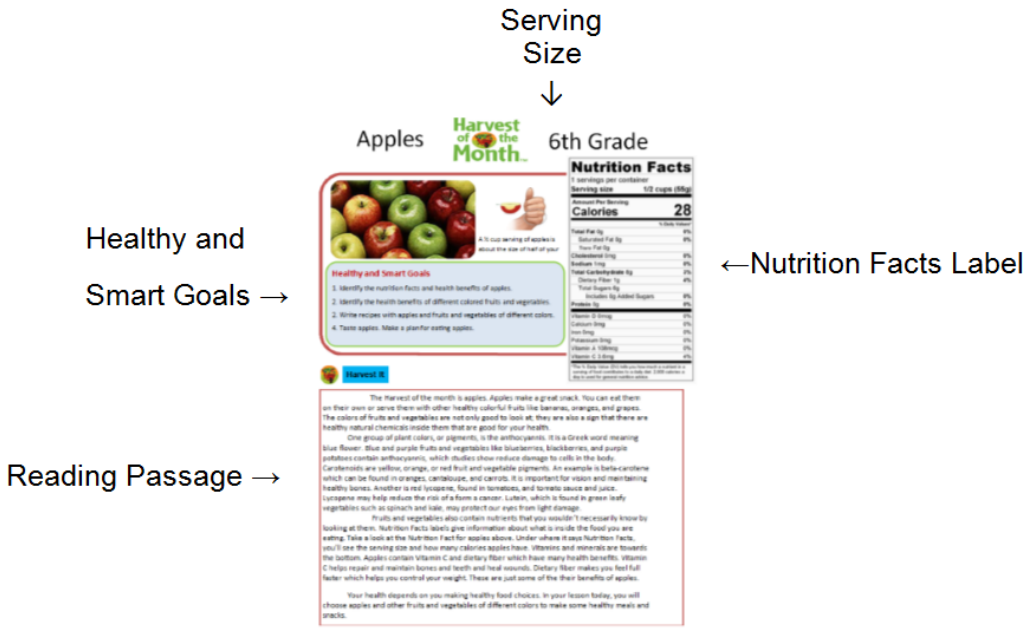
Procedures

Harvest It

Activity Setting Goals and Acquiring Nutrition Information

Students will read a passage about apples containing nutrition information.

Teacher guides students in reading and interpreting the Nutrition Facts Label.



Each of the Harvest It workbook components is expanded upon below.

Instructions

1. Familiarize yourself with the **Nutrition Resources and Health Messages** located at the end of the lesson plan that address the Dietary Guidelines for America and the new Nutrition Facts label.
2. Read the **Healthy and Smart Goals** for the lesson aloud with the class which are located on the first page of the lesson in their workbook.
    - Identify the nutrition facts and health benefits of apples.
    - Identify the health benefits of different colored fruits and vegetables.
    - Write recipes with apples and fruits and vegetables of different colors.
    - Taste apples. Make a plan for eating apples.

3. Read the introductory passage with your students which can be found in their workbook:

The Harvest of the month is apples. Apples make a great snack. You can eat them on their own or serve them with other healthy colorful fruits like bananas, oranges, and grapes. The colors of fruits and vegetables are not only good to look at; they are also a sign that there are healthy natural chemicals inside them that are good for your health.

One group of plant colors, or pigments, is the anthocyannis. It is a Greek word meaning blue flower. Blue and purple fruits and vegetables like blueberries, blackberries, and purple potatoes contain anthocyannis, which studies show reduce damage to cells in the body. Carotenoids are

yellow, orange, or red fruit and vegetable pigments. An example is beta-carotene which can be found in oranges, cantaloupe, and carrots. It is important for vision and maintaining healthy bones. Another is red lycopene, found in tomatoes, and tomato sauce and juice. Lycopene may help reduce the risk of a form a cancer. Lutein, which is found in green leafy vegetables such as spinach and kale, may protect our eyes from light damage.

Fruits and vegetables also contain nutrients that you wouldn't necessarily know by looking at them. Nutrition Facts labels give information about what is inside the food you are eating. Take a look at the Nutrition Facts for apples above. Under where it says Nutrition Facts, you'll see the serving size and how many calories apples have. Vitamins and minerals are towards the bottom. Apples contain Vitamin C and dietary fiber which have many health benefits. Vitamin C helps repair and maintain bones and teeth and heal wounds. Dietary fiber makes you feel full faster which helps you control your weight. These are just some of the benefits of apples.

Your health depends on you making healthy food choices. In your lesson today, you will choose apples and other fruits and vegetables of different colors to make some healthy meals and snacks.

Nutrition Facts

1 servings per container

Serving size	**1/2 cups (55g)**
Amount Per Serving	
Calories	**28**
	% Daily Values*
Total Fat 0g	**0%**
Saturated Fat 0g	**0%**
Trans Fat 0g	
Cholesterol 0mg	**0%**
Sodium 1mg	**0%**
Total Carbohydrate 8g	**3%**
Dietary Fiber 1g	**4%**
Total Sugars 6g	
Includes 0g Added Sugars	**0%**
Protein 0g	**0%**
Vitamin D 0mcg	0%
Calcium 0mg	0%
Iron 0mg	0%
Potassium 0mg	0%
Vitamin A 108mcg	0%
Vitamin C 3.6mg	4%

*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

A ½ cup serving of apples is about the size of half of your fist.

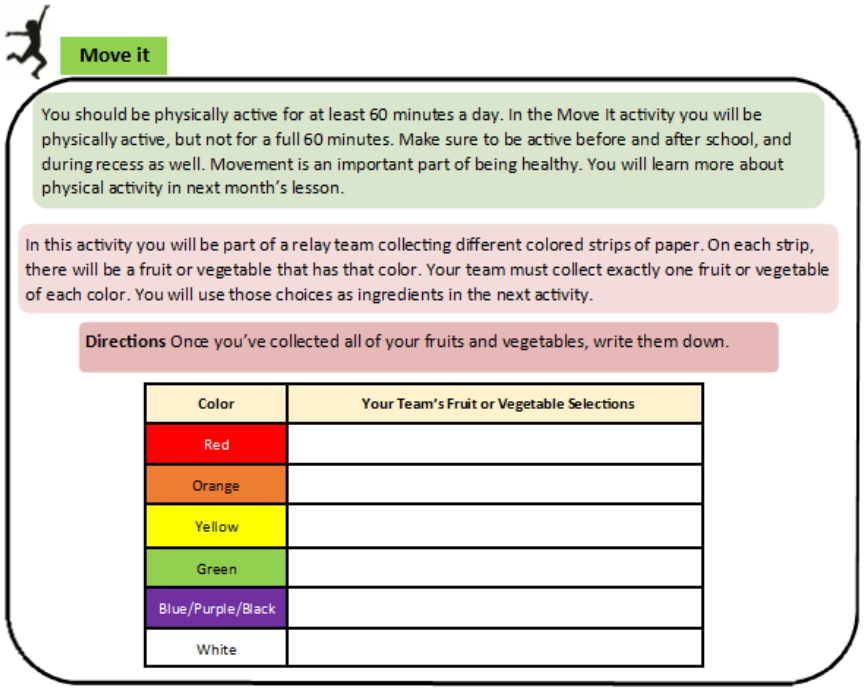
4. Guide students in interpreting the nutrition facts label in their workbook. Explain that they should strive to include a variety of nutrients from the food they eat. Five percent or less of a nutrient is low, while 20% or above is considered high.
5. Draw their attention to the percent daily value, or DV, on the nutrition facts label for Vitamin C and fiber. Ask them if a ½ cup serving of apples would be sufficient to supply the recommended daily value.

Move It

Activity Race to Get Locally Grown Fruits and Vegetables

Students will, as part of a game, collect strips with the names of fruits and vegetables they will use for making recipes in the Link It section.

Teacher will explain procedures and lead the game.



Move it

You should be physically active for at least 60 minutes a day. In the Move It activity you will be physically active, but not for a full 60 minutes. Make sure to be active before and after school, and during recess as well. Movement is an important part of being healthy. You will learn more about physical activity in next month's lesson.

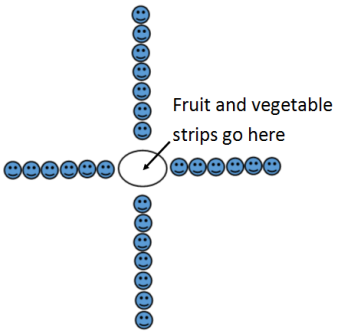
In this activity you will be part of a relay team collecting different colored strips of paper. On each strip, there will be a fruit or vegetable that has that color. Your team must collect exactly one fruit or vegetable of each color. You will use those choices as ingredients in the next activity.

Directions Once you've collected all of your fruits and vegetables, write them down.

Color	Your Team's Fruit or Vegetable Selections
Red	
Orange	
Yellow	
Green	
Blue/Purple/Black	
White	

Instructions

1. Tell students they are going to be working together to gather colored strips of paper with different fruits and vegetables on them. They will use those ingredients as part of recipes they will make in the Link It section. Say that, as part of a team, they will collect one fruit or vegetable of each color: red, orange, yellow, green, and white. Blue, purple, and black count as one color.



2. Place the colored strips in a bowl, hat or basket, a similar container or a mat. Make groups of six students each. If a group is less than six, some students will have to go twice, since they need all six colors. Have them form lines radiating around the container. You can increase the level of physical activity by creating greater distances between the groups and the strips.

3. Explain the procedures:

a. The first member of each group will come up and select one fruit or vegetable and return to their group. Then the next student will go to the container and select a strip.
b. Each group must select a produce item of each color and not have any duplicate colors. If a group selects two of the same color they have to put it back and collect a color they are missing.
c. Each contestant may take only 3 seconds while standing at the strips to make a selection.
d. The objective of the game is to collect all six colors of fruits and vegetables you want to make recipes with.

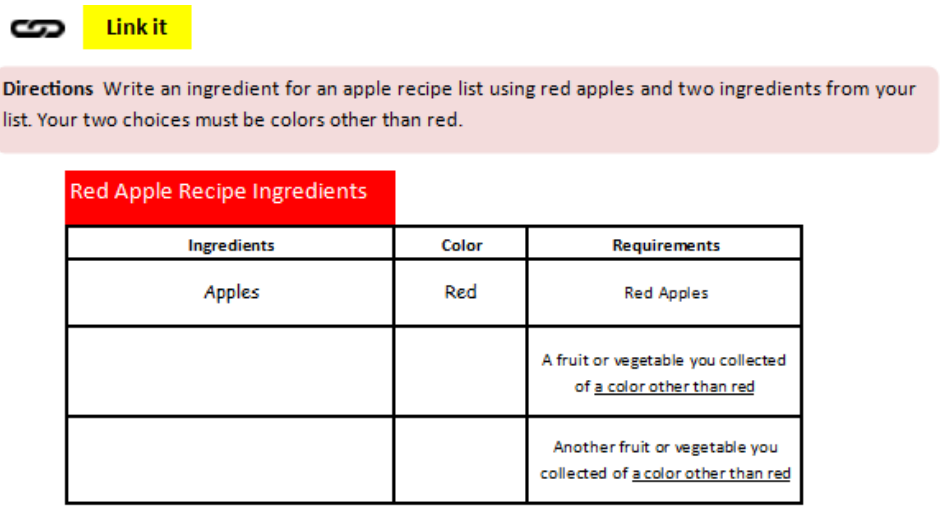
4. Increase the level of difficulty and physical activity by calling out different actions they must perform while going to and returning with the strips, such as hopping, skipping, walking backward, etc.
5. Say that each group must check in with you to show that they have every color and no more than any one color. Designate one student from each group who will hold onto the strips.
6. Upon returning to their desks, tell the holder of the strips to read and show the strips to their team members. Tell everyone in the group to record the names of the fruits and vegetables in the Move It section of their workbooks.

Link It

Activity Creating an Apple Recipe and Writing a Description

Students will choose ingredients to create a recipe that includes apples, and at least one ingredient of each color.

Teacher will model how to create a recipe and describe it.



Link it

Directions Write an ingredient for an apple recipe list using red apples and two ingredients from your list. Your two choices must be colors other than red.

Red Apple Recipe Ingredients

Ingredients	Color	Requirements
Apples	Red	Red Apples
		A fruit or vegetable you collected of a color other than red
		Another fruit or vegetable you collected of a color other than red

Instructions

1. Explain that they will be making a snack recipe containing apples. The recipe must contain red apples and two other fruits or vegetables of different colors.
2. Tell them to select their ingredients and record them in the Red Apple Recipe Ingredients table.

Directions Write a snack recipe using your ingredients. Respond to the following questions to write a description of your recipe. Make it sound exciting.

Red Apple Recipe Description

Give your recipe a name.	Think of a name for your recipe that you would find exciting.
What are the ingredients?	Describe the ingredients' colors, shapes, and tastes.
Why should you eat it?	Use some of the health benefits from the Harvest It reading.
When should you eat it?	At what time of day and what meals should it be eaten?
Where should you eat it?	At school, home, a family or team event?
Who should you eat it with?	Friends, family, classmates?
Invite others to try it.	What would you say to get someone excited about your recipe?

3. Model creating a recipe description. Use the example below or create one of your own.

Give your recipe a name:	*I like to call it the Apple Dazzle Salad.*
What are the ingredients:	*It contains apples, celery, raisins, and oranges.*
Why should you eat it:	*This apple salad is both healthy and delicious. It contains anthocyannis which reduces damage to cells in the body.*
When should you eat it:	*I recommend eating it at lunch or after school.*
Where should you eat it:	*I think you should eat it at school, at home, or at a party.*
Who should you eat it with:	*With your friends, classmates, or family.*
Invite others to try it:	*Pack it in your lunch for a tasty lunchtime snack.*

4. Ask students to respond to the prompts in the space provided.
5. Tell students to share their recipe description with a neighbor.
6. Call on one or more students to share their recipe description with the class.

Try It

Activity Writing Recipes and Descriptions

Students will create an ingredient list and recipe descriptions.

Teacher will monitor student progress.

Try it

Directions Create an ingredient list and description for another snack or a salad, sandwich, side dish or main course. Use two other fruits or vegetables from the ones your team collected. Your two choices must be colors other than green.

Green Apple Recipe Ingredients

Ingredients	Color	Requirements
Apples	Green	Green Apples
		A fruit or vegetable you collected of a color other than green
		Another fruit or vegetable you collected of a color other than green

See the next page.

Instructions

1. Ask students to create an ingredients list for a green apple recipe. Tell them to choose at least two other fruits and vegetables of different colors.

Directions Write a recipe using your ingredients. Respond to the following questions to write a description of your recipe. Make it sound exciting.

Green Apple Recipe Description

Give your recipe a name.	Think of a name for your recipe that you would find exciting.
What are the ingredients?	Describe the ingredients' colors, shapes, and tastes.
Why should you eat it?	Use some of the health benefits from the Harvest It reading.
When should you eat it?	At what time of day and what meals should it be eaten?
Where should you eat it?	At school, home, a family or team event?
Who should you eat it with?	Friends, family, classmates?
Invite others to try it.	What would you say to get someone excited about your recipe?

2. Tell students to complete the recipe description.
3. Monitor student progress.

Digest It

Activity Tasting Apples and Sharing Recipe Descriptions

Students will try apples and share the recipes they have created.

Teacher will lead the tasting and the sharing of recipes.

Digest it

It's time to eat some apples and digest what you've learned!

- What are some health benefits of eating apples?
- Why is it important to eat fruits and vegetables of a variety of colors?
- Share your green apple recipe.
- Taste apples. Make a plan for eating them in the future.

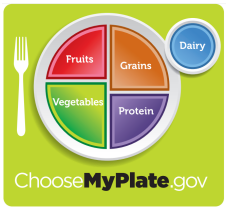
Instructions

1. Tell students they will be trying some apples and reflecting on their learning.
2. Have students wash their hands. The Center for Disease Control [1] suggests:

Wet your hands with clean, running water (warm or cold), turn off the tap, and apply soap.
Lather your hands by rubbing them together with the soap. Be sure to lather the backs of your hands, between your fingers, and under your nails.
Scrub your hands for at least 20 seconds. Need a timer? Hum the "Happy Birthday" song from beginning to end twice.
Rinse your hands well under clean, running water.
Dry your hands using a clean towel or air dry them.

3. Tell students to wait until everyone has their tasting and you give them the go-ahead to eat.
4. Ask the students, while they are waiting, to think about if and when they've seen apples in the cafeteria, and if they tried them.
5. Tell them to eat on a count of three.
6. Encourage students to try at least one bite.
7. Model respectful responses to tasting the apple. Give examples of expressing feelings in a considerate and supportive way, for example:
    a. Ask students to give a silent thumb up, down, or in the middle to indicate their opinion of the tasting.
    b. Describe the flavors, colors, or textures: "The apple is sweet, crunchy, and pale yellow."
    c. Model respectful responses to not liking the tasting: "I appreciate being offered the apple. I know it is healthy for me. It's not my favorite at the moment. I will give it another chance next time."
8. Guide a discussion about what they learned using the prompts below, which students can find in the Digest It section of their workbook.
    a. What are some health benefits of eating apples?
    b. Why is it important to eat fruits and vegetables of a variety of colors?
    c. Share your green apple recipe.
    d. Taste apples. Make a plan for eating them in the future.
    e. Distribute the Family Newsletter. Discuss a recipe in the newsletter. Ask students to present the newsletter to their family members and share the recipe.

Nutrition Resources and Health Messages



MyPlate

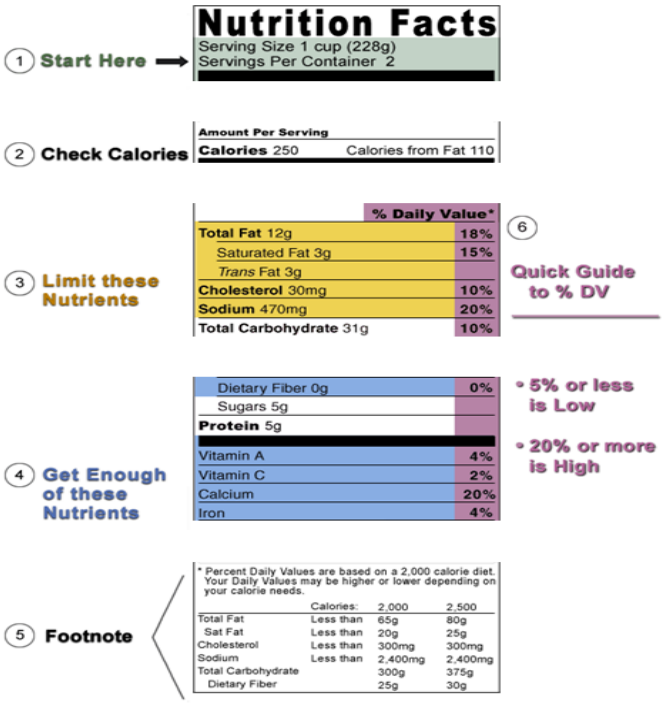
ChooseMyPlate.gov [2] is a resource for nutrition information based on the Dietary Guidelines for America. MyPlate illustrates the five food groups that are the building blocks of a healthy diet. The following is an excerpt from the ChooseMyPlate.gov website. It is recommended that you and your students:

- Make half of your plates fruits and vegetables.
  -Focus on whole fruits.
  -Vary your veggies.
- Make half of your grains whole grains.
- Move to low-fat and fat-free milk or yogurt.
- Vary your protein routine.
- Drink and eat less sodium, less saturated fat, and less added sugar.

See the website for more information on fruit and vegetable consumption and physical activity.[2]

Nutrition Facts label

The Nutrition Facts label has been revised and is used in the workbook. The following excerpts from the FDA website [3] describe the components of the label:



1. Pay attention to the serving size, especially how many servings there are in the food package. Then ask yourself, "How many servings am I consuming"? (e.g., 1/2 serving, 1 serving, or more).
2. The number of servings you consume determines the number of calories you actually eat.

   General Guide to Calories (per serving of food)

   - 40 Calories is low
   - 100 Calories is moderate
   - 400 Calories or more is high

   Eating too many calories per day is linked to overweight and obesity.
3. Health experts recommend that you keep your intake of saturated fat, *trans* fat and cholesterol as low as possible as part of a nutritionally balanced diet.
4. You can use the Nutrition Facts label not only to help *limit* those nutrients you want to cut back on, but also to *increase* those nutrients you need to consume in greater amounts.
5. % DVs are based on a 2,000-calorie diet.
6. 5% DV or less is low and 20% DV or more is high.

References

1. Wash Your Hands. (2016, April 11). Retrieved September 28, 2016, from http://www.cdc.gov/features/handwashing/

2. How to Understand and Use the Nutrition Facts Label. (n.d.). Retrieved October 06, 2016, from http://www.fda.gov/Food/IngredientsPackagingLabeling/LabelingNutrition/ucm274593.htm#see1

3. Choose MyPlate. (n.d.). Retrieved October 06, 2016, from https://www.choosemyplate.gov/

Harvest of the Month - Winter Squash
Grade 6, Lesson 2

Summary

Learning Objectives

- Identify the health benefits of eating winter squash.
- Determine heart rate while resting and being active.
- Solve unit rate problems that involve eating vegetables and monitoring heart rate.
- Set goals for eating vegetables and being physically active.

Goals, Competencies, and Standards

- Harvest of the Month Goals
  - Increase students' preference for fruits and vegetables.
  - Increase participation in daily physical activity and an understanding of why it is important to our health.

- Health Standard: Nutrition Competency
  Explain how good health is influenced by healthy eating and being physically active.

- Common Core Standards
  CCSS.MATH.CONTENT.6.RP.A.3.B
  Solve unit rate problems including those involving unit pricing and constant speed.

Materials: Harvest of the Month workbooks, 1 piece of cooked winter squash per student or 3-5 pumpkin seeds, Educator Newsletter, Family Newsletters

Lesson Sections	Topic	Time
Harvest It	Background about the Harvest of the Month	20 minutes
Move It	Physical Activity, Content for Link It	15 minutes
Link It	Guided Practice	15 minutes
Try It	Independent Practice	15 minutes
Digest It	Tasting, Reflection, and Informal Assessment	15 minutes

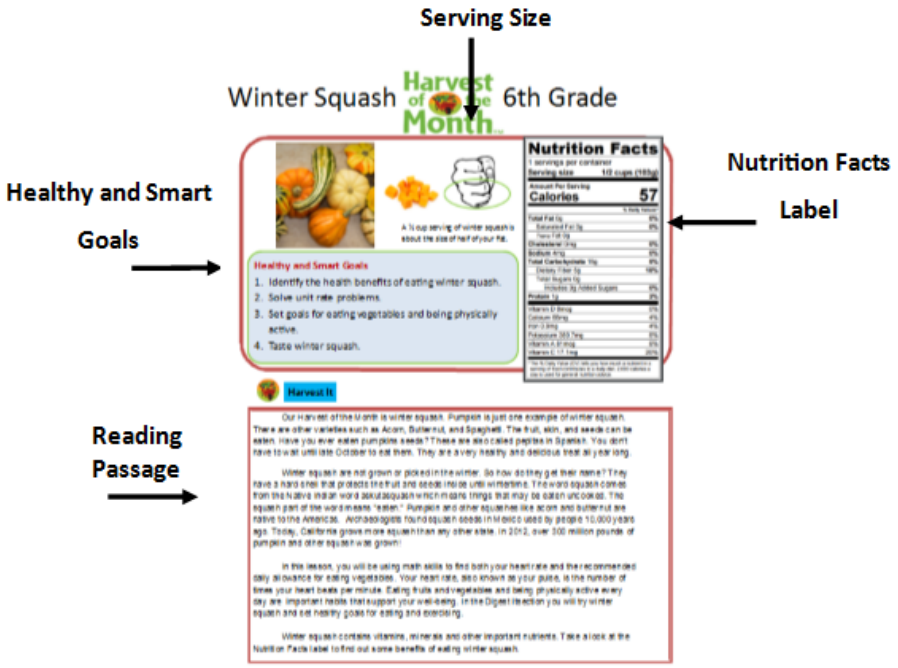
Procedures

Harvest It

Activity: Reading about Winter Squash

Students will read a passage about winter squash.

Teacher will lead the reading of the passage.



Each of the Harvest It components are expanded upon below.

Instructions

1. Familiarize yourself with the **Nutrition Resources and Health Messages** located at the end of the lesson plan that address the Dietary Guidelines for America and the new Nutrition Facts label.
2. Read the **Healthy and Smart Goals** for the lesson aloud with the class which are located on the first page of the lesson in their workbook.
    - Identify the health benefits of eating winter squash.
    - Solve unit rate problems.
    - Set goals for eating vegetables and being physically active.
    - Taste winter squash.

3. Read the introductory passage with your students which can be found in their workbook:

    Our Harvest of the Month is winter squash. Pumpkin is just one example of winter squash. There are other varieties such as Acorn, Butternut, and Spaghetti. The fruit, skin, and seeds can be eaten. Have you ever eaten pumpkins seeds? These are also called pepitas in Spanish. You don't have to wait until late October to eat them. They are a very healthy and delicious treat all year long.

Winter squash are not grown or picked in the winter. So how do they get their name? They have a hard shell that protects the fruit and seeds inside until wintertime. The word squash comes from the Native Indian word askutasquash which means things that may be eaten uncooked. The squash part of the word means "eaten." Pumpkin and other squashes like acorn and butternut are native to the Americas. Archaeologists found squash seeds in Mexico used by people 10,000 years ago. Today, California grows more squash than any other state. In 2012, over 300 million pounds of pumpkin and other squash was grown! (See Educators Newsletter [1])

In this lesson, you will be using math skills to find both your heart rate and the recommended daily allowance for eating vegetables. Your heart rate, also known as your pulse, is the number of times your heart beats per minute. Eating fruits and vegetables and being physically active every day are important habits that support your well-being. In the Digest It section you will try winter squash and set healthy goals for eating and exercising.

Winter squash contains vitamins, minerals and other important nutrients. Take a look at the Nutrition Facts label to find out some benefits of eating winter squash.

Nutrition Facts

1 servings per container

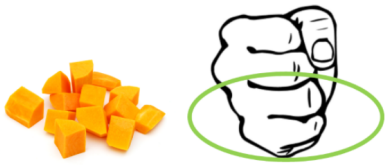
Serving size **1/2 cups (103g)**

Amount Per Serving

Calories **57**

	% Daily Values*
Total Fat 0g	**0%**
Saturated Fat 0g	**0%**
Trans Fat 0g	
Cholesterol 0mg	**0%**
Sodium 4mg	**0%**
Total Carbohydrate 15g	**5%**
Dietary Fiber 5g	**18%**
Total Sugars 0g	
Includes 0g Added Sugars	**0%**
Protein 1g	**2%**
Vitamin D 0mcg	0%
Calcium 65mg	4%
Iron 0.9mg	4%
Potassium 380.7mg	8%
Vitamin A 81mcg	8%
Vitamin C 17.1mg	20%

*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.



A ½ cup serving of winter squash is about the size of half of your fist.

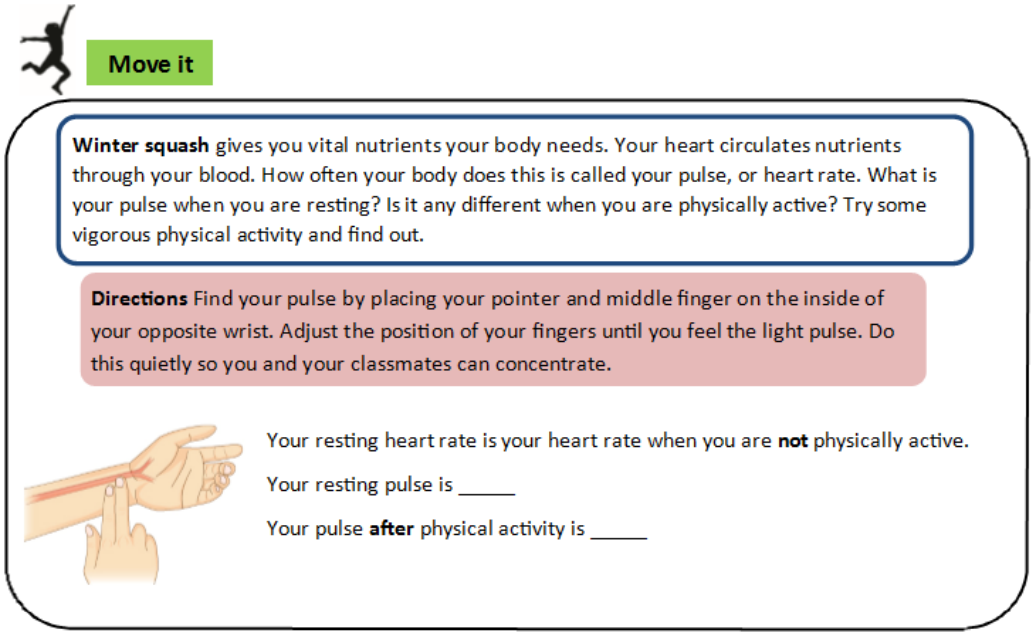
4. Guide students in interpreting the nutrition facts label in their workbook. Explain that throughout the week, they should strive for 100% of the Percent Daily Value (DV) of nutrients listed on the Nutrition Facts label. Explain that the DV is the percent of a nutrient that they should eat each day. DV's are based on a 2,000-calorie diet for adults. Tell them that a DV of 5% is low and DV of 20% is high.
5. Draw their attention to the DV of Vitamin A, C and fiber. Ask them if a 1/2 cup serving of winter squash would be sufficient to supply the recommended daily values and how they get 100%.

Move It

Activity Taking a Pulse

Students will learn the importance of exercise, and discover what effect exercise has on their heart rate.

Teacher will explain the importance of exercise and show students how to find their pulse.



Instructions

1. Create a chart like the following on the board.

Physical Activity

What is physical activity?	What are some examples?	Why are they important?

2. Ask students to engage in a Think-Pair-Share activity responding to the prompts, “What is exercise, what are some examples of exercise, and why are they important?” First ask students to think about the prompts silently for 30 seconds. Then ask them to tell their thoughts to a classmate. Finally, ask them to share their ideas with the class. Write their ideas on the board.

3. Share these reasons why physical activity is important and add them to the chart:
    - Physical activity strengthens your heart and lungs and the parts of the body they serve. Examples of physical activity that do this include running, jogging and walking at a fast pace.
    - Physical activity reduces your chances for heart disease and heart attack.
    - Physical activity also helps you maintain a healthy weight.

4. Tell students that when they are physically active, their heart pumps blood through their body at a faster rate to deliver oxygen to their muscles that are more active. Explain that the number of times their heart beats per minute is called their pulse or heart rate.
5. Model how to find and take a pulse. Place your index and middle fingers together. Press them against the inside of your wrist or your neck to find the pulse. After 10 seconds record the number of beats on the board.

6. Direct students to take their own pulse for 10 seconds; keep time for them. Tell them to record the number of beats in the Move It section of their workbook. Explain that the reading they took will help them to determine their resting heart rate.
7. Ask students to do the following vigorous physical activities or others of your choosing for 1-2 minutes: jumping jacks, jogging in place, and dancing.
8. Tell them to stop and take their pulse again. Tell them to record the result in their workbook. Ask them what happened to their heart rate when they became physically active.

Link It

Activity Finding Unit Rate

Students will practice computing a resting heart rate.

Teacher will model computing a resting heart rate and vegetables eaten per day.

Link it

Heart rate is an example of a **unit rate.** A unit rate is a comparison of two units. One of the units must be equal to 1. In the case of heart rate, the units are beats and minutes. Heart rate looks like this:

$$\frac{number\ of\ \textbf{beats}}{\textbf{1 minute}}$$

Enter the number of beats you recorded above for your resting pulse.

$$\frac{\square of\ \textbf{beats}}{10\ seconds}$$

In order to convert the 10 second resting pulse you took into a unit rate, you will need find out how many beats you would have in one minute. Use 60 seconds for your computation, since there are 60 seconds in a minute, and you want to keep the unit the same as what you are working with. Ten times 6 is 60. So multiply by 6.

$$\frac{\square\ \textbf{beats}}{\textbf{10 seconds}} \times \frac{6}{6} = \frac{\square\ \textbf{beats}}{\textbf{60 seconds}}$$

Now write your answer as a unit rate with beats over 1 minute. This is your heart rate.

$$\frac{\square\ \textbf{beats}}{\textbf{60 seconds}} = \frac{\square\ \textbf{beats}}{\textbf{1 minute}}$$

Instructions

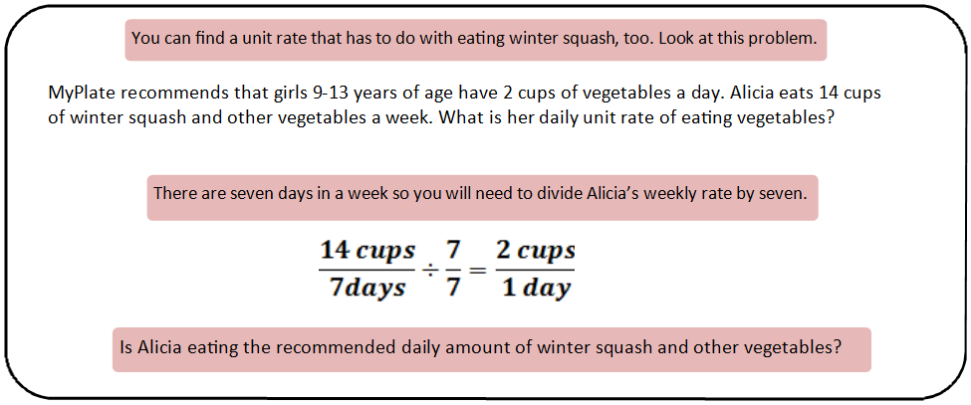
1. Introduce the idea of unit rate. Use the "Finding Unit Rate" visual aid to guide your instruction. A unit rate is a comparison of two measurements represented as a fraction with one of the terms having a value of one, for example:

$$\frac{number\ of\ \boldsymbol{beats}}{1\ \boldsymbol{minute}}$$

2. Illustrate how to convert 15 beats per 10 seconds into a unit rate. Multiply your 10 second resting pulse by six. Write your answer as a unit rate with the number of beats over 1 minute. This is the example on the visual aid:

$$\frac{15\ \boldsymbol{beats}}{10\ \boldsymbol{seconds}} = \frac{\square\ \boldsymbol{beats}}{60\ \boldsymbol{seconds}} \qquad \frac{15\ \boldsymbol{beats}}{10\ \boldsymbol{seconds}} \times \frac{6}{6} = \frac{90\ \boldsymbol{beats}}{60\ \boldsymbol{seconds}} = \frac{90\ \boldsymbol{beats}}{1\ \boldsymbol{minute}}$$

3. Direct students to compute their personal resting heart rate in the Link It section of their workbook. Ask students to share their 10 second rate and their one minute rate.



4. Demonstrate how unit rate can be used to show recommended dietary guidelines for the consumption of vegetables. Read this question written in their workbook.

> *MyPlate recommends that girls 9-13 years of age have 2 cups of vegetables a day. Alicia eats 14 cups of winter squash and other vegetables a week. What is her daily unit rate of eating vegetables? Is Alicia eating the recommended amount?*

5. Tell students they will need to know how many days there are in a week and that they will need to divide to solve the problem. Ask them to complete the problem in the Link It section of their workbook.
6. Ask a student to explain their answer or model the following:

$$\frac{14\ \boldsymbol{cups}}{7\boldsymbol{days}} \div \frac{7}{7} = \frac{2\ \boldsymbol{cups}}{1\ \boldsymbol{day}}$$

7. Ask the class if Alicia is eating the recommended 2 cups of vegetables per day.

See the next page.

Try It

Activity Finding the Unit Rate for Heart Rate and Vegetable Consumption

Students will find their heart rate and solve health related problems involving unit rate.

Teacher will provide guidance.

Try it

Directions Find your heart rate after physical activity. Enter your pulse after physical activity.

$$\frac{\square\ beats}{10\ seconds} \times \frac{6}{6} = \frac{\square\ beats}{60\ seconds} \qquad \frac{\square\ beats}{60\ seconds} = \frac{\square\ beats}{1\ minute}$$

Directions Determine Devon's daily intake of winter squash and other vegetables.

MyPlate recommends that boys aged 9-13 years old eat $2\frac{1}{2}$ cups of vegetables per day. Devon eats 17.5 cups of winter squash and other vegetables in a week. What is Devon's daily rate for eating vegetables? Is Devon eating enough of them?

$$\frac{\square\ cups}{7 days} \div \frac{7}{7} = \frac{\square cups}{1\ day}$$

There are many winter squash to choose from. Try some the next time you visit a market or when it is presented to you at home or school. Winter squash are also fun to grow in a school garden.

Instructions

1. Read the directions in the student's workbook aloud.
2. Provide guidance as necessary.
3. Ask students to share their answers.

Digest It

Activity Eating Winter Squash and Reflecting

Students will eat winter squash. Then they will reflect on how much physical activity they engage in and how many cups of vegetables they eat.

Teacher will lead the winter squash tasting and a discussion about physical activity and vegetable consumption.

Digest it

It's time to eat some squash and digest what you've learned!

- What is a snack you could make with winter squash?
- What is your daily rate of eating vegetables? What is your weekly goal?
- How many minutes per day are you physically active?
- What is your goal for being physically active daily? 60 minutes is recommended.

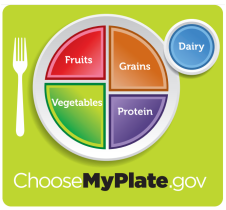
Instructions

1. Tell students they will be trying some winter squash and reflecting on their learning.
2. Have students wash their hands. The Center for Disease Control [2] suggests:

> Wet your hands with clean, running water (warm or cold), turn off the tap, and apply soap.
> Lather your hands by rubbing them together with the soap. Be sure to lather the backs of your hands, between your fingers, and under your nails.
> Scrub your hands for at least 20 seconds. Need a timer? Hum the "Happy Birthday" song from beginning to end twice.
> Rinse your hands well under clean, running water.
> Dry your hands using a clean towel or air dry them.

3. Tell students to wait until everyone has their tasting and you give them the go-ahead to eat.
4. Ask the students, while they are waiting, to think about if and when they've seen winter squash in the cafeteria, and if they tried it.
5. Tell them to eat on a count of three.
6. Encourage students to try at least one bite.
7. Model respectful responses to tasting the winter squash. Give examples of expressing feelings in a considerate and supportive way, for example:
    a. Ask students to give a silent thumb up, down, or in the middle to indicate their opinion of the tasting.
    b. Describe the flavors, colors, or textures: "The winter squash is sweet, squishy, and bright orange."
    c. Model respectful responses to not liking the tasting: "I appreciate being offered the winter squash. I know it is healthy for me. It's not my favorite at the moment. I will give it another chance next time."
8. Guide a discussion about what they learned using the prompts below, which students can find in the Digest It section of their workbook.
    a. What is a snack you could make with winter squash?
    b. What is your daily rate of eating vegetables? What is your weekly goal?
    c. How many minutes per day are you physically active?
    d. What is your goal for being physically active daily? 60 minutes is recommended.
9. Distribute the Family Newsletter. Discuss a recipe in the newsletter. Ask students to present the newsletter to their family members and share the recipe.

Nutrition Resources and Health Messages



MyPlate

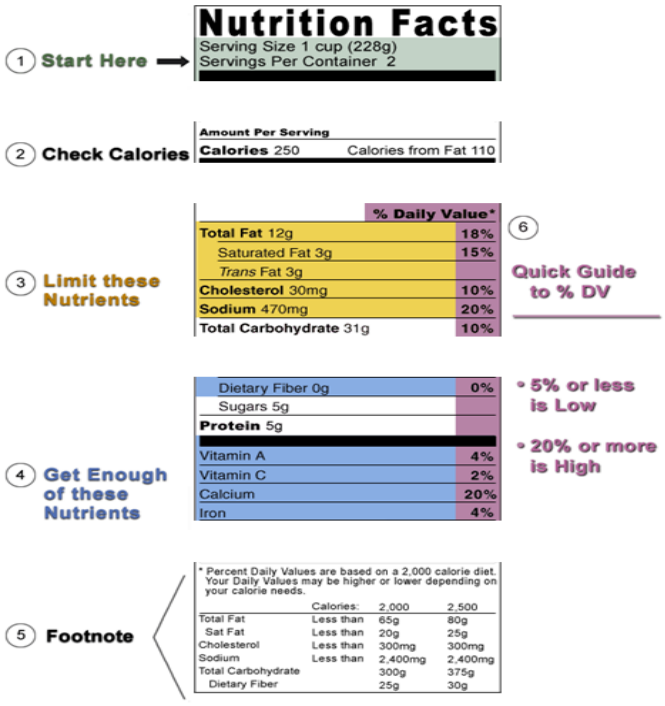
ChooseMyPlate.gov [3] is a resource for nutrition information based on the Dietary Guidelines for America. MyPlate illustrates the five food groups that are the building blocks of a healthy diet. The following is an excerpt from the ChooseMyPlate.gov website. It is recommended that you and your students:

- Make half of your plates fruits and vegetables.
  -Focus on whole fruits.
  -Vary your veggies.
- Make half of your grains whole grains.
- Move to low-fat and fat-free milk or yogurt.
- Vary your protein routine.
- Drink and eat less sodium, less saturated fat, and less added sugar.

See the website for more information on fruit and vegetable consumption and physical activity.[2]

Nutrition Facts label

The Nutrition Facts label has been revised and is used in the workbook. The following excerpts from the FDA website [4] describe the components of the label:



1. Pay attention to the serving size, especially how many servings there are in the food package. Then ask yourself, "How many servings am I consuming"? (e.g., 1/2 serving, 1 serving, or more).
2. The number of servings you consume determines the number of calories you actually eat.

   General Guide to Calories (per serving of food)

   - 40 Calories is low
   - 100 Calories is moderate
   - 400 Calories or more is high

   Eating too many calories per day is linked to overweight and obesity.
3. Health experts recommend that you keep your intake of saturated fat, *trans* fat and cholesterol as low as possible as part of a nutritionally balanced diet.
4. You can use the Nutrition Facts label not only to help *limit* those nutrients you want to cut back on, but also to *increase* those nutrients you need to consume in greater amounts.
5. % DVs are based on a 2,000-calorie diet.
6. 5% DV or less is low and 20% DV or more is high.

References

1. Winter Squash. (n.d.). Retrieved January 27, 2017, from http://harvestofthemonth.cdph.ca.gov/documents/Fall/21712/Ed_News_Winter%20Squash.pdf

2. Wash Your Hands. (2016, April 11). Retrieved September 28, 2016, from http://www.cdc.gov/features/handwashing/

3. How to Understand and Use the Nutrition Facts Label. (n.d.). Retrieved October 06, 2016, from http://www.fda.gov/Food/IngredientsPackagingLabeling/LabelingNutrition/ucm274593.htm#see1

4. Choose MyPlate. (n.d.). Retrieved October 06, 2016, from https://www.choosemyplate.gov/

Finding Unit Rate

Unit Rate

A unit rate is a comparison of two measurements shown as a fraction with one of the terms having a value of one, for example:

Speed

$$\frac{miles}{1\ hour}$$ **55 miles per hour =** $$\frac{55\ miles}{1\ hour}$$

Heart Rate

$$\frac{beats}{1\ minute}$$ **72 beats per minute=** $$\frac{72\ beats}{1\ minute}$$

Calculating Heart Rate

60 seconds = 1 minute

Jayden has a heart rate of 15 beats per 10 seconds. What is his heart rate in beats per minute?

$$\frac{15\ beats}{10\ seconds} = \frac{\square\ beats}{60\ seconds}$$

What times 10 equals 60? Or, what is 60 divided by 10? Multiply by 6.

$$\frac{15\ beats}{10\ seconds} \times \frac{6}{6} = \frac{90\ beats}{60\ seconds} = \frac{90\ beats}{1\ minute}$$

Harvest of the Month - Broccoli
Grade 6, Lesson 3

Summary

Learning Objectives

- Explore the differences between fruits and vegetables.
- Discover why it is important to eat fruits and vegetables, and then come up with some reasons of their own.
- Write a persuasive paragraph and share it with a partner.
- Taste and learn some facts about broccoli.

Goals, Competencies, and Standards

- Harvest of the Month Goal
  Increase consumers' preference for fruits and vegetables.

- Healthy Standard: Nutrition Competency
  5.5-6 Use a decision-making process to identify healthy foods for meals and snacks.

- Common Core Standards
  CCSS.ELA-LITERACY.W.6.1
  Write arguments to support claims with clear reasons and relevant evidence.

Materials: Harvest of the Month workbooks, 1 piece of broccoli per student, Think-Pair-Share Visual Aid, Educator Newsletter, Family Newsletters

INSTRUCTIONAL TIME

Lesson Sections	Topic	Time
Harvest It	Background about the Harvest of the Month	20 minutes
Move It	Physical Activity, Content for Link It	10 minutes
Link It	Guided Practice	15 minutes
Try It	Independent Practice	20 minutes
Digest It	Tasting, Reflection, and Informal Assessment	15 minutes

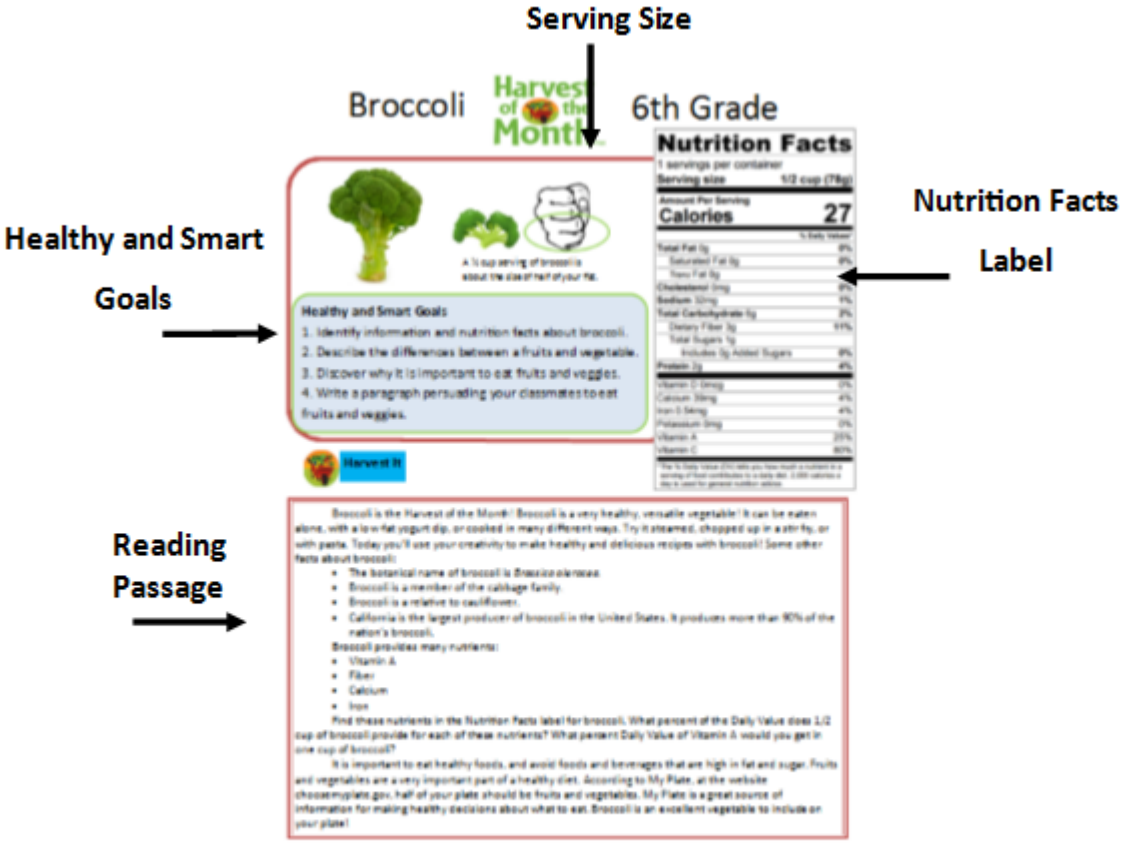
Procedures

Harvest It

Activity Setting Goals and Acquiring Nutrition Information

Students will read a passage about broccoli containing nutrition information.

Teacher guides students in the reading and interpreting the Nutrition Facts Label.



Each of the Harvest It components are expanded upon below.

Instructions

1. Familiarize yourself with the **Nutrition Resources and Health Messages** located at the end of the lesson plan that address the Dietary Guidelines for America and the new Nutrition Facts label.
2. Read the lesson's **Healthy and Smart Goals** with the class which can be found in their workbook.
    - Identify information and nutrition facts about broccoli.
    - Describe the differences between a fruit and a vegetable.
    - Discover why it's important to eat fruits and veggies.
    - Write a paragraph persuading your classmates to eat fruits and veggies.

3. Read the introductory passage with your students. Students will consider making healthy choices and identify the nutritional benefits of eating broccoli.

Broccoli is the Harvest of the Month! Broccoli is a very healthy, versatile vegetable! It can be eaten alone, with a low-fat yogurt dip, or cooked in many different ways. Try it steamed, chopped up in a stir fry, or with pasta. Today you'll use your creativity to make healthy and delicious recipes with broccoli! Some other facts about broccoli:

· The botanical name of broccoli is Brassica oleracea.

· Broccoli is a member of the cabbage family.

· Broccoli is a relative to cauliflower.

· California is the largest producer of broccoli in the United States. It produces more than 90% of the nation's broccoli.

Broccoli provides many nutrients:

· Vitamin A

· Fiber

· Calcium

· Iron

Find these nutrients in the Nutrition Facts label for broccoli. What percent of the Daily Value does 1/2 cup of broccoli provide for each of these nutrients? What percent Daily Value of Vitamin A would you get in one cup of broccoli?

It is important to eat healthy foods, and avoid foods and beverages that are high in fat and sugar. Fruits and vegetables are a very important part of a healthy diet. According to MyPlate, at the website choosemyplate.gov, half of your plate should be fruits and vegetables. MyPlate is a great source of information for making healthy decisions about what to eat. Broccoli is an excellent vegetable to include on your plate!

Nutrition Facts

1 servings per container

Serving size 1/2 cup (78g)

Amount Per Serving

Calories 27

	% Daily Values*
Total Fat 0g	0%
Saturated Fat 0g	0%
Trans Fat 0g	
Cholesterol 0mg	0%
Sodium 32mg	1%
Total Carbohydrate 6g	2%
Dietary Fiber 3g	11%
Total Sugars 1g	
Includes 0g Added Sugars	0%
Protein 2g	4%
Vitamin D 0mcg	0%
Calcium 39mg	4%
Iron 0.54mg	4%
Potassium 0mg	0%
Vitamin A	25%
Vitamin C	80%

*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

A ½ cup serving of broccoli is about the size of half of your fist.

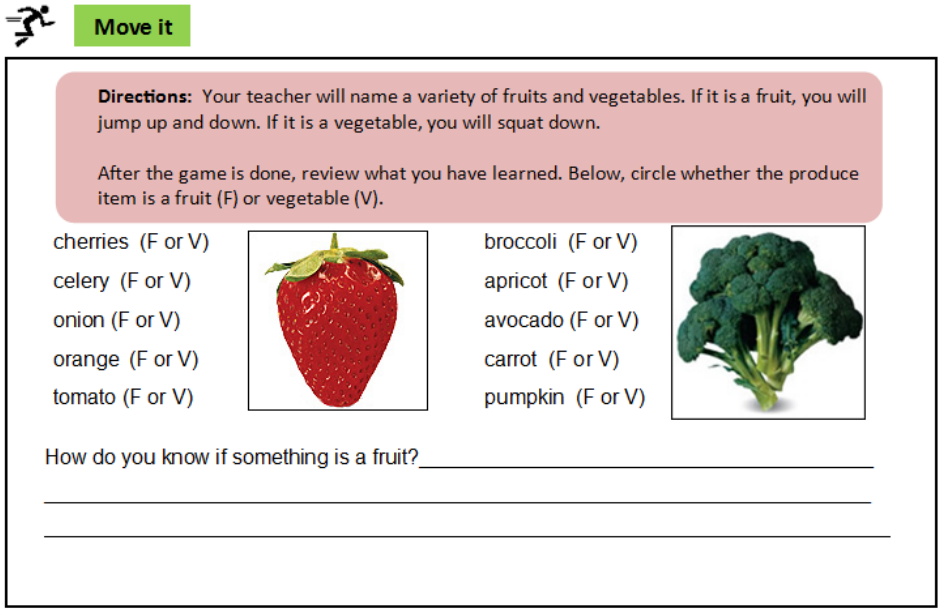
4. Guide students in interpreting the Nutrition Facts label in their workbook. Explain that they should strive to include a variety of nutrients from the food they eat. Five percent or less of a nutrient is low, while 20% or above is considered high.
5. Draw their attention to the % Daily Value (DV) on the Nutrition Facts label of Vitamin C and fiber. Ask them if a ½ cup serving of broccoli would be sufficient to supply the DV.

Move It

Activity Is it a Fruit or Veggie?

Students will decide if the named produce is a fruit or vegetable, and show their answer with an assigned movement.

Teacher will explain instructions, call out the produce names, and guide a discussion to clarify the difference between fruits and vegetables.



Move it

Directions: Your teacher will name a variety of fruits and vegetables. If it is a fruit, you will jump up and down. If it is a vegetable, you will squat down.

After the game is done, review what you have learned. Below, circle whether the produce item is a fruit (F) or vegetable (V).

cherries (F or V)
celery (F or V)
onion (F or V)
orange (F or V)
tomato (F or V)

broccoli (F or V)
apricot (F or V)
avocado (F or V)
carrot (F or V)
pumpkin (F or V)

How do you know if something is a fruit?_____

_____

_____

Instructions

1. Explain that the class will be expressing their opinion by moving their bodies in particular ways. You will name a food. If they think it is a fruit they will jump up and down, and if they think it is a vegetable they will squat down. If there are any differing views, you will pause for discussion and clarification.
2. Explain that while from a culinary point of view we refer to plant parts that are sweet as fruits and those that are savory as vegetables, that is not the scientific definition. Say, that scientifically speaking, a fruit is the part of the plant that develops from a flower. It is also the section of the plant that contains the seeds. The other parts of plants we eat are considered vegetables, including the stems, leaves and roots, and the flower bud (see Mayo Clinic [1]) An easy distinction to make is that any plant part we eat that has seeds inside is a fruit and everything else is a vegetable.
3. Say that according to the USDA [2], vegetables are further organized into 5 subgroups based on their nutrient content: dark-green vegetables, starchy vegetables, red and orange vegetables, beans and peas, and other vegetables.
4. Tell students to stand up. Call out the following, and allow time for students to move before calling out whether it is a fruit or vegetable:
   Cherries (fruit), celery (vegetable), onion (vegetable), orange (fruit).
5. Call out the next item, *tomato (fruit).* Ask the class why a tomato would be classified as a fruit scientifically speaking.

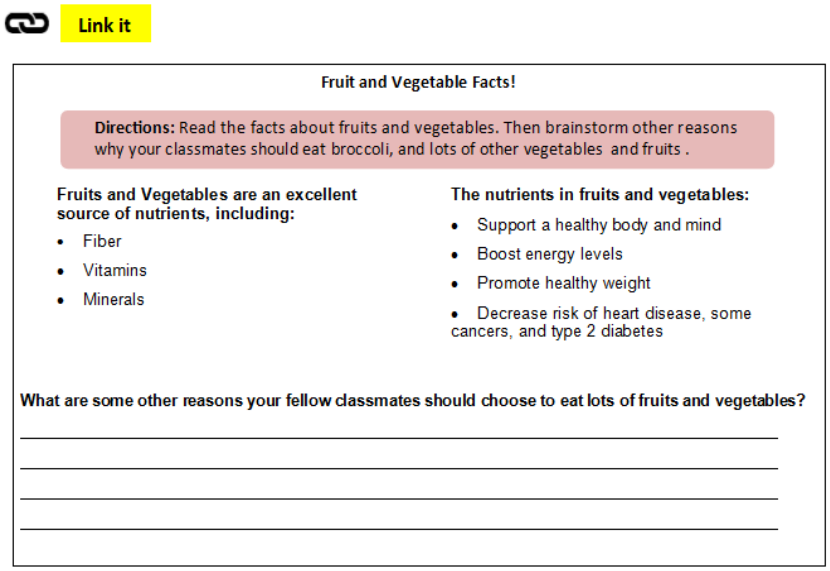
6. Call out these fruits and veggies: *broccoli (vegetable), apricot (fruit), avocado (fruit), carrot (vegetable), pumpkin (fruit), lettuce (vegetable), cauliflower (vegetable), apple (fruit), cucumber (fruit).* Solicit suggestions of other fruits and vegetables from the class. Use the scientific distinction between fruits and vegetables discussed above.
7. Instruct students to sit down, and complete the Move It section of their workbook to review what they have learned. They will circle whether the produce items listed are fruits or vegetables, and respond to the question "How do you know what you are eating is a fruit or vegetable?"

Link It

Activity Fruit and Vegetable Facts!

Students will learn about the benefits of including many fruits and vegetables in their diet, and will also come up with some of their own ideas about why people should eat fruits and vegetables.

Teacher will guide a discussion about the benefits of eating fruits and vegetables, and encourage discussion for students to brainstorm additional reasons why their classmates should eat lots of fruits and vegetables.


Link it

Fruit and Vegetable Facts!

Directions: Read the facts about fruits and vegetables. Then brainstorm other reasons why your classmates should eat broccoli, and lots of other vegetables and fruits .

Fruits and Vegetables are an excellent source of nutrients, including:

- Fiber
- Vitamins
- Minerals

The nutrients in fruits and vegetables:

- Support a healthy body and mind
- Boost energy levels
- Promote healthy weight
- Decrease risk of heart disease, some cancers, and type 2 diabetes

What are some other reasons your fellow classmates should choose to eat lots of fruits and vegetables?

Instructions

1. Tell students we will be learning more about fruits and vegetables. Before learning more facts, they will work with a partner to figure out what they already know about fruits and vegetables in a Think-Pair-Share.
2. Arrange students into pairs. Pass out the "Think-Pair-Share" graphic organizer. First, they will fill out what they know about fruits and vegetables in the first column, *"What I think…."* Then they will take turns sharing ideas with their partner. Each student records the ideas of their partner in the second column, "What my partner thinks…." Then they will decide on 2 facts they want to share with the whole class and write that in the third column, "What we will share…."

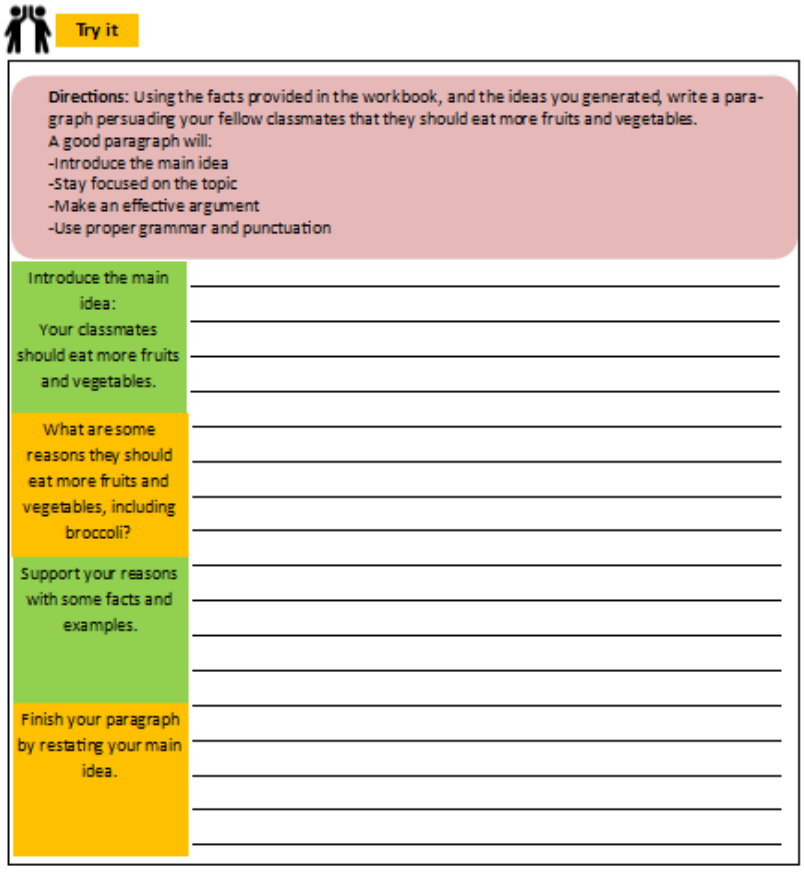
3. Instruct students to read, “Fruit and Vegetable Facts!” in the workbook (as a class, or in small groups).
4. Guide a discussion about what they read. What new facts did they learn about fruits and vegetables?
5. Facilitate students brainstorming more reasons to eat lots of fruits and vegetables, and write them in the space provided in workbook. They can include reasons like “fruit is sweet and tasty,” or “lettuce is crunchy and refreshing.” It doesn’t all have to be science based.

Try It

Activity Persuade Me!

Students will use facts that they learned and brainstormed in Link It to write a persuasive paragraph about why their fellow classmates should eat more broccoli, fruits and vegetables.

Teacher will instruct students to use the facts they created and facts provided in the workbook to write a persuasive paragraph.



Instructions

1. Explain to students that they will use the ideas from the Link It section in the workbook to write a paragraph persuading an audience of students to eat more fruits and vegetables. Ask the class to share what matters to them when it comes to eating healthfully and to include their classmates’ values in the writing.
2. Tell them that a good paragraph will:
    - Introduce the main idea.

- Stay focused on the topic.
- Make an effective argument.
- Use proper grammar and punctuation.

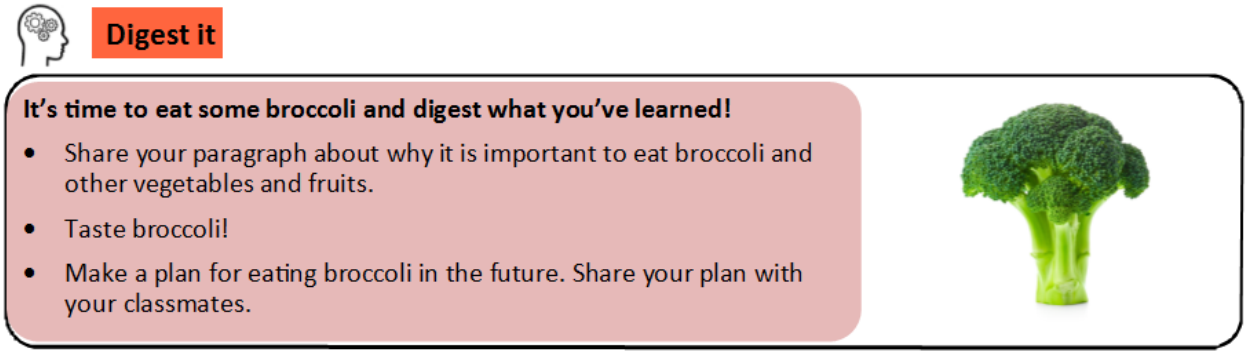
3. Show them the sequence provided in the workbook:
    - Introduce the main idea: Your classmates should eat more fruits and vegetables.
    - What are some reasons they should eat more fruits and vegetables, including broccoli?
    - Support your reasons with some facts and examples.
    - Finish your paragraph by restating your main idea.

Digest It

Activity Broccoli Tasting and Sharing Paragraphs

Students will taste broccoli, share their paragraphs, and reflect on what they have learned.

Teacher will hand out the tasting, and instruct students to read facts about broccoli, reflect, and share their persuasive paragraphs.



Instructions

1. Tell students they will be trying some broccoli and reflecting on their learning.
2. Have students wash their hands. The Center for Disease Control [3] suggests:

> Wet your hands with clean, running water (warm or cold), turn off the tap, and apply soap.
> Lather your hands by rubbing them together with the soap. Be sure to lather the backs of your hands, between your fingers, and under your nails.
> Scrub your hands for at least 20 seconds. Need a timer? Hum the "Happy Birthday" song from beginning to end twice.
> Rinse your hands well under clean, running water.
> Dry your hands using a clean towel or air dry them.

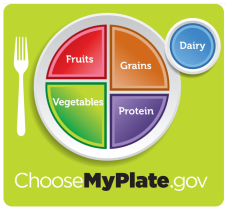
3. Tell students to wait until everyone has their tasting and you give them the go-ahead to eat.
4. Ask the students, while they are waiting, to think about if and when they've seen broccoli in the cafeteria, and if they tried it.
5. Tell them to eat on a count of three.
6. Encourage students to try at least one bite.
7. Model respectful responses to tasting the broccoli. Give examples of expressing feelings in a considerate and supportive way, for example:

    a. Ask students to give a silent thumb up, down, or in the middle to indicate their opinion of the tasting.
    b. Describe the flavors, colors, or textures: *“The broccoli is green, crunchy, and bumpy.”*
    c. Model respectful responses to not liking the tasting: *"I appreciate being offered the broccoli. I know it is healthy for me. It's not my favorite at the moment. I will give it another chance next time.”*
8. Guide a discussion about what they learned using the prompts below, which students can find in the Digest It section of their workbook.
    a. Share your paragraph about why it is important to eat broccoli and other vegetables and fruits.
    b. Taste broccoli!
    c. Make a plan for eating broccoli in the future. Share your plan with your classmates.

9. Distribute the Family Newsletter. Discuss a recipe in the newsletter. Ask students to present the newsletter to their family members and share the recipe.

Optional: Have students continue to do research on the computer reviewing the MyPlate site to find out more: https://www.choosemyplate.gov/ or www.harvestofthemonth.com

Nutrition Resources and Health Messages



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  -Focus on whole fruits.
  -Vary your veggies.
- Make half of your grains whole grains.
- Move to low-fat and fat-free milk or yogurt.
- Vary your protein routine.
- Drink and eat less sodium, less saturated fat, and less added sugar.

See the website for more information on fruit and vegetable consumption and physical activity.[2]

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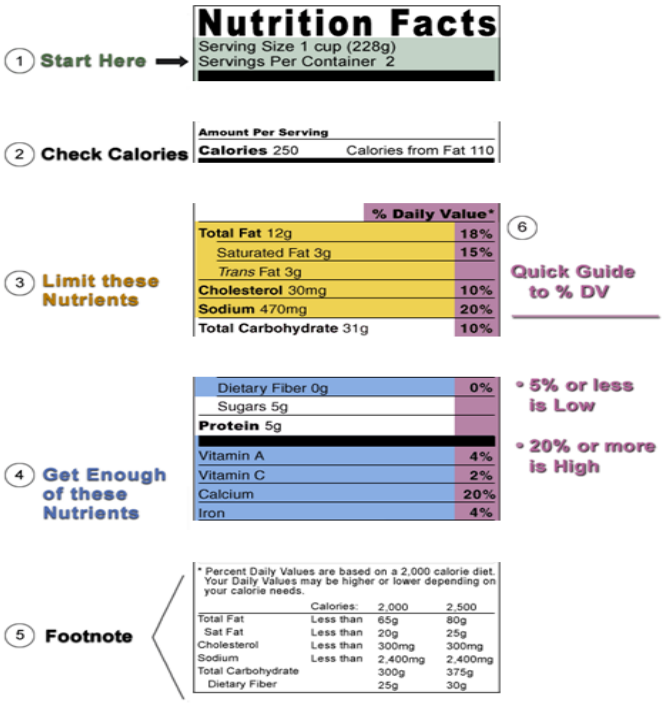


1. Pay attention to the serving size, especially how many servings there are in the food package. Then ask yourself, "How many servings am I consuming"? (e.g., 1/2 serving, 1 serving, or more).
2. The number of servings you consume determines the number of calories you actually eat.

   General Guide to Calories (per serving of food)

   - 40 Calories is low
   - 100 Calories is moderate
   - 400 Calories or more is high

   Eating too many calories per day is linked to overweight and obesity.
3. Health experts recommend that you keep your intake of saturated fat, *trans* fat and cholesterol as low as possible as part of a nutritionally balanced diet.
4. You can use the Nutrition Facts label not only to help *limit* those nutrients you want to cut back on, but also to *increase* those nutrients you need to consume in greater amounts.
5. % DVs are based on a 2,000-calorie diet.
6. 5% DV or less is low and 20% DV or more is high.

References

1. Fruit or vegetable — Do you know the difference? (n.d.). Retrieved January 27, 2017, from http://www.mayoclinic.org/healthy-lifestyle/nutrition-and-healthy-eating/expert-blog/fruit-vegetable-difference/bgp-20056141

2. All about the Vegetable Group. (2016, July 26). Retrieved January 27, 2017, from https://www.choosemyplate.gov/vegetables

3. Wash Your Hands. (2016, April 11). Retrieved September 28, 2016, from http://www.cdc.gov/features/handwashing/

4. How to Understand and Use the Nutrition Facts Label. (n.d.). Retrieved October 06, 2016, from http://www.fda.gov/Food/IngredientsPackagingLabeling/LabelingNutrition/ucm274593.htm#see1

5. Choose MyPlate. (n.d.). Retrieved October 06, 2016, from https://www.choosemyplate.gov/

Harvest of the Month - Orange
Grade 6, Lesson 4

Summary

Learning Objectives

- Identify nutrition facts and health benefits about oranges.
- Use a decision-making process to determine whether or not foods and beverages are healthy choices for hydration.
- Analyze the marketing techniques used on beverage labels.
- Design a beverage label for a healthy drink that emphasizes its healthy attributes.

Goals, Competencies, and Standards

- Harvest of the Month Goal
  Increase consumption and access to healthy beverages and reduce consumption of unhealthy beverages.

- Health Standards: Nutrition Competency
  2.5-6 Describe the influence of advertising and marketing techniques on food and beverage choices.

- Common Core Standards
  CCSS.ELA-LITERACY.SL.6.2
  Interpret information presented in diverse media and formats (e.g., visually, quantitatively, orally) and explain how it contributes to a topic, text, or issue under study.

Materials: Harvest of the Month workbooks, 1 orange slice per student, Educator Newsletter, Family Newsletters

Lesson Sections	Topic	Time
Harvest It	Background about the Harvest of the Month	20 minutes
Move It	Physical Activity, Content for Link It	15 minutes
Link It	Guided Practice	15 minutes
Try It	Independent Practice	15 minutes
Digest It	Tasting, Reflection, and Informal Assessment	15 minutes

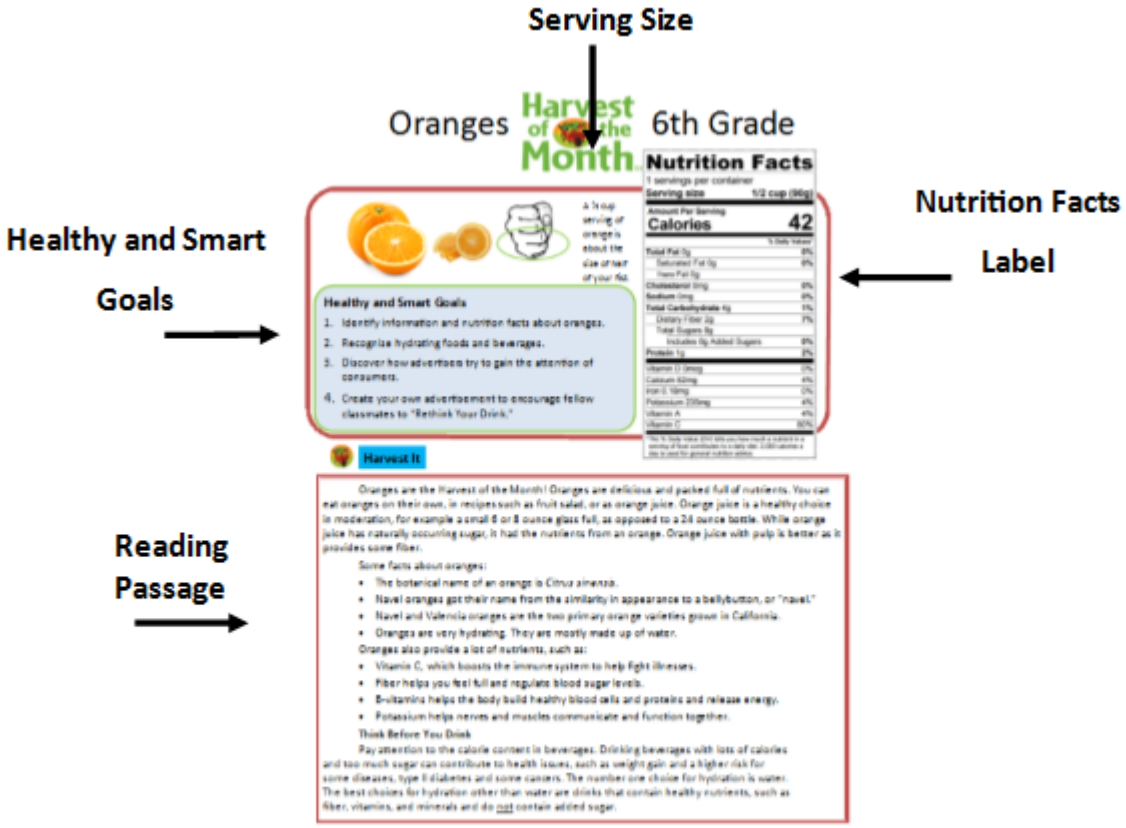
Procedures

Harvest It

Activity Setting Goals and Acquiring Nutrition Information

Students will read a passage about oranges containing nutrition information.

Teacher guides students in the reading and interpreting the Nutrition Facts Label.



Each of the Harvest It components are expanded upon below.

Instructions

1. Familiarize yourself with the **Nutrition Resources and Health Messages** located at the end of the lesson plan that address the Dietary Guidelines for America and the new Nutrition Facts label.
2. Read the lesson's **Healthy and Smart Goals** with the class which can be found in their workbook.
    - Identify information and nutrition facts about oranges.
    - Recognize hydrating foods and beverages.
    - Discover how advertisers try to gain the attention of consumers.
    - Create your own advertisement to encourage fellow classmates to "Rethink Your Drink."

3. Read the introductory passage with your students. Students will consider making healthy choices for hydration and identify the nutritional benefits of eating oranges.

Oranges are the Harvest of the Month! Oranges are delicious and packed full of nutrients. You can eat oranges on their own, in recipes such as fruit salad, or as orange juice. Orange juice is a healthy choice in moderation, for example a small 6 or 8-ounce glass full, as opposed to a 24-ounce bottle. While orange juice has naturally occurring sugar, it has the nutrients from an orange. Orange juice with pulp is better, as it provides some fiber.

Some facts about oranges:

- *The botanical name of an orange is Citrus sinensis.*
- *Navel oranges got their name from the similarity in appearance to a bellybutton, or "navel."*
- *Navel and Valencia oranges are the two primary orange varieties grown in California.*
- *Oranges are very hydrating. They are mostly made up of water.*

Oranges also provide a lot of nutrients, such as:

- *Vitamin C, which boosts the immune system to help fight illnesses.*
- *Fiber helps you feel full and regulate blood sugar levels.*
- *B-vitamins help the body build healthy blood cells and proteins and release energy.*
- *Potassium helps nerves and muscles communicate and function together.*

Think Before You Drink

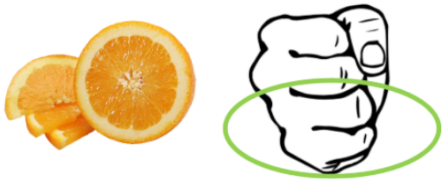
Pay attention to the calorie content in beverages. Drinking beverages with lots of calories and too much sugar can contribute to health issues, such as weight gain and a higher risk for some diseases, type II diabetes and some cancers. The number one choice for hydration is water. The best choices for hydration other than water are drinks that contain healthy nutrients, such as fiber, vitamins, and minerals and do <u>not</u> contain added sugar.

Nutrition Facts

1 servings per container

Serving size	**1/2 cup (90g)**
Amount Per Serving	
Calories	**42**
	% Daily Values*
Total Fat 0g	**0%**
Saturated Fat 0g	**0%**
Trans Fat 0g	
Cholesterol 0mg	**0%**
Sodium 0mg	**0%**
Total Carbohydrate 4g	**1%**
Dietary Fiber 2g	**7%**
Total Sugars 8g	
Includes 0g Added Sugars	**0%**
Protein 1g	**2%**
Vitamin D 0mcg	0%
Calcium 52mg	4%
Iron 0.18mg	0%
Potassium 235mg	4%
Vitamin A	4%
Vitamin C	80%

*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.



A ½ cup serving of oranges is about the size of half of your fist.

4. Guide students in interpreting the nutrition facts label in their workbook. Explain that they should strive to include a variety of nutrients from the food they eat. Five percent or less

of a nutrient is low, while 20% or above is considered high.

5. Draw their attention to the % daily value on the nutrition facts label of Vitamin C and fiber. Ask them if a ½ cup serving of oranges would be sufficient to supply the recommended daily value.

Move It

Activity Stop and Go - Learning About Drink Choices

Students will learn about beverages that are healthy choices for getting hydrated, and others that are not healthy choices to hydrate. They will play a game that highlights these ideas.

Teacher will teach about what makes a beverage a healthy choice, and guide students in a game.

Instructions

1. Tell students that they are going to play a game using what we know about hydration.
2. The students are going to play game like "Red Light, Green Light". They will move forward when they hear a healthy drink and freeze when they hear an unhealthy drink.
3. Explain to students that good sources of hydration are drinks and foods that are high in water and low in calories and added sugar. Some examples include: water; water flavored with fruits, veggies, and herbs; and, many fruits and vegetables, including oranges, melons and berries.
4. Tell students that there is added sugar in many drinks, such as: soda, sports drinks, energy drinks, and even some drinks that contain juice. The extra calories they contain contribute to health issues. (Note that the Dietary Guidelines say that only 10% of our calories should come from added sugar. The average intake of children aged 9 to 13 is approximately 17%. There is not specific number of grams of sugar recommended.)
5. Explain that the game is like *Red light/Green light.* If the beverage is a good choice for hydrating, go forward (green light), because it helps your body work well! If it's not a good choice to hydrate your body, freeze (red light), because it is not as helpful to your body. Alternate for inside - green light = jumping jacks, red light = freeze in place.

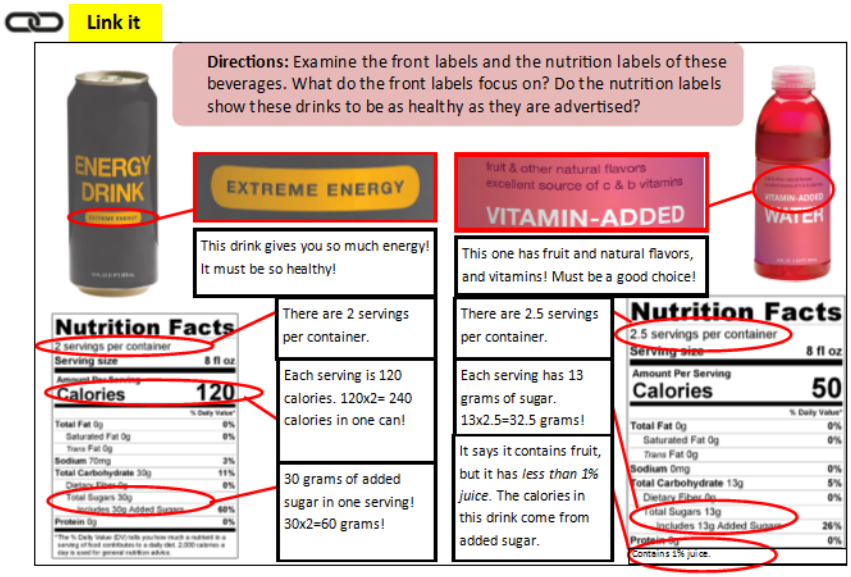
6. Use the specific examples of healthy and less healthy drinks in the workbook to start with. Model movement using those specific drinks.
    Water (go!)
    Soda (freeze!)
    Unsweetened carbonated water (go!)
    Sports drinks (freeze!)
    A half cup and a half cup of orange juice (go!)
    Fruit punch(freeze!)
    Lemonade(freeze!)
    Water with a squeeze of lemon (go!)
    Energy drinks (freeze!)
    Low-fat 1% and non-fat milk (go!)
    Oranges (go!)
7. Once they've gained mastery with the specific examples in the book, you may wish to introduce other drinks that are not in the workbook. For example, some other drinks students may be surprised to find have a lot of sugar: fruit punch, lemonade, and energy drinks. Feel free to change or add beverages named as appropriate.
8. When the game is done, take a minute to debrief about what they learned as they were playing. Ask them to identify the drinks that were healthy and say what makes them healthy: nutrients and no added sugars.

Link It

Activity Examining Drink Labels

Students will learn how to determine if a drink is as healthy as advertised by reading the nutrition facts label for sugar content.

Teacher will teach how to reference the Nutrition Facts label to determine if drink is in fact as healthy other messages on the label suggest.



Instructions

1. Say to students that when companies create labels for their products, they are trying to motivate the consumer (or person who will buy them) to want their product. They use images, colors, and ideas to persuade people. They make a label that is easy to recognize. They target audiences they think their beverage will resonate with. We are going to look at the packaging on beverage pretend containers to determine what strategies the marketers are using to convince them to buy their drink.
2. Ask students to take a look at the beverage labels in their workbook. Ask them what are they trying to get consumers to think? How are they encouraging you to buy the drink?
3. Focus on the big ideas presented in the workbook as you facilitate a discussion about the beverage labels.
4. Instruct students to look at the "Energy Drink." The advertisers are trying to target a particular audience. They achieve this by choosing images and ideas that appeal to the desired audience, get their attention, and make them want the product. The product encourages you to think:

   -*This drink gives you so much energy! It must be so healthy!*

   The information motivates the consumer to want to choose the drink because it gives you energy.
5. Direct students to look at the nutrition label for the "Energy Drink" to see how much sugar and calories it contains, and think about whether it really is a healthy choice.

   There are 2 servings per container. Each serving is 120 calories. 120x2= 240 calories in one can! 30 grams of sugar in one serving! 30x2=60 grams!
6. Instruct students to look at the "Vitamin-Added Water." The advertisers are aiming for a particular audience. They achieve this by choosing images and ideas that appeal to the desired audience, get their attention, and make them want the product:

   -*This drink has fruit and natural flavors, and vitamins! Must be a good choice!*

   The information motivates the consumer to want to choose the drink because it seems healthy.
7. Direct students to look at the nutrition label for the "Vitamin-Added Water" to see what it really contains.

   There are 2.5 servings per container. Each serving has 13 grams of sugar. 13 x 2.5 = 32.5grams! It says it contains fruit, but it really has less than 1% juice.
8. Pass out the "Examining Drink Labels" visual aid. Provide support as they examine the "Juice Drink" and "Sports Drink" front labels and nutrition labels.

Try It

Activity Rethink Your Drink/Create a Label

Students will create a label for a healthy beverage using techniques learned in Link It.

Teacher will guide students on how to create a beverage label.

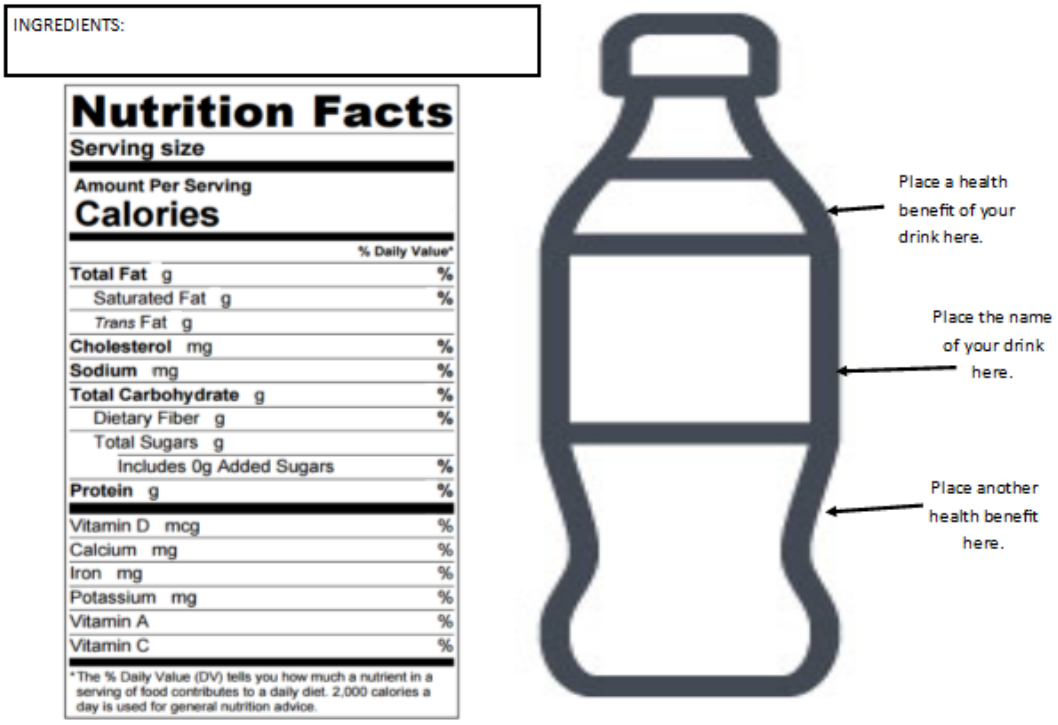
Try it

Directions: You will be creating a label for a healthy drink. Do not use a beverage brand that already exists. Be sure to make up your own new drink.

1) Your bottle has two sides. One side has the Nutrition Facts label and the ingredients list. Start on this side first. Refer to the Move It section for examples of healthy ingredients. Recall that healthy drinks have nutrients, such as water, vitamins and minerals, and do not have added sugar. Refer to the Nutrition Facts label on the Harvest It page for inspiration.
2) On the second side, put the name of your new drink, and advertise the health benefits of its ingredients. Use the information from the Harvest It and Move It sections as part of your health messages.

Instructions

1. Tell students that they will be creating labeling for a healthy beverage. Be clear that they will be creating their own drink and not using and existing product. Say the directions out loud.



2. They will first create an ingredients list and fill in the Nutrition Facts label for the beverage.
3. Then they will name their drink and add healthy messages on the bottle.
4. They will refer to the prior sections to collect information for the ingredients, nutritional information, and health benefits. Model locating this information in the workbook.

Digest It

Activity Tasting Oranges and Reflection

Students will taste oranges, discuss what they learned about hydration and advertising, and share their ads.

Teacher will hand out oranges, facilitate conversation about hydration, advertising, and sharing of ads.

Digest it

It's time to eat some oranges and digest what you've learned!

- What makes a drink more or less healthy?
- What are some examples of healthy drinks?
- Share the drink you created. What makes it a healthy choice?
- Taste oranges. What is your plan for eating oranges in the future?

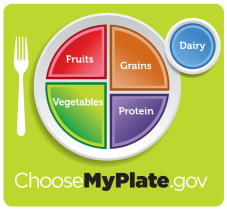
Instructions

1. Tell students they will be trying some oranges and reflecting on their learning.
2. Have students wash their hands. The Center for Disease Control [1] suggests:

> Wet your hands with clean, running water (warm or cold), turn off the tap, and apply soap.
> Lather your hands by rubbing them together with the soap. Be sure to lather the backs of your hands, between your fingers, and under your nails.
> Scrub your hands for at least 20 seconds. Need a timer? Hum the "Happy Birthday" song from beginning to end twice.
> Rinse your hands well under clean, running water.
> Dry your hands using a clean towel or air dry them.

3. Tell students to wait until everyone has their tasting and you give them the go-ahead to eat.
4. Ask the students, while they are waiting, to think about if and when they've seen oranges in the cafeteria, and if they tried it.
5. Tell them to eat on a count of three.
6. Encourage students to try at least one bite.
7. Model respectful responses to tasting the orange. Give examples of expressing feelings in a considerate and supportive way, for example:
    a. Ask students to give a silent thumb up, down, or in the middle to indicate their opinion of the tasting.
    b. Describe the flavors, colors, or textures: "The orange is juicy, sweet, and bright orange."
    c. Model respectful responses to not liking the tasting: "I appreciate being offered the orange. I know it is healthy for me. It's not my favorite at the moment. I will give it another chance next time."
8. Guide a discussion about what they learned using the prompts below, which students can find in the Digest It section of their workbook.
    - What makes a drink more or less healthy?
    - What are some examples of healthy drinks?
    - Share the drink you created. What makes it a healthy choice?
    - Taste oranges. What is your plan for eating oranges in the future?
9. Choose volunteers to share their drink label.
10. Distribute the Family Newsletter. Discuss a recipe in the newsletter. Ask students to present the newsletter to their family members and share the recipe.
11. Optional. Make flavored water. Fill a pitcher with water. Add orange slices. Let the flavor infuse for an hour before serving.

Nutrition Resources and Health Messages



MyPlate

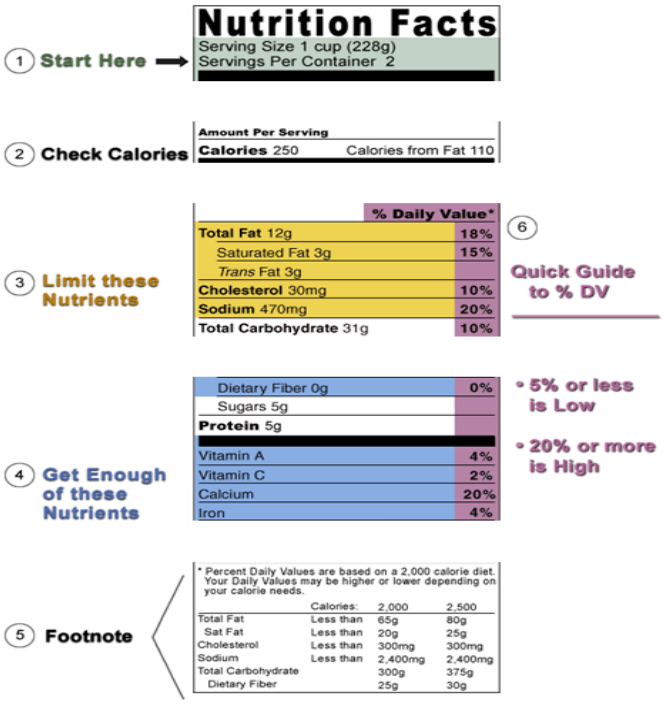
ChooseMyPlate.gov [2] is a resource for nutrition information based on the Dietary Guidelines for America. MyPlate illustrates the five food groups that are the building blocks of a healthy diet. The following is an excerpt from the ChooseMyPlate.gov website. It is recommended that you and your students:

- Make half of your plates fruits and vegetables.
  -Focus on whole fruits.
  -Vary your veggies.
- Make half of your grains whole grains.
- Move to low-fat and fat-free milk or yogurt.
- Vary your protein routine.
- Drink and eat less sodium, less saturated fat, and less added sugar.

See the website for more information on fruit and vegetable consumption and physical activity.[2]

Nutrition Facts label

The Nutrition Facts label has been revised and is used in the workbook. The following excerpts from the FDA website [3] describe the components of the label:



1. Pay attention to the serving size, especially how many servings there are in the food package. Then ask yourself, "How many servings am I consuming"? (e.g., 1/2 serving, 1 serving, or more).
2. The number of servings you consume determines the number of calories you actually eat.

   General Guide to Calories (per serving of food)

   - 40 Calories is low
   - 100 Calories is moderate
   - 400 Calories or more is high

   Eating too many calories per day is linked to overweight and obesity.
3. Health experts recommend that you keep your intake of saturated fat, *trans* fat and cholesterol as low as possible as part of a nutritionally balanced diet.
4. You can use the Nutrition Facts label not only to help *limit* those nutrients you want to cut back on, but also to *increase* those nutrients you need to consume in greater amounts.
5. % DVs are based on a 2,000-calorie diet.
6. 5% DV or less is low and 20% DV or more is high.

References

1. Wash Your Hands. (2016, April 11). Retrieved September 28, 2016, from http://www.cdc.gov/features/handwashing/

2. How to Understand and Use the Nutrition Facts Label. (n.d.). Retrieved October 06, 2016, from http://www.fda.gov/Food/IngredientsPackagingLabeling/LabelingNutrition/ucm274593.htm#see1

3. Choose MyPlate. (n.d.). Retrieved October 06, 2016, from https://www.choosemyplate.gov/

Harvest of the Month - Carrot
Grade 6, Lesson 5

Summary

Learning Objectives

- Identify nutrition facts and the health benefits of carrots.
- Identify the benefits of locally grown carrots.
- Use ratios to compare the distances locally grown and other carrots travel.
- Taste carrots.
- Make a plan for eating carrots.

Goals, Competencies, and Standards

- Harvest of the Month Goal
  Increase consumption of locally grown food items by connecting growers to their communities through farmers' markets, food retail stores, schools, and food banks, among others.

- Health Standards: Nutrition Competency
  1g.5-6.Explain how food is transported from farm to table, focus-ing on maintaining nutritional quality.

- Common Core Standards
  CCSS.MATH.CONTENT.6.RP.A.3
  Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations. *

Materials: Harvest of the Month workbooks, 1 piece of carrot per student, Move It signs, Educator Newsletter, Family Newsletters

Lesson Sections	Topic	Time
Harvest It	Background about the Harvest of the Month	20 minutes
Move It	Physical Activity, Content for Link It	15 minutes
Link It	Guided Practice	15 minutes
Try It	Independent Practice	15 minutes
Digest It	Tasting, Reflection, and Informal Assessment	15 minutes

* Familiarize students with this standard if they have not been introduced to it.

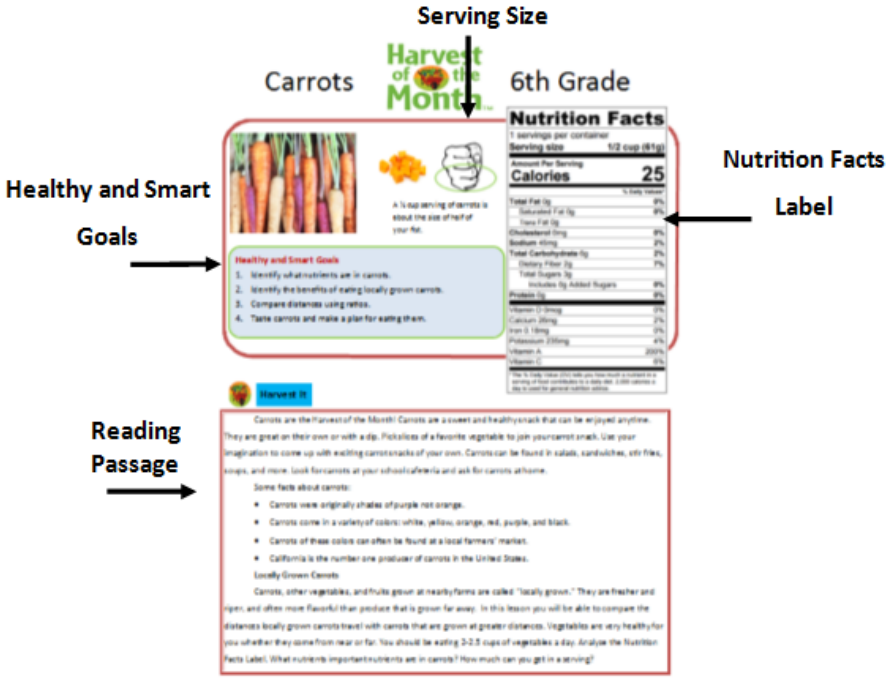
Procedures

Harvest It

Activity Setting Goals and Acquiring Nutrition Information

Students will read a passage about carrots containing nutrition information.

Teacher will guide students in reading and interpreting the Nutrition Facts Label.



Each of the Harvest It components are expanded upon below.

Instructions

1. Familiarize yourself with the **Nutrition Resources and Health Messages** located at the end of the lesson plan that address the Dietary Guidelines for America and the new Nutrition Facts label.
2. Read the **Healthy and Smart Goals** for the lesson aloud with the class, which are located on the first page of the lesson in their workbook.
   - Identify what nutrients are in carrots.
   - Identify the benefits of eating locally grown carrots.
   - Compare distances using ratios. *
   - Taste carrots and make a plan for eating them.
3. Read the introductory passage with your students which can be found in their workbook:

Carrots are the Harvest of the Month! Carrots are a sweet and healthy snack that can be enjoyed anytime. They are great on their own or with a dip. Pick slices of a favorite vegetable to join your carrot snack. Use your imagination to come up with exciting carrot snacks of your own. Carrots can be found in salads, sandwiches, stir fries, soups, and more. Look for carrots

at your school cafeteria and ask for carrots at home.

Some facts about carrots:

- *Carrots were originally shades of purple not orange.*
- *Carrots come in a variety of colors: white, yellow, orange, red, purple, and black.*
- *Carrots of these colors can often be found at a local farmers' market.*
- *California is the number one producer of carrots in the United States.*

Locally Grown Carrots

Carrots, other vegetables and fruits grown at nearby farms are called "locally grown." They are fresher and riper, and often more flavorful than produce that is grown far away. In this lesson, you will be able to compare the distances locally grown carrots travel with carrots that are grown at greater distances. Vegetables are very healthy for you whether they come from near or far. You should be eating 2-2.5 cups of vegetables a day. Analyze the Nutrition Facts Label. What nutrients important nutrients are in carrots? How much can you get in a serving?

Nutrition Facts

1 servings per container

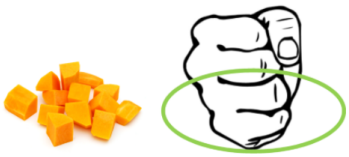
Serving size **1/2 cup (61g)**

Amount Per Serving

Calories **25**

	% Daily Values*
Total Fat 0g	**0%**
Saturated Fat 0g	**0%**
Trans Fat 0g	
Cholesterol 0mg	**0%**
Sodium 45mg	**2%**
Total Carbohydrate 6g	**2%**
Dietary Fiber 2g	**7%**
Total Sugars 3g	
Includes 0g Added Sugars	**0%**
Protein 0g	**0%**
Vitamin D 0mcg	0%
Calcium 26mg	2%
Iron 0.18mg	0%
Potassium 235mg	4%
Vitamin A	200%
Vitamin C	6%

*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.



A ½ cup serving of carrots is about the size of half of your fist.

4. Guide students in interpreting the Nutrition Facts label in their workbook. Explain that they should strive to include a variety of nutrients from the food they eat. Five percent or less of a nutrient is low, while 20% or above is considered high.
5. Draw their attention to the DV of Vitamin A. Ask them if a 1/2 cup serving of carrots would be sufficient to supply the recommended Daily Values and how they get 100%.

Move It

Activity Visualizing the Distance Produce Travels

Students will pretend they are carrots traveling from four different cities to Los Angeles while doing calisthenics.

Teacher will read a script that guides students in the calisthenics. The script also addresses the benefits of locally grown produce and sets up the topic of ratios that follows in the Link It and Try It sections.

Instructions

1. Read the following script:

   We are going to pretend we are carrots traveling to different parts of the world. Everyone stand up. Make sure you have enough room around you to do some movement.

   Imagine you and your classmates are carrots grown locally and packed in a box in Fresno, California. You are fresh, ripe, and in great shape. You are going for a short ride in a truck to Los Angeles, California. That's a distance of about 200 miles. Let's do jumping jacks for 2 seconds to represent your 200-mile ride from Fresno to Los Angeles, California.

   Good job. Now pretend you're a carrot packaged in Orlando, Florida. You are on a freight train headed to Los Angeles, California. It's a 2,500 trip. Let's jog in place for 25 seconds to simulate the twenty-five-hundred-mile trip from Florida to Los Angeles, California.

   Now let's pretend you are a carrot just packed in a box in Quito, Ecuador, South America. You are flying in a jet en route to Los Angeles. The journey will be 4,500 miles. Let's simulate your forty-five-hundred-mile journey by doing arm circles for 45 seconds.

Are you hanging in there? Now pretend you are carrot traveling 6,500 miles on an ocean freighter from Shanghai, China or jet from Dakar, Senegal. Let's do some lunges for 65 seconds to simulate the sixty-five-hundred-mile journey to from those places to Los Angeles.

Lunge

Here's how to do a lunge. Stand up straight with your legs shoulder width apart. Put your right foot about 2 feet in front of you. Keep your weight on the ball of your left foot. Lunge forward with your right knee, but don't let it go past your toes on your right foot. Return to the standing position. Alternate legs every 5 lunges until you reach 65 seconds.

Great job. How do you feel? Hopefully you feel good. Physical activity keeps us in good shape. But what kind of shape might the carrots be in after traveling from faraway places? To keep fruits and vegetables from spoiling over long journeys, they are often picked before they are ripe. Locally grown fruits and vegetables are fresh, ripe, and delicious.

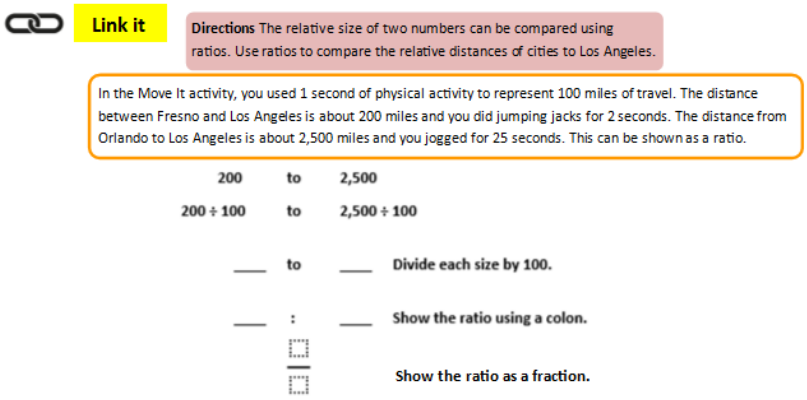
2. Ask the students how many miles each second of movement stood for. The answer is 100 miles. Tell them they will be using that information next in the Link It activity.

Link It

Activity Finding Ratios of Distances from Los Angeles

Students will find the relative distance of cities to Los Angeles by using ratios.

Teacher will support students in finding ratios.



Instructions

1. Say that we can show the relative sizes of two or more values by using ratios. As an example, use the quantities from the Move It activity. Say that Fresno is 200 miles from

Los Angeles and Orlando is 2,500 miles. That is a ratio of 200 to 2,500. Show them how that can be written 200:2,500.

2. Tell them to divide both sides by 100 or simply move the decimal place two places to the left to reduce the ratio to 2:25. Tell them to enter that information in their workbook. Have them write it as the fraction 2/25.

Try It

Activity Finding Ratios of Distances to Cities in California

Students will find the ratio of distances to cities in California.

Teacher will support students in calculating ratios.

Try it

Directions Write the ratio of the distances to Los Angeles from Fresno and Quito. Write the ratio with "to" and ":"

200	to	4,500
200 ÷ 100	to	4,500 ÷ 100
___	to	___
___	:	___
	□/□	

Directions Write the ratio of the distances of Los Angeles to Fresno, and Los Angeles to either Shanghai or Dakar.

200	to	6,500
200 ÷ 100	to	6,500 ÷ 100
___	to	___
___	:	___
	□/□	

Directions The table below shows distances between cities and places near where carrots are grown in California. Answer the questions based on the information in table. The mileage has been rounded to the nearest 100 miles.

Cities in Carrot Growing Counties

	Salinas	Holtville
San Francisco	100 miles	600 miles
San Diego	400 miles	100 miles

Write the ratio of the distances to San Francisco from Salinas and Holtville.

Salinas	100	to	____	Holtville
	1	to	____	
Salinas	1	:	____	Holtville
		□/□		

Write the ratio of the distances to San Diego from Salinas and Holtville.

	____	to	____	
Salinas	____	:	____	Holtville
		□/□		

Instructions

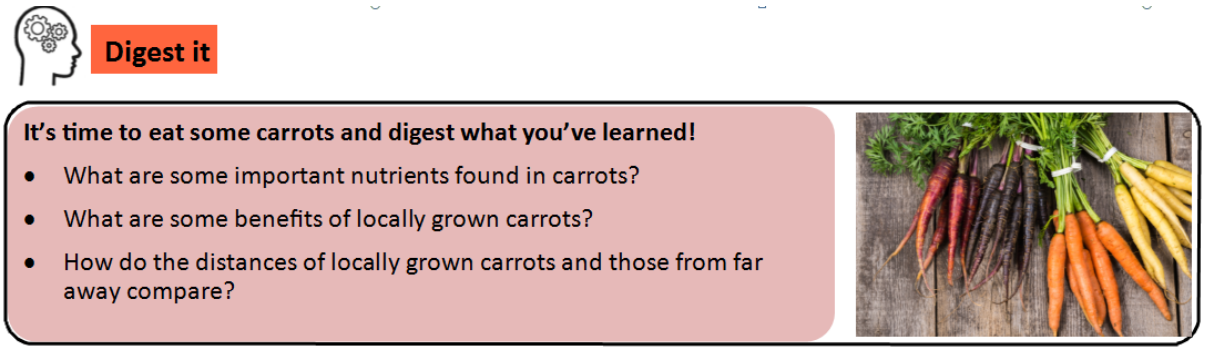
1. Ask students to complete the ratio problems in the Try It section of their workbook. The first problem asks them to find the ratio of the distances of Fresno and Quito to Los Angeles, which is 200 miles to 4,500 miles, 200: 4,500, or 2:45, 2/45.
2. The second problem asks them to find the ratio of the distances of Los Angeles to Fresno (200), and Los Angeles to either Shanghai or Dakar (6,500). That is 200:6,500 or 2:65, or 2/65.
3. The third problem asks them to find the ratio of the distances of Salinas and Holtville to San Francisco. The ratio is 100:600 or 1:6 or 1/6.
4. The fourth problem asks them to find the ratio of the distances of Salinas and Holtville to San Diego. The ratio is 400:100 or 4:1 or 4/1.

Digest It

Activity Trying Carrots and Reflecting

Students will try carrots, and reflect on what they have learned.

Teacher will pass out carrots and support reflection with guiding questions.



Instructions

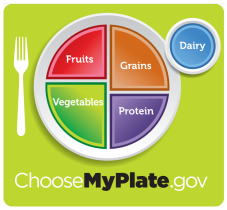
1. Tell students they will be trying some carrots and reflecting on their learning.
2. Have students wash their hands. The Center for Disease Control [1] suggests:

> Wet your hands with clean, running water (warm or cold), turn off the tap, and apply soap.
> Lather your hands by rubbing them together with the soap. Be sure to lather the backs of your hands, between your fingers, and under your nails.
> Scrub your hands for at least 20 seconds. Need a timer? Hum the "Happy Birthday" song from beginning to end twice.
> Rinse your hands well under clean, running water.
> Dry your hands using a clean towel or air dry them.

3. Tell students to wait until everyone has their tasting and you give them the go-ahead to eat.
4. Ask the students, while they are waiting, to think about if and when they've seen carrots in the cafeteria, and if they tried them.
5. Tell them to eat on a count of three.
6. Encourage students to try at least one bite.
7. Model respectful responses to tasting the carrot. Give examples of expressing feelings in a considerate and supportive way, for example:

    a. Ask students to give a silent thumb up, down, or in the middle to indicate their opinion of the tasting.
    b. Describe the flavors, colors, or textures: *“The carrot is crunchy, hard, and shiny.”*
    c. Model respectful responses to not liking the tasting: "I appreciate being offered the carrot. I know it is healthy for me. *It's not my favorite at the moment. I will give it another chance next time.”*
8. Guide a discussion about what they learned using the prompts below, which students can find in the Digest It section of their workbook.
    a. What are some important nutrients found in carrots?
    b. What are some benefits of locally grown carrots?
    c. How do distances of locally grown carrots and those from far away compare?
    d. What is your plan for eating carrots?
9. Distribute the Family Newsletter. Discuss a recipe in the newsletter. Ask students to present the newsletter to their family members and share the recipe.

Nutrition Resources and Health Messages



MyPlate

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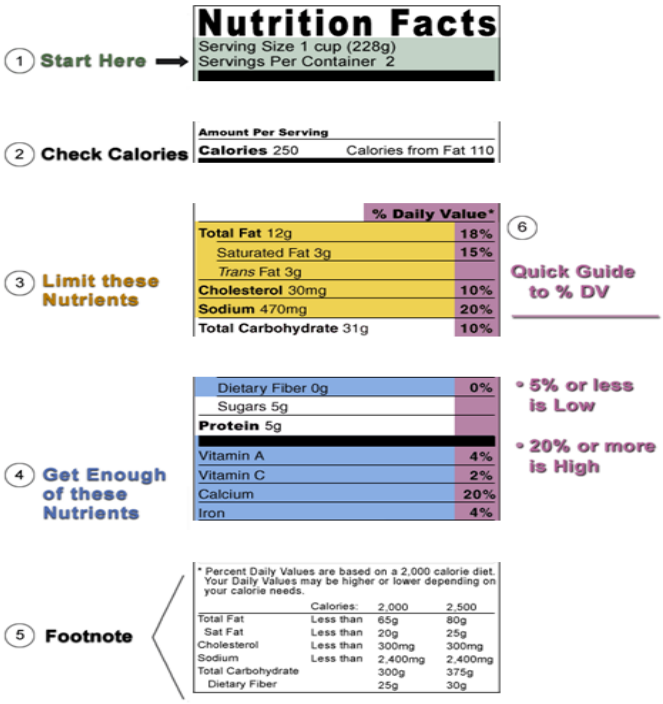
- Make half of your plates fruits and vegetables.
  -Focus on whole fruits.
  -Vary your veggies.
- Make half of your grains whole grains.
- Move to low-fat and fat-free milk or yogurt.
- Vary your protein routine.
- Drink and eat less sodium, less saturated fat, and less added sugar.

See the website for more information on fruit and vegetable consumption and physical activity.[2]

Nutrition Facts label

The Nutrition Facts label has been revised and is used in the workbook. The following excerpts from the FDA website [3] describe the components of the label:



1. Pay attention to the serving size, especially how many servings there are in the food package. Then ask yourself, "How many servings am I consuming"? (e.g., 1/2 serving, 1 serving, or more).
2. The number of servings you consume determines the number of calories you actually eat.

   General Guide to Calories (per serving of food)

   - 40 Calories is low
   - 100 Calories is moderate
   - 400 Calories or more is high

   Eating too many calories per day is linked to overweight and obesity.
3. Health experts recommend that you keep your intake of saturated fat, *trans* fat and cholesterol as low as possible as part of a nutritionally balanced diet.
4. You can use the Nutrition Facts label not only to help *limit* those nutrients you want to cut back on, but also to *increase* those nutrients you need to consume in greater amounts.
5. % DVs are based on a 2,000-calorie diet.
6. 5% DV or less is low and 20% DV or more is high.

References

1. Wash Your Hands. (2016, April 11). Retrieved September 28, 2016, from http://www.cdc.gov/features/handwashing/

2. How to Understand and Use the Nutrition Facts Label. (n.d.). Retrieved October 06, 2016, from http://www.fda.gov/Food/IngredientsPackagingLabeling/LabelingNutrition/ucm274593.htm#see1

3. Choose MyPlate. (n.d.). Retrieved October 06, 2016, from https://www.choosemyplate.gov/

Harvest of the Month - Berries
Grade 6, Lesson 6

Summary

Learning Objectives

- Identify the health benefits of berries.
- Determine the reasons why California grows so many crops.
- Multiply with percentages to find out the amount of berries California grows.
- Taste berries and make a plan for eating them.

Goals, Competencies, and Standards

- Harvest of the Month Goal
  Expand familiarity with California grown fruits and vegetables, local farmers, the state's rich agricultural bounty, and how food travels from the farm to our plates.

- Health Standard: Nutrition Competency
  1h.5-6. Analyze reasons why an abundance of food crops are grown in California.

- Common Core Standards
  CCSS.MATH.CONTENT.6.RP.A.3
  Use ratio and rate reasoning to solve real-world and mathematical problems, e.g., by reasoning about tables of equivalent ratios, tape diagrams, double number line diagrams, or equations.

Materials: Harvest of the Month workbooks, a tasting of 3 or more berries for each student, Educator Newsletter, Parent Newsletters

Lesson Sections	Topic	Time
Harvest It	Background about the Harvest of the Month	20 minutes
Move It	Physical Activity, Content for Link It	20 minutes
Link It	Guided Practice	15 minutes
Try It	Independent Practice	10 minutes
Digest It	Tasting, Reflection, and Informal Assessment	15 minutes

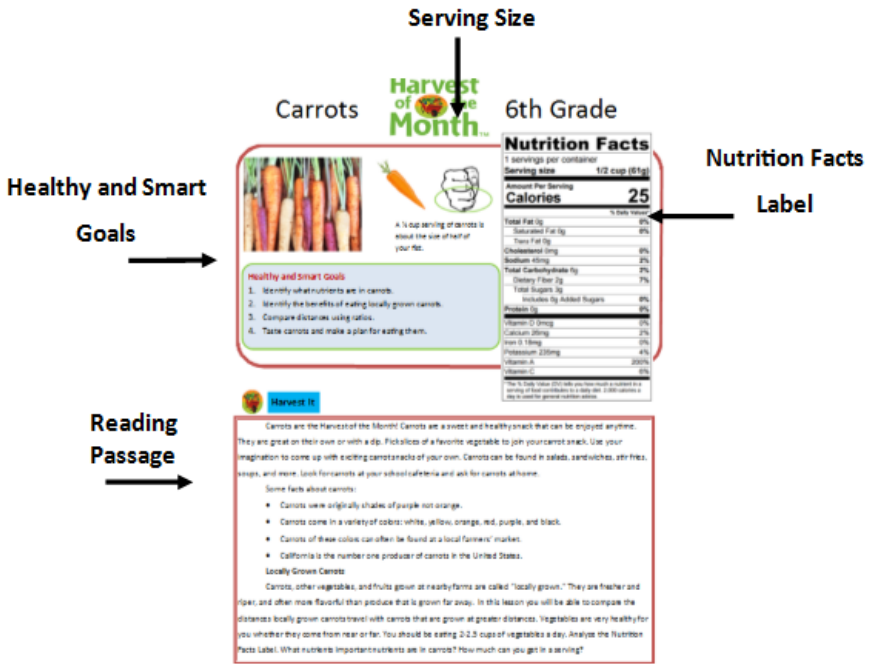
Procedures

Harvest It

Activity Setting Goals and Acquiring Nutrition Information

Students will read a passage about the nutrition in berries and growing conditions in California.

Teacher will guide students in reading and interpreting the Nutrition Facts Label.



Each of the Harvest It components are expanded upon below.

Instructions

1. Familiarize yourself with the **Nutrition Resources and Health Messages** located at the end of the lesson plan that address the Dietary Guidelines for America and the new Nutrition Facts label.
2. Read the **Healthy and Smart Goals** for the lesson aloud with the class which are located on the first page of the lesson in their workbook.
    - Identify the health benefits of eating berries.
    - Say why California is so ideal for growing crops.
    - Multiply with percentages.
    - Taste berries and make a plan for eating them.
3. Read the introductory passage with your students which can be found in their workbook:

    A handful of berries make a great snack. They also make an excellent smoothie. Try combining frozen berries, bananas, orange juice, and low-fat milk in a blender for a healthy and delicious treat. How many berries do you know about? You may have heard of blueberries, blackberries, and raspberries. But have you heard of boysenberries, loganberries and marionberries?

    Here are some "berry" important words in Spanish:

    - *frambuesa (raspberry)*

- *mora (blackberry)*
- *arándano (blueberry)*

Berries are very healthy for you. Take a look at the Nutrition Facts label. Blackberries contain 20% of the Daily Value of Vitamin K. Your body makes proteins with the help of Vitamin K to make healthy bones. It also makes proteins so that when you bleed, you don't bleed too much.

Nutrition Facts

1 servings per container

Serving size	**1/2 cup (72g)**
Amount Per Serving	
Calories	**31**
	% Daily Values*
Total Fat 0g	**0%**
Saturated Fat 0g	**0%**
Trans Fat 0g	
Cholesterol 0mg	**0%**
Sodium 1mg	**0%**
Total Carbohydrate 7g	**3%**
Dietary Fiber 4g	**14%**
Total Sugars 4g	
Includes 0g Added Sugars	**0%**
Protein 1g	**2%**
Vitamin D 0mcg	0%
Calcium 26mg	2%
Iron 0.54mg	4%
Potassium 188mg	4%
Vitamin A	4%
Vitamin C	25%
Vitamin K	20%

*The % Daily Value (DV) tells you how much a nutrient in a serving of food contributes to a daily diet. 2,000 calories a day is used for general nutrition advice.

A ½ cup serving of berries is about the size of half of your fist.

4. Pause the reading. Guide students in interpreting the nutrition facts label in their workbook. Explain that throughout the week, they should strive for 100% of the Percent Daily Value (DV) of nutrients listed on the Nutrition Facts label. Explain that the DV is the percent of a nutrient that they should eat each day. DV's are based on a 2,000-calorie diet for adults. Tell them that a DV of 5% is low and DV of 20% is high.
5. Draw their attention to the DV of vitamin C. Ask them if a 1/2 cup serving of berries would be sufficient to supply the recommended Daily Values and how they get 100%. Continue with the reading:

Why are so many fruits and vegetables grown in California?

California is a great place to grow berries and other fruits and vegetables because there is water, rich soil, lots of sun, and a warm climate. Take a look at these facts:

- Fresno, California receives 36% more possible sunshine than Seattle, Washington.
- Blue Canyon, California, receives an average of 241.7 inches of snow a year. Snow melt provides our farms with water. Our nation's capital only receives about 20 inches of snow.
- International Falls, Minnesota averages 198 days of below freezing temperatures. Many of those days are well below freezing. Stockton averages only 22 days when the temperature dips below freezing, which means many more fruits and vegetables can be grown there.

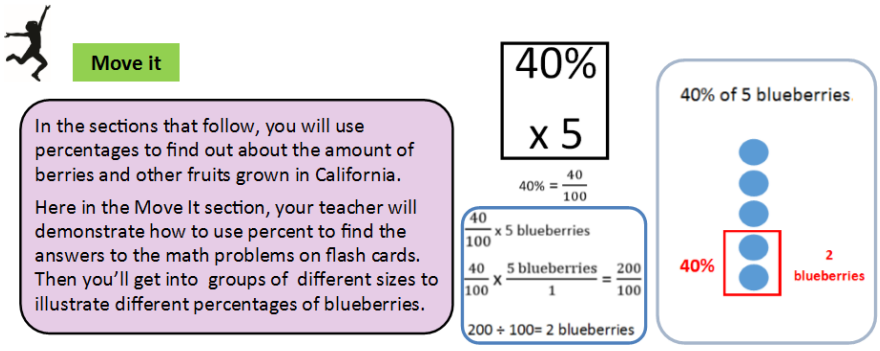
California grows more than 99% of the nation's total of the following crops: Almonds, artichokes, peaches, persimmons, figs, grapes, raisins, dried plums, and walnuts! But what does "percent" really mean? You will learn the answer to that and how to multiply with percent in the Move It activity.

Move It

Activity Showing a Percent of a Group of Students

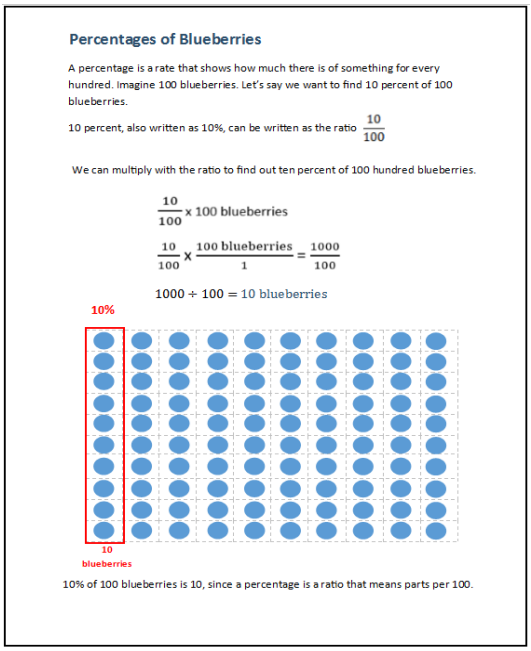
Students will get into groups and then rearrange themselves to demonstrate percentages of a whole.

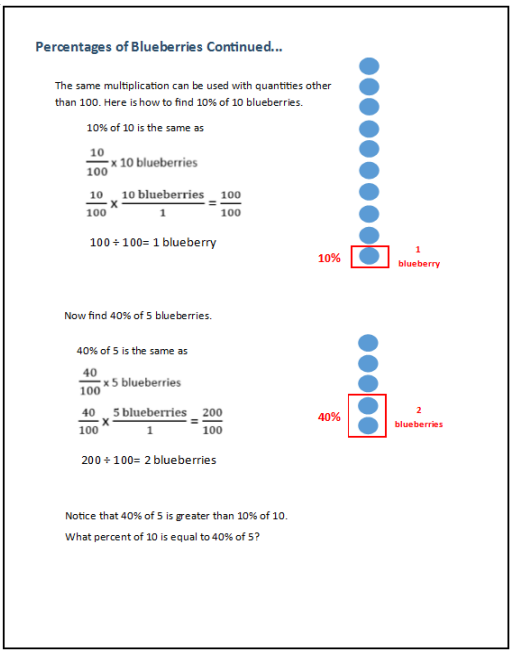
Teacher will first give an overview of multiplying with percentages and then lead the activity using the playing cards provided.



Instructions

1. Tell students to read the information in the purple box in their workbook shown above.





2. Introduce percentages and how to multiply them. Follow the steps on the full-size copy of the "Percentage of Blueberries" visual aid at the end of the lesson plan.
3. Illustrate multiplying the following:
    a) 100 x 10% =
    100 x 10/100 =
    1000 ÷ 100 = 10
    Say that 10 percent of 100 is 10.

b) 100 x 20% =
100 x 20/100 =
2000 ÷ 100 = 20
Say that 20 percent of 100 is 20.

c) Continue in this manner with 60%, 80%, 100% x 100 as needed.

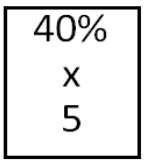
4. Demonstrate multiplying the following:
   a) 5 x 20% =
   5 x 20/100 =
   100 ÷ 100= 1
   Say that 20 percent of 5 is 1.

   b) 5 x 40% =
   5 x 40/100 =
   200 ÷ 100= 2
   Say that 40 percent of 5 is 2.

   c) Continue in this manner with 5 x 60%, 80%, 100% as needed.

5. Explain the game.
   a) Students will be divided into groups of 5. Any remaining students will be coaches for the first round.
   b) You will show the groups a card that shows a percentage. The groups will have to rearrange themselves so there is a subgroup that represents that percentage of 5. For example, if 40% is shown on the card, then a subgroup of 2 must form because 40% x 5 is 2. They will indicate they are the percentage by being near each other and raising one hand each.

A group of five students stands together.



You show a percentage card.

Two students form a subgroup and raise their hands to represent 40%.

   c) The coaches will support by helping with the group's math and guiding the arrangement.
   d) You will show another percentage card. Students must rearrange themselves to represent that new percentage of 5. For example, if 80% is shown on the card, then a

subgroup of 4 must form because 80% x 5 is 4. Say that the students who formed the first subgroup should allow the other group members to participate.

6. Follow the steps in step 5. Use all of the percentage cards. Repeat as needed to build mastery.
7. Divide groups into groups of 10. Repeat the activity with percentage of 10 cards now with 10 students. Suggestions for remaining students not in the groups: 1-4 students can act as coaches; for 5 or more, form a group of 5 and coaches; or, advanced students can form a group of another size.

Link It

Activity Multiplying by Percentages

Students will multiply percentages to find the production of blueberries, oranges, and carrots in California.

Teacher will model the multiplication problems.

Link it

California is one of the biggest producers of blueberries in the United States. While it does not grow the most blueberries, because of its excellent growing conditions, in 2014 it grew the most per acre.

Directions Find out how many pounds of blueberries California grew in 2014. California grew 10% of the nation's blueberries. Multiply 10% times the total number of berries grown in the United States that year.

(See 2014 Blueberry Statistics, USDA [1])

Instructions

1. Tell the students to read the facts about blueberries contained in the two text boxes above which can be found in the introduction to the Link It section of their workbook.
2. Tell the students to read the directions for the Link It section above.

See the next page.

10%
California grew about 10% of the nation's blueberries.

500,000 tons
The US grew about 500,000 tons of

10% x 500,000 =
The number of tons of blueberries California grew.

$$10\% = \frac{10}{100}$$

$$\frac{10}{100} \times 500{,}000 =$$

$$\frac{10}{100} \times \frac{500{,}000}{1} = \frac{5{,}000{,}000}{100}$$

When you are multiplying by 10 just add a zero on the right.

$$\frac{5{,}000{,}000}{100} = 5{,}000{,}000 \div 100 = 50{,}000 \text{ tons of blueberries}$$

When you are dividing by 100 just move the decimal point two places to the left.

Since a ton is 2,000 pounds, that means California grew about 100,000,000 pounds of blueberries that year!

50,000 x2000= 100,000,000

3. Explain that the total number of tons of blueberries California grew can be found by multiplying the percent grown in California by the total amount grown in the United States.
4. Describe the steps to solving the problem as shown in the workbook above.
5. Tell them the tips for multiplying by 10 and dividing by 100.

Directions California produced more than 30% of the approximately 150,000 boxes of oranges grown in the US in 2015. Find out about how many boxes of oranges were from California

$$30\% = \frac{30}{100}$$

$$\frac{30}{100} \times 150{,}000 =$$

$$\frac{\quad}{100} \times \frac{\quad\quad\quad}{1} = \frac{\quad\quad\quad}{100}$$

$$\frac{\quad\quad\quad}{100} = \quad \div 100 =$$

Boxes of oranges

(See Crop Production, USDA [2])

6. Tell the students to read the directions for the next problem about carrots.
7. Ask students to provide the answers to each of the steps in the problem aloud.

Try It

Activity Multiplying with Percent to Find a Part of a Whole

Students will find the total acres of carrots grown in California using percent and multiplication.

Teacher will monitor student progress.

Try it

Directions California planted more than 75% of the approximately 80,000 acres of carrots in the US in 2015. Find out about how many acres California planted.

$$80\% = \frac{80}{100}$$

$$\frac{\quad}{100} \times \qquad\qquad = \qquad\qquad \div 100 = \text{acres of carrots planted}$$

$$\frac{\quad}{100} \times \frac{\quad}{1} = \frac{\quad}{100}$$

$$\frac{\quad}{100} =$$

(See, Vegetables 2013 Summary, USDA [3])

Instructions

1. Tell students to read the directions in the Try It section and solve the problem that follows.
2. Monitor student progress.
3. Discuss the problem.

Digest It

Activity Tasting Berries and Reflection

Students will taste berries and reflect on what they have learned about berries and California grown crops.

Teacher will hand out berries to taste, and guide a discussion about California crops and berries.

Digest it

The actual figures are closer to 88%! Can you find 88% of 76,000 acres planted in the US?

It's time to eat some berries and digest what you've learned!

- Name a nutrient in blackberries and what it does for your body.
- What conditions makes California such a favorable place to grow berries?
- What is 80% of 1,000?
- Taste berries! When will you have berries next? Make a plan.

Instructions

1. Tell students they will be trying some berries and reflecting on their learning.
2. Have students wash their hands. The Center for Disease Control [4] suggests:

> Wet your hands with clean, running water (warm or cold), turn off the tap, and apply soap.

Lather your hands by rubbing them together with the soap. Be sure to lather the backs of your hands, between your fingers, and under your nails.
Scrub your hands for at least 20 seconds. Need a timer? Hum the "Happy Birthday" song from beginning to end twice.
Rinse your hands well under clean, running water.
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8. Guide a discussion about what they learned using the prompts below, which students can find in the Digest It section of their workbook.
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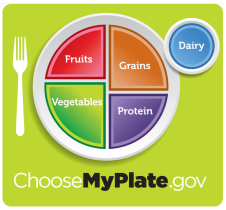
Nutrition Resources and Health Messages



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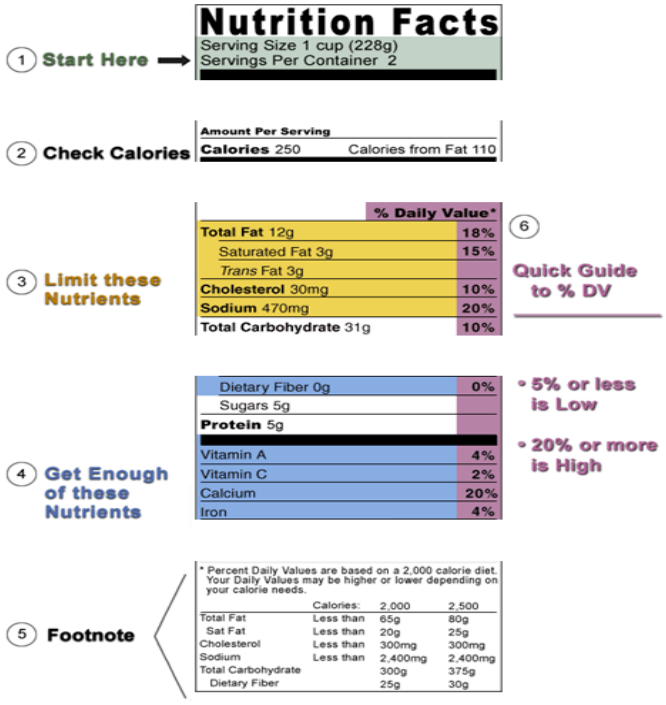

1. Pay attention to the serving size, especially how many servings there are in the food package. Then ask yourself, "How many servings am I consuming"? (e.g., 1/2 serving, 1 serving, or more).
2. The number of servings you consume determines the number of calories you actually eat.

   General Guide to Calories (per serving of food)

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References

1. 2014 Blueberry Statistics. (n.d.). Retrieved January 27, 2017, from https://www.nass.usda.gov/Statistics_by_State/New_Jersey/Publications/Blueberry_Statistics/2014%20Blueberry%20Statistics.pdf

2. Crop Production. (n.d.). Retrieved January 27, 2017, from https://www.usda.gov/nass/PUBS/TODAYRPT/crop0216.pdf

3. Vegetables 2015 Summary. (n.d.). Retrieved January 27, 2017, from http://usda.mannlib.cornell.edu/usda/current/VegeSumm/VegeSumm-02-04-2016.pdf

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Percentages of Blueberries

A percentage is a rate that shows how much there is of something for every hundred. Imagine 100 blueberries. Let's say we want to find 10 percent of 100 blueberries.

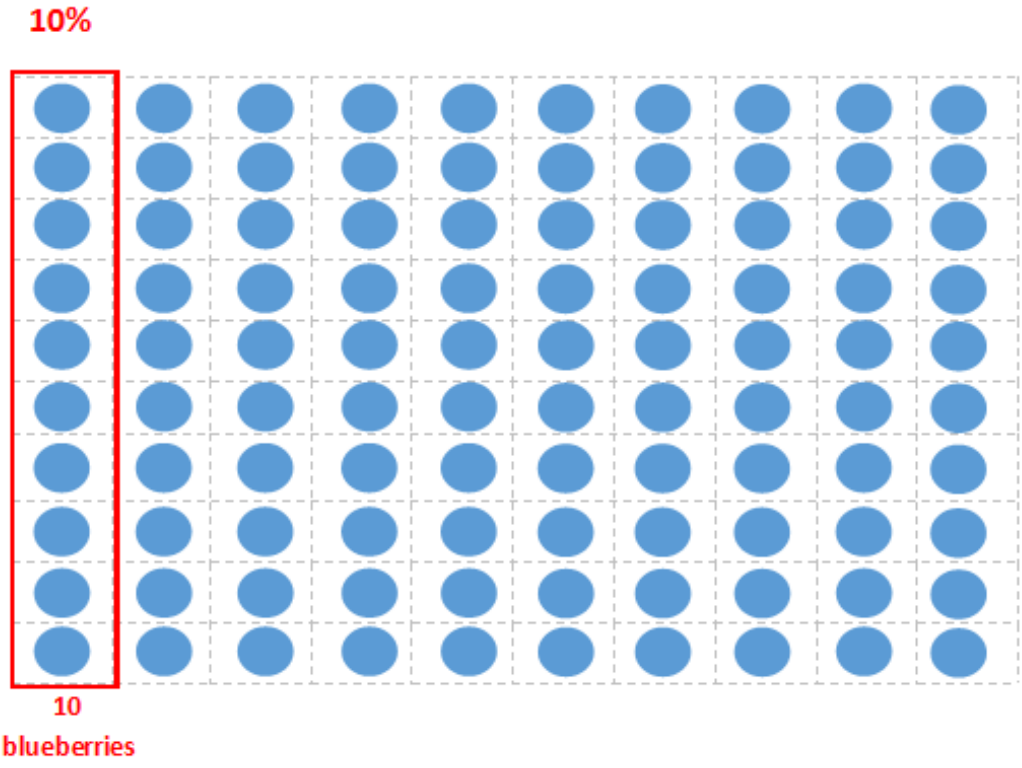
10 percent, also written as 10%, can be written as the ratio $\frac{10}{100}$

We can multiply with the ratio to find out ten percent of 100 hundred blueberries.

$$\frac{10}{100} \times 100 \text{ blueberries}$$

$$\frac{10}{100} \times \frac{100 \text{ blueberries}}{1} = \frac{1000}{100}$$

$$1000 \div 100 = 10 \text{ blueberries}$$



10% of 100 blueberries is 10, since a percentage is a ratio that means parts per 100.

Percentages of Blueberries Continued...

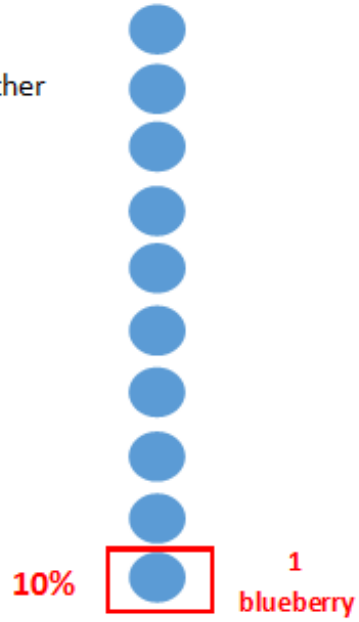
The same multiplication can be used with quantities other than 100. Here is how to find 10% of 10 blueberries.

10% of 10 is the same as

$$\frac{10}{100} \times 10 \text{ blueberries}$$

$$\frac{10}{100} \times \frac{10 \text{ blueberries}}{1} = \frac{100}{100}$$

100 ÷ 100= 1 blueberry



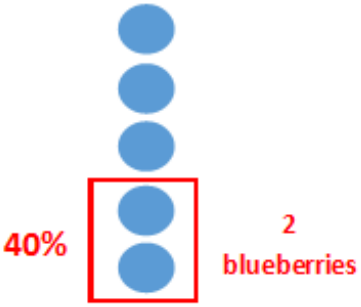
Now find 40% of 5 blueberries.

40% of 5 is the same as

$$\frac{40}{100} \times 5 \text{ blueberries}$$

$$\frac{40}{100} \times \frac{5 \text{ blueberries}}{1} = \frac{200}{100}$$

200 ÷ 100= 2 blueberries



Notice that 40% of 5 is greater than 10% of 10.

What percent of 10 is equal to 40% of 5?

The California Department of Public Health, with support from the Alameda County Office of Education, and with funding from the United States Department of Agriculture's Supplemental Nutrition Assistance Program – USDA SNAP, produced this material. These institutions are equal opportunity providers and employers. For important nutrition information, visit www.CaChampionsForChange.net.