



INSIDE THE ORANGE:
It's a Juicy Story!

Dear Educator:

Everyone knows that exercise and diet are two of the most important factors in keeping us healthy. When it comes to nutrition, fruits and vegetables are essential to our diet at all ages. Oranges are one of the most popular fruits with both kids and adults, as well as one of the most nutritious. **Just One Orange** will provide all the Vitamin C you need in a day.

In this kit, activities will help young people learn more about the importance of adding fruits and vegetables to our daily diet. The National Cancer Institute recommends that for better health everyone should eat "Five-a-Day." Eating **Just One Orange** or adding one to a recipe is just one great way to meet the "Five-a-Day" goal. By completing the exercises in this educational and fun kit, your students will learn about lots of healthy sources for vitamins and minerals. Fortified with this new nutrition information, they might just think twice about their food choice before the next "snack attack."

With a little scientific knowledge, some seeds and some grower's care, your students can even begin to grow their own mini orange grove. These activities are designed to help students understand ecosystems, weather patterns and our environment. Using critical thinking skills in problem-solving, they'll also learn about geography, some fun facts about the citrus industry and the role of the commercial citrus grower in producing one of the United States' major crops.

Youth Media International and Sunkist Growers, Inc. are pleased to present this juicy package. Although the material is copyrighted, you may make as many photocopies as necessary to suit your students' needs. Please share these healthy materials with other teachers in your school, as well.

We hope you will remain on our mailing list. To ensure that you receive future mailings, please fill out and return the enclosed reply card. We welcome your comments and suggestions.

Sincerely,

Roberta Nusim
Roberta Nusim
Publisher

Program Objectives

- To help students learn about the role of fruits and vegetables, particularly citrus and oranges, in maintaining a balanced diet
- To pique students' interest in good nutrition by giving them the information they need to make smart eating choices
- To share nutrition information learned in these activities with the entire family
- To give students a basic awareness of climate and our environment
- To use the story of the citrus industry to illustrate how one of the United States' major food crops is cultivated and marketed

Target Audience

This program has been designed for students in grades 4-6. The activities can be tailored to the interests and abilities of your students.

How To Use This Guide

- Post the colorful wall poster in the cafeteria and work with the cafeteria manager or district food service director to heighten students' interest in these materials.
- Review the materials and schedule them into your classroom lessons. Activity Two can be a long-term project for the entire class. The recipe book component of Activity Four can be a creative process that engages children's artistic and culinary aptitudes.

Remember to share these materials with other educators in your school! Please feel free to use them throughout the year.

Introduction

Everyone has heard the advice about eating right and the importance of good nutrition. In this kit young people are given a practical way to put that advice to work. By learning about the role of fruits, vegetables, meats and dairy products in their diet, students will have the tools they need to make better meal and snack choices.

This kit includes some puzzle activities that will challenge students' reasoning abilities and even a cooking section that might challenge their taste buds! There are activities that can be completed on an individual basis, as a group project or at home with parents. As they work on the various activities, students also will begin to understand the important role of our natural resources in growing commercial crops and the fresh food that we buy and often take for granted.

The class activities will give students a feeling of accomplishment through teamwork, while the take-home activities will generate some interesting dinner-table discussions and enhance family communication skills.

ACTIVITY ONE

All About Oranges

Materials Needed

One activity sheet per student

Concepts/Skills Covered

Reading comprehension, spelling, history

Lesson Outline

Oranges are first mentioned in history around 2201 B.C. and were once considered a luxury among Italian nobility. Some citrus varieties were grown for centuries in China and then exported to Southern Europe. Citrus arrived in the New World in 1493 when Columbus brought the fruit over on one of his voyages. As

early as 1707, it was reported that orange seeds were being successfully grown at Spanish missions in southern Arizona.

With the founding of the first Spanish mission in San Diego in 1769, oranges and lemons were introduced into California from Mexico. But it was the gold rush to California that created a demand for this healthy and nutritious fruit. When 200,000 miners and their families headed west, they faced a serious lack of fresh foods, particularly those rich in Vitamin C. In fact, the effects of their diet caused scurvy, much as had been the case for British sailors. Lemon juice and lime juice often were prescribed as a medical cure and sold at \$1 an ounce. Dr. Lewis Gunn made a small fortune treating miners for scurvy and his son later became one of San Diego's leading citrus growers.

In the pueblo of Los Angeles, William Wolfskill planted his first orange grove in 1841. The first carload of fruit shipped east from California was sent from Wolfskill's orchard by rail to St. Louis in 1877. That month-long railroad trip was just the beginning of many successful journeys for citrus fruit.

Once the pride and possession of kings and noblemen, citrus fruit is now available to everyone. We still think of oranges for their remarkably high Vitamin C content, but we also enjoy them for their juicy good taste. And we're not alone in our enjoyment: the United States is the leading citrus-producing country in the world. Today, specially-selected fresh fruit is shipped from the U.S. around the world.

It's a Puzzle!

In this activity, students will learn more fun facts about the development of the citrus-growing industry. The clues to the crossword puzzle will encourage students to think about history, geography, agriculture and good nutrition. The answers to the crossword puzzle are provided below. Based on the ability of your students, you can have them work on the puzzle in pairs. To help them get started, we've filled in one letter from each answer.

Answers:

Across

1. California
3. Navel
4. juice
6. gold
8. growers
11. hand
12. sunshine
13. cartons
16. Vitamin C
21. Roman
22. railroads
23. frost
24. Fruit
26. blight
27. oldest
28. Virgil

Down

2. orange
5. color
7. London
9. spring
10. teeth
13. Columbus
14. smiles
15. research
17. washed
18. citrus
19. subtropical
20. Mosaics
25. peel

Related Activity

Suggest that students use other key words from the clues and scramble them to invent their own puzzle word game. This can be played with classmates or friends at home.

ACTIVITY TWO

Just One Orange

The National Cancer Institute has recommended that everyone eat five fruits or vegetables a day for better health. The orange is a fun and practical way to meet those goals. "Just One Orange" meets a full day's requirement of Vitamin C!

In this activity students can use their observation and measurement skills to find out what else is in just one orange. How many seeds, how many teaspoons of juice, how many sections?

When they've completed the research, don't let them throw away the seeds. We're going to ask students to get down and dirty and plant the orange seeds for their own class mini orange grove!

Materials Needed

One or more oranges (not seedless), potting soil, plant containers such as milk cartons, cans or glass jars, a ruler, a current newspaper containing weather information

Concepts/Skills Covered

Earth science, graphing and comparison, weather-map reading and tracking, plant biology, scientific observation

Lesson Outline

- ◆ Ask each class member or team of students to bring in an orange. It could be one of many types grown in the winter. Students can ask the produce manager at their local store for help on selecting seeded varieties. Tangerines, lemons or grapefruits can also be used. Some, like Navel oranges, may be seedless.
 - ◆ If it's easier, you might want to bring a bag of oranges yourself and have the students work in orange research teams. Ask them to consider what's in just one orange: how many sections, seeds, tablespoons of juice? Before they cut open the oranges, ask the students to estimate what their results will be. If several different types of oranges are being used, make a comparison chart with the results from each of the types of oranges. Does the circumference of the orange have any relation to the number of sections? Does the number of seeds correspond to the number of sections? Does a Navel orange vary in ways other than having no seeds? All of these observations can be charted by students on this activity sheet. Once you've finished, hold on to the seeds! Orange plants are one of the easiest plants to grow from seed. Make sure they use full size or mature seeds.
 - ◆ You can set up a windowsill garden in the classroom with each pot labeled according to the date planted. All you'll need are plant containers, potting soil, water, some direct light and the seeds. (Ask students to bring to class objects from home that can be used as planters: milk or juice cartons, plastic containers, etc.) It would be fun to plant some of the seeds in a transparent container so you can watch them germinate.
- If you've planted several pots, try altering the growing conditions for some of them and charting the resulting differences. For instance, if you didn't water one, didn't give one any sunlight, or refrigerated one, what would the differences be? It will probably take about two weeks for the first seedling to appear. Suggest that students chart the growth of their plants for 10-12 weeks.

Related Activities

- ◆ Now that the class is in the citrus-growing business, they have a reason to keep track of weather conditions. Obviously, indoor growing conditions are more easily controlled, but you still need sunny days and someone to remember to water the plants. It might be fun to track the weather conditions for citrus growers in California during the same time period. How many days of sun did they have? How many days of freezing temperature? Ask students to compare the weather in citrus-growing areas to that of non-citrus areas.
- ◆ With this information you can also discuss other citrus-growing states with subtropical climates such as Texas, Louisiana and Florida.
- ◆ Information can be gathered from national weather maps printed in the newspaper and charted for the entire growing season. Ask students to study and identify the various graphic symbols used in the map.



Rain



Cold Front



Stationary Front



Snow

Ask students to think about other forces and conditions the growers might have to deal with. This list should extend beyond weather to include bugs and their chemical control, varying market demand, seasonal appeal of the fruit, pricing considerations and shipping costs.

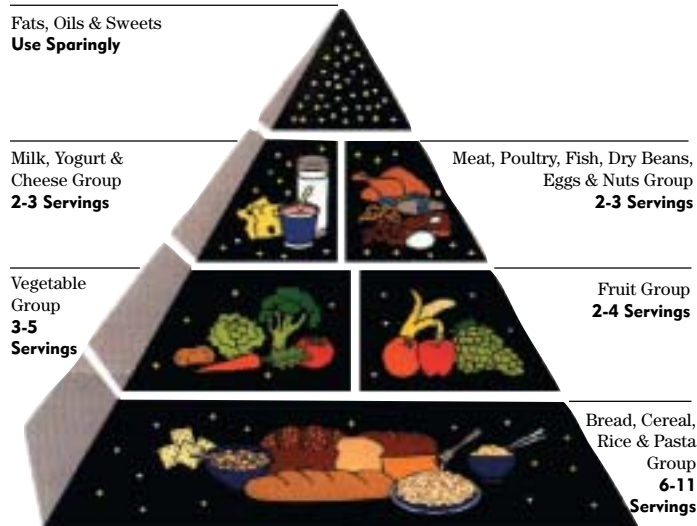
After using all of their brain power, let students use their creative power to create a bookmark. They can design the bookmark using their own messages about what they've learned about oranges, or how they "live the healthy way by eating Five-a-Day."

Follow-up Activity

- ◆ Have students take their orange plants home. If they are part of a team, they can take turns being the home grower. The plant will continue to grow but probably won't blossom. Ask the students to investigate what elements would need to be added to get the plant to flower and produce fruit. Also ask them to consider the best location at home to grow their plant. If they have space to plant it outside, what factors do they need to consider—the type of soil, the path of the sun, the prevailing wind conditions in their yard, the likelihood of periods of rainy or cold weather? The gardening journal they started in class can be continued at home with periodic updates brought into class.
- ◆ You might continue this activity with a discussion of the difference between a fruit and a vegetable. Students know that they needed oranges with seeds to produce new orange plants. But what about seedless oranges like Navels? These remarkable fruits start when tiny seedlings are grafted onto young plant stock. Now get them thinking about other seeded fruits. You can start with obvious choices such as apples. But what about the tomato, cucumber, snap beans or eggplant? These are all fruits. Explain that any food that contains seeds is considered a fruit. In fact, it is the seed that is the reproducing part of the fruit.

ACTIVITY THREE

The Eighth Wonder of the World— The Food Pyramid



Only one of the seven wonders of the world still exists, the pyramid in Giza, Egypt. These pyramids have overlooked the Nile River from a high plateau for more than 4,500 years.

The U.S. Department of Agriculture has created its own pyramid, the Food Guide Pyramid, which clearly illustrates healthy choices for a balanced diet. In this activity, students will learn that for the best health and nutrition, they need to choose from all food groups.

Materials Needed

One activity sheet per student

Concepts/Skills Covered

Nutrition and diet, math, sorting and selection

Lesson Outline

In this activity students will use menu planning and selection skills to fill in the blocks on their food pyramid. They will learn about the variety of foods that comprise a balanced diet. By choosing the foods to complete their pyramid, they discover that foods from one food group can't replace those in another. Each block of the pyramid is shown with the number of servings needed in that food group. Ask your students to look at the list of the foods shown next to the food pyramid. Then, they can complete the pyramid by writing the number of the food in the proper category. Remind them that the food is shown in an individual serving size, e.g., one 1/2 cup of orange juice or one slice of bread. For instance, if they have a sandwich for lunch, the two slices of bread equals two servings from the bread, cereal, or pasta group. Or, one cup of yogurt equals two servings (each serving size is 1/2 cup) from the milk products group.

When they are finished, each food group "building block" should contain enough servings of the appropriate food to fulfill daily dietary recommendations. On the top block where fats, oils and sweets are placed, you can suggest that students list just one or two items.

Then ask students to add all of the remaining foods listed to the correct food group block. By adding up the number of servings in each food group, students can see how easily their diet can get out of balance. Ask them which food group category was overloaded in number of servings, which one needed more food items or a doubling up of the number of servings. Using all of the foods listed, they should end up with:

Fats	(too many foods)	6 food servings
Milk	(too many foods)	6 food servings
Meat, poultry, fish, eggs, nuts, dry beans	(too many foods)	5 food servings
Vegetables	(has the proper number)	4 food servings
Fruits	(too many foods)	7 food servings
Breads, pastas, cereals	(needs more added)	7 food servings

Review the completed pyramids with the class. Discuss the role of the different foods in the major groups. At the top of the pyramid are fats and sweets which provide calories and little else nutritionally. Desserts, candies and soft drinks fall into this category. On the next level are foods that come mostly from animals, plus dry beans and nuts, including peanut butter. These foods are important for protein, calcium, iron and zinc. The next level is shared by foods that come from plants: fruits and vegetables. These foods are an excellent source of vitamins, minerals and fiber. The group recommended for the largest number of servings per day is the grain group, at the bottom of the pyramid. This foundation of the food guide pyramid includes breads, cereals, pastas and rice.

Related Activities

Ask each student to evaluate their previous day's diet and see how it compares with the food guide pyramid. Have them use the information they gained in planning that day's after-school snack: What would they normally eat? Where does it fit into the pyramid? Can they make a healthier choice?

As a follow-up, have students take home a complete food pyramid to help plan more balanced menus with their parents. Suggest that they also bring home the food pyramid they completed in class to discuss with their parents their food group choices.

Follow-up Activities

In this activity, students have learned that we need to eat a variety of foods every day. Invite the school's cafeteria director to class to speak to students about the importance of vitamins and good nutrition. It would be interesting for the students to find out if the school district nutritionist considers the "five fruits or vegetables a day for a healthier life" rule when planning school hot lunches. As a class project, students could try planning hot lunch menus that include many of the "five fruits or vegetables a day."

ACTIVITY FOUR

A Good Start to Good Nutrition

It's never too early for children to learn the valuable role of a balanced diet in good nutrition. Nutrition basics and the goal of eating five fruits or vegetables a day is information the entire family can use when making smart choices about the foods they eat. This activity also provides an opportunity to work with nutritious recipes.

Materials Needed

One activity sheet for each student to take home

If you plan to compile a class recipe book, consider copying the recipes onto notebook-sized paper. A cover can be made out of heavier paper, perhaps decorated with a restaurant logo designed by the class. Using a hole-punch and ribbon or yarn to tie the book together will complete this original work of art.

Concepts/Skills Covered

Nutrition, measurement and math skills, communication skills

Lesson Outline

The take-home portion of this activity provides a copy of the complete food guide pyramid for children to discuss with their parents. Armed with new nutrition information, students will be encouraged to take a more active role in planning their family's meals.

The second part of this activity capitalizes on the Vitamin C-packed power of "Just One Orange" by providing a fun snack recipe featuring oranges.

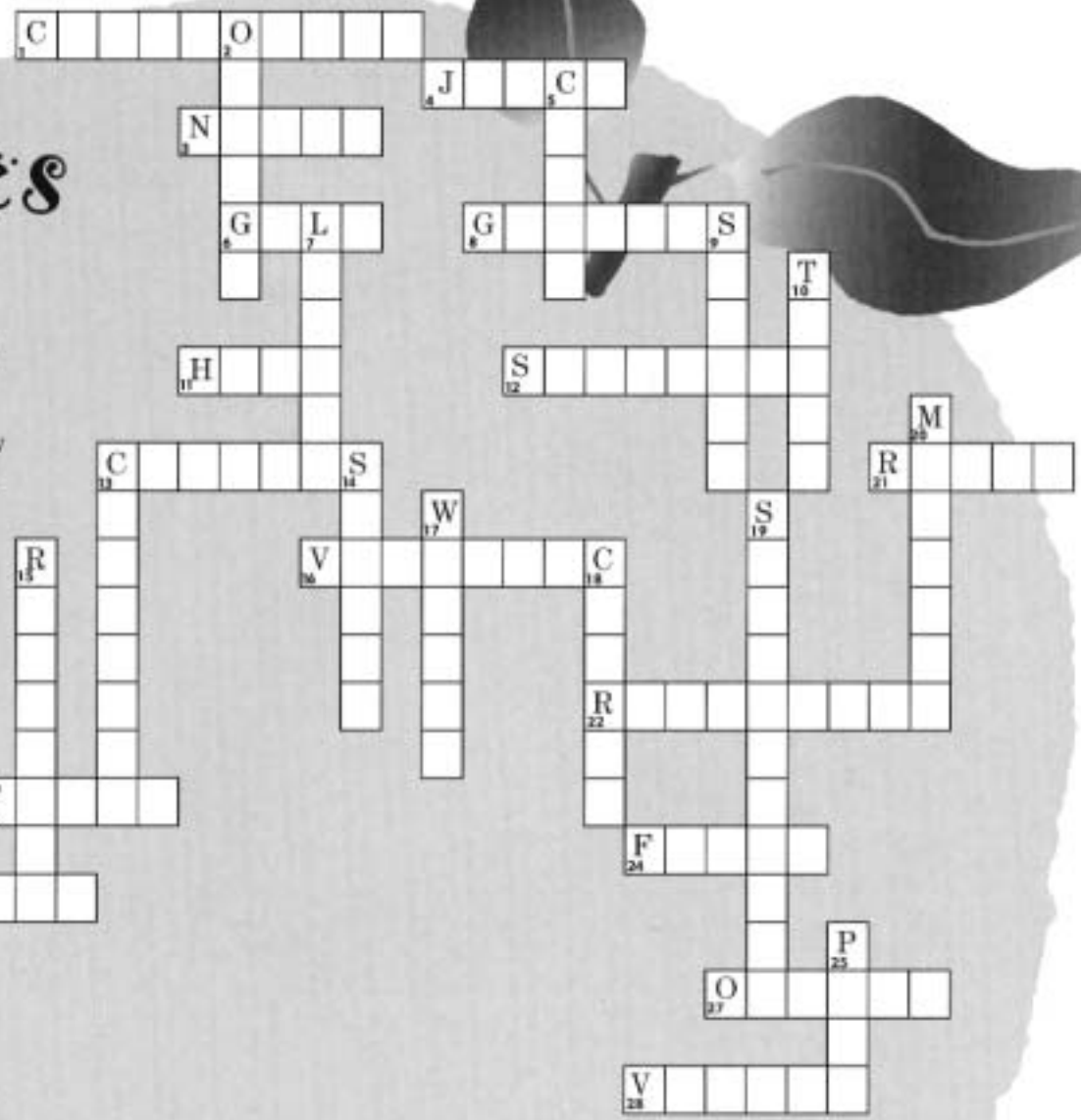
Then students' creativity is challenged as they are asked to put on a chef's apron at the Planet Orange Cafe. Ask each student to come up with one recipe featuring oranges. As a class project, ask them to bring in the recipes for compilation into a Planet Orange Cafe Recipe Book, complete with their own restaurant logo on the cover.

All About Oranges



You might be surprised to learn some interesting things about one of our favorite fruits, oranges. For instance, do you know what the quarters of an orange are called? Hint: Look at 14 down! By completing this crossword puzzle, you'll find out all about that fabulous fruit—the orange!

To help you get started, we've filled in one letter from each answer.



Clues:

Across

- In 1841 the first commercial citrus grove was planted in C_____.
- The orange variety known as the N_____ was first planted at the California home of Elizabeth Tibbets in 1874.
- 2-4 medium oranges gives you 1 cup of j_____.
- The g_____ rush of 1849 helped the commercial citrus industry grow in California.
- Sunkist Growers, Inc. is made up of approximately 7,000 citrus g_____.
- Almost all citrus is picked by h_____.
- The California Fruit Exchange first advertised their citrus products as a "warm ray of California s_____".
- One thousand c_____ of oranges fill a railroad box car.
- Just one orange a day gives you a full day's supply of V_____.
- With the establishment of trade routes, ancient R_____ gourmets got their taste of oranges.
- Transcontinental r_____ mean California growers can ship their oranges across the United States.
- This weather condition can be a danger to citrus crops. (f_____)
- In 1952 the California F_____ Growers Exchange changed its name to Sunkist.
- B_____ is a common citrus crop problem.
- In 1856 three orange trees were planted north of Sacramento, California. The surviving one is the o_____ orange tree in California.
- This Latin poet mentions citron in his writings of 70-19 B.C. (v_____)

Down

- This fruit can help you meet the goals for a healthy diet which include eating five fruits or vegetables a day. (o_____)
- When California oranges are picked from the tree they are already orange; no artificial c_____ is added.
- California citrus was first sold in this city in 1892. Hint: Queen Victoria tasted her first California orange. (L_____)
- This season is the best time for planting citrus crops. (s_____)
- Vitamin C helps the body make strong bones and t_____.
- In 1493 this famous explorer brought citrus from Spain to the New World. (C_____)
- A cut orange is served in segments called s_____.
- A citrus r_____ center was opened in Riverside, California, in 1907.
- Oranges are w_____, brushed and dried before packaging.
- Inspection and selection of c_____ is done by hand at the packaging plant.
- The citrus growing conditions in California are called s_____.
- M_____ of citrus fruits decorate the mausoleum of the daughter of Constantine the Great.
- This part of the orange is called for in many recipes. (p_____)

The Eighth Wonder of the World— The Food Pyramid

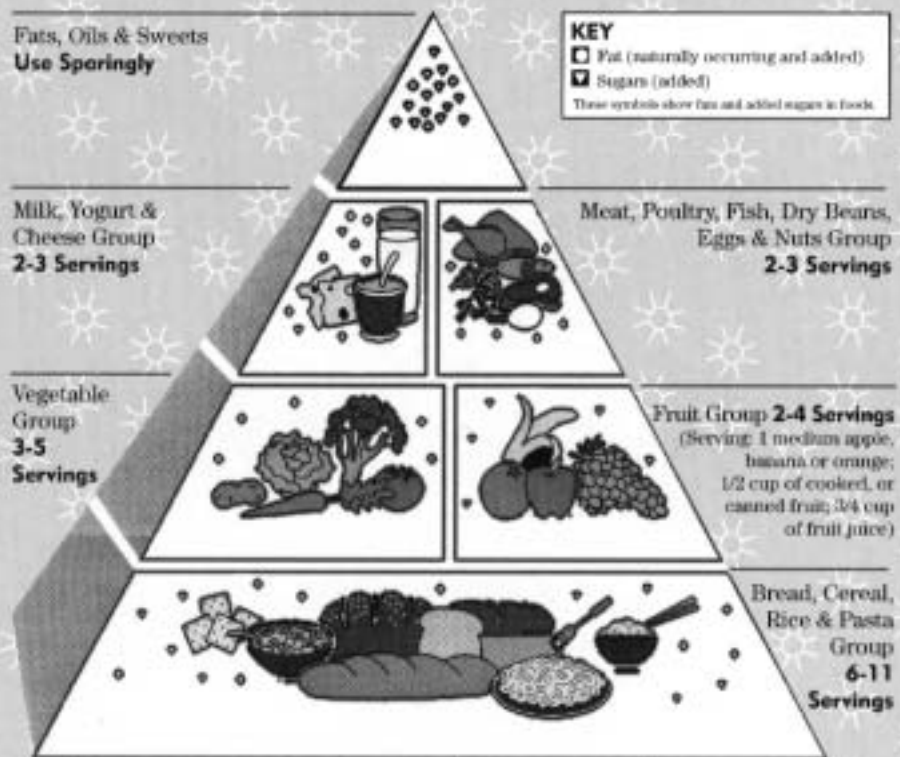
Pyramids were built in ancient Egypt to serve as tombs for the pharaohs. The remaining pyramid in Giza is called one of the seven Wonders of the World.

Today, we often speak of a different type of pyramid, one that is made up of the building blocks of a balanced diet. But how do we know if we are getting a balanced diet? To make it easier, the U.S. Department of Agriculture has given us the Food Guide Pyramid. It shows how a balanced diet means eating a certain number of foods from the major food groups each day. A complete Food Guide Pyramid will be given to

you to take home, so you can discuss with your parents ideas for eating smart and healthy!

Test your nutrition knowledge by filling in the Food Guide Pyramid below. Each of the building blocks represents one of the major food groups. There is also a list of foods from the major groups. Fill in the Food Guide Pyramid by writing the number of the food on the correct pyramid building block. The number of servings you need for each food group is listed. Remember, you need to choose enough servings for a full day's diet, including snacks!

- | | |
|---------------------------------------|-------------------------------|
| 1. ½ cup cooked carrots | 17. 1 medium apple |
| 2. 1 cup milk | 18. ½ cup pasta |
| 3. 2 Tb. peanut butter | 19. 1 cup yogurt |
| 4. 1 oz. potato chips | 20. 2 cookies |
| 5. ½ cup cottage cheese | 21. 1 oz. ready-to-eat cereal |
| 6. 2-3 oz. lean meat, fish or poultry | 22. 1 tsp. jelly |
| 7. ½ hamburger bun | 23. 1 Tb. salad dressing |
| 8. 1 egg | 24. 1 slice bread |
| 9. 1 tsp. margarine | 25. 1 medium banana |
| 10. 1 medium orange | 26. ½ English muffin |
| 11. ½ cup cooked dried peas or beans | 27. ¾ cup fruit juice |
| 12. ¼ cup nuts, seeds | 28. ½ cup frozen yogurt |
| 13. ½ cup canned peaches | 29. ½ grapefruit |
| 14. ½ cup broccoli | 30. ½ cup rice |
| 15. ½ cup dried fruit | 31. ½ cup cooked cereal |
| 16. ½ cup ice cream | 32. 12 oz. soft drink |
| | 33. ½ cup green beans |
| | 34. 1 oz. cheese |
| | 35. ½ cup celery |



Now, go back to the foods listed. Using the remaining food choices, add them to the correct food group. Total up each food group block. Which one ends up with too many food servings, too little, and which ones fall within the recommended guidelines?

On the back of this sheet list the meals and snacks you ate yesterday. Then count how many servings were in each food group. How did your meals stack up on the Food Guide Pyramid? Did you eat a balanced diet with foods from all of the food groups or did your choices weigh you down into one category or another? How did you score on getting your five fruits or vegetables a day? What foods could you add or leave out to improve your diet?

You can use what you've learned by planning today's after-school snack. Orange wedges or "smiles" are one cool snack. Write down your own delicious snack ideas. Where does your snack fit on the food pyramid?

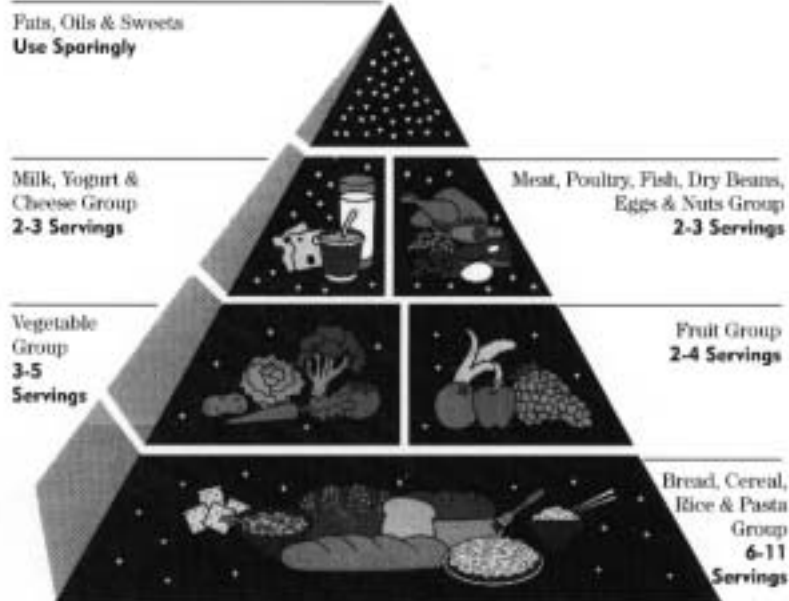
Cool
Snacks
for a
Cool
Kid



A Good Start to Good Nutrition

The Food Guide Pyramid

In class your child has been learning about the importance of a balanced diet. Students worked on a project using the Food Guide Pyramid created by the U.S. Department of Agriculture to help people maintain healthy diets. The pyramid is just a guideline to help you and your family get the nutrients you need within a varied diet. Your child has already learned that no one food group is more important than another. He or she knows that to maintain a good diet and good health, we all need to choose foods from each of the five major food groups. Discuss the Food Guide Pyramid with your child. Encourage your child to take a more active role in helping you plan menus. Work with your child to develop a recipe together in the space at the bottom of this page that your child can bring to school.



Fresh Fruit Smoothie

In a blender combine:
1 Sunkist orange, peeled and cut into bite-sized pieces
1/2 medium banana, cut into pieces

1/4 cup non-fat milk
1 teaspoon sugar
2 ice cubes

Blend until smooth. Makes two 7-oz. servings. Each serving has approximately 78 calories and 70% of your daily value (DV) for Vitamin C.

Now that you know you need to eat five fruits or vegetables a day, here's one tasty way to add fruit to your favorite frosty beverage—a fruit smoothie!

Welcome to the Planet Orange Cafe

See how easy it is to add oranges to recipes. With a recipe using just one orange, you've gotten a whole day's requirement of Vitamin C. Now, try coming up with one of your own orange recipes. Imagine you're the chef at the Planet Orange Cafe, where everything is served with... oranges! Let those creative culinary juices start to flow as you come up with your orange special du jour.

You can bring your recipe into class to share with classmates. Once you've collected all of the recipes, your class will have a special cookbook from the Planet Orange Cafe.

(For more nutritious and delicious orange recipes call Sunkist toll-free at 1-800-CITRUS-5.)

My Recipe





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We'd like to know how you used the teaching kit for *Inside the Orange: It's a Juicy Story!*

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How many students used the teaching kit? _____ How many teachers? _____

In what grades? _____

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- Bookcovers
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- Videotapes
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I use a: PC MAC I would use on-line activities.

We'd love to hear from you! Please comment about the kit, *Inside the Orange:*

It's a Juicy Story! _____

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