



Edible Numbers

Grades 3-4
Grades 5-6

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California Foundation for Agriculture in the Classroom

Vision: An appreciation of agriculture by all.

Mission: To increase awareness and understanding of agriculture among California's educators and students.



California Foundation for
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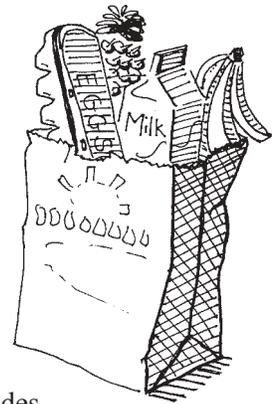
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Introduction

The frameworks for California public schools emphasize the need to make education meaningful to students so they can apply what they learn in the classroom to their daily lives. Since all students eat food and wear clothing, one natural connection between academic education and the real world is agriculture. Advances in agricultural technology are continually making headlines and are an excellent way for educators to connect current trends and innovations to the lives of every student.

“How much does it cost?” “Where does steak come from?” “Why are there scales in the fruit and vegetable sections?” “Is this healthy?” “Is it on sale?” “How much change will I get?”

These are common questions that children ask adults during grocery store outings. Grocery shopping provides many opportunities for children to gain knowledge about mathematics, nutrition, and agriculture. *Edible Numbers* provides teachers with lessons that relate experiences in the grocery store to classroom mathematics and nutrition education.



Food origins, nutrition, and grade-level appropriate mathematics—addition, subtraction, multiplication, division, graphing, problem solving, and statistics—are taught in these two separate grade level units. The interdisciplinary approach to *Edible Numbers* makes it suitable for self-contained classrooms, core, and home school settings. Grocery advertisement scavenger hunts are the highlight of this unit. Use it as written or incorporate single lessons from the unit into an already established curriculum.

This unit teaches or reinforces specific subject matter Content Standards for California Public Schools. The standards which apply to each lesson are listed by grade level, subject matter, and number, on the sidebars of each lesson. A content standard matrix for the entire unit, with specific standards described, is located on pages 60-71. *Edible Numbers* is one of many educational units provided by the California Foundation for Agriculture in the Classroom.

What the future holds for agriculture will determine the quality of life for all . . .

- *farmers and ranchers*
- *suppliers*
- *food processors*
- *wholesalers*
- *retailers*
- *consumers!*

Unit Overview

Unit Length

Five 45-minute sessions

Objectives

The students will:

- Categorize the food they eat.
- Use grocery ads to determine solutions to math problems that require critical thinking and problem solving.
- Perform mathematical computations required to solve a problem.
- Work with others to successfully complete a task related to mathematics and agriculture.
- Record data on their daily eating habits.
- Create graphs that display data on food consumption.
- Analyze their daily eating habits in relation to the Food Guide Pyramid.
- Learn and use new vocabulary related to math, nutrition, and agriculture.

Brief Description

Through a series of activities, students analyze, using mathematical and scientific processes, the food they buy at the grocery store and understand that it ultimately comes from plants or animals.

This unit, *Edible Numbers*, is divided into two grade-level specific sections: Grades 3-4 and Grades 5-6. These grade-level specific units each contain three lessons: an introductory lesson, a scavenger hunt, and a concluding lesson. In each introductory lesson the students work in small groups to learn key concepts and vocabulary by creating group posters. The main lesson includes a scavenger hunt using grocery ads. Students look through the ads to find items that answer a particular mathematic, science, or agricultural-related question. Each concluding lesson has students analyze their own food intake and organize the data through a graphing exercise.

Curriculum Content Standards for California Public Schools

A concerted effort to improve student achievement in all academic areas has impacted education throughout California. The California Foundation for Agriculture in the Classroom provides educators with numerous resource materials and lessons that can be used to teach and reinforce the Curriculum Content Standards for California Public Schools. The lessons encourage students to think for themselves, ask questions, and learn problem-solving skills while learning the specific content needed to better understand the world in which they live.

Edible Numbers includes lessons that can be used to teach or reinforce many of the educational content standards covered in grades three through six. It can be used as a self-contained unit or as supplementary lessons to an already established curriculum.

The specific subject matter content standards covered in the lessons are listed on the sidebars of each lesson. A matrix chart showing how the entire unit is aligned with the Curriculum Content Standards for California Public Schools can be found on pages 60-71.



Unit Overview

Key Vocabulary

abundant
annual
average
bull
cattle
cereal
citrus
classification
cow
cylinder
dairy
difference
factor
fat
flower
Food Guide Pyramid
fruit
grain
leaf
least common multiple
mean
meat
multiple
nut
palindrome
pie graph
place value
prime
product
quotient
rectangular prism
root
row crop
seed
steer
stem
sum
tenth
tree
tuber
U.S. Recommended Daily
Allowance (USRDA)
vegetable
vine

Evaluation

Evaluation activities are incorporated into each lesson. Embedded assessment includes reading and writing, responding to open-ended questions, and giving group presentations. Students are also asked to apply what they learn to a related situation.

Visual Display Ideas

- Display the various graphs and posters students create.
- Display the various charts and graphs in the *Farm Facts Booklet* available from the American Farm Bureau Federation (page 51).
- Have students create a collage of food items in each section of the Food Guide Pyramid.
- Create a collage of grocery ads in the shape of a dollar sign.
- Post colorful pictures of food that grows in different ways.
- Create a display of interesting facts your students learn about agricultural products. Some of these facts can be obtained from the *Fun Agriculture Facts* on pages 27–36.

Introductory Lesson

Grades 3-4

Purpose

The purpose of this lesson is for students to develop a working vocabulary of food and to categorize foods by their sources. Students will work cooperatively in small groups to meet a team goal. This lesson serves as an initial assessment of your students' background knowledge on food and food origins.

Time

Teacher Preparation:
35 minutes

Student Activity:
Two 45-minute class sessions

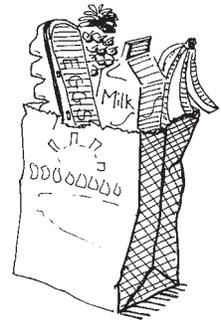
Materials

For each group of three to four students:

- Food pictures (pages 43–49)
- *Fun Agriculture Facts* packet (pages 27–36)
- Large poster board, butcher paper, or construction paper
- Markers
- Old magazines with pictures of food
- Old seed packages (optional)

Background Information

Food can be classified in a variety of ways. In this activity, students classify foods according to their origins. There is no set way of classifying food in this manner; however, the following four groupings may be used: food that grows on a tree, food that grows above ground but not on a tree, food that grows underground, and food that comes from an animal. Feel free to have the students form different classification headings. The idea is to practice sorting and to establish a common vocabulary for use in the upcoming scavenger hunt lesson. Examples of food from the various categories are described below:



Grows on Trees	Grows Above Ground But Not on a Tree	Grows Underground	Comes From Animals
apples apricots cinnamon coconuts oranges pears walnuts	beans corn cucumbers grapes kiwifruit lettuce peas pumpkins squash strawberries tomatoes	beets carrots ginger onions peanuts potatoes radishes turnips	beef cheese chicken eggs fish gelatin lamb milk pork turkey

Preparation

- For student groups of three or four, copy the blackline masters of the *Food Pictures* (pages 43–49).
- Collect magazines, seed packages, catalogs, and grocery advertisements that students can cut up and use for their posters.
- Create *Fun Agriculture Facts* packets for each group. You may duplicate pages 27–36 and/or use other information you find about California agriculture. The information can be placed in manila envelopes and used again for different purposes.

Introductory Lesson

Grades 3-4

Materials *(continued)*

- Scissors
- Tape or glue

Content Standards

Grade 3

English/Language Arts

Reading • 1.0, 1.7

Writing • 1.2

Written and Oral English

Language Conventions

1.0

Grade 4

Science

Life Sciences • 2.0

English/Language Arts

Reading • 2.2

Written and Oral English

Language Conventions

1.0

Procedure

1. As a class, brainstorm different ways food is grown. Some examples include: grows on a tree, grows above ground but not on a tree, grows underground, and comes from an animal. As a class, determine four groups the students will use to categorize the food they eat and write them on the board as category headings.

Four possible categories are shown below:

Grows on a Tree	Grows Above Ground But Not on a Tree	Grows Underground	Comes From an Animal

2. Organize students into groups of three or four.
3. Distribute the *Food Pictures* (pages 43–49). Have the students sort the pictures into the four class-determined groups. Discuss the results.
4. To each group, distribute the *Fun Agriculture Facts* packets, magazines and pictures of food, markers, poster paper, scissors, glue sticks, and a piece of chart or butcher paper.
5. Have the students divide their poster paper into four sections, and label each section with one of the categories. In each quadrant, have the students paste at least four pictures that fit the heading. They must label each picture clearly with the name of the food item. Foods that fit in more than one category may not be used.
6. Using the *Fun Agriculture Facts* packets you created, have the student groups find at least eight interesting facts about the pictures they put on their posters. These facts should be written on

Introductory Lesson

Grades 3-4

a piece of paper and will be used as part of a guessing game during their poster presentation. An example might be, "There are 200 varieties of this fruit." The answer is "plums." In order to use this clue, the students would have plums on their poster.



7. Have the students present their posters to the class. As part of the presentation, have a group member read their facts, one at a time, allowing time for classmates to guess which food item they are referring to.
8. Direct a class discussion to clarify and correct work. Discuss key vocabulary terms that were new to the students.

Variations

- Instead of group posters, each group can research one category. Combine the efforts of each group to create a class poster.
- Instead of making posters, have each group use a large paper to design a floor game on food origins.

Extensions

- Have the students look through magazines or cookbooks to find a recipe or meal that includes food from each of the four categories. Make a class recipe booklet.
- Bring in various foods for the students to see, touch, taste, and smell. Use this opportunity to introduce the students to foods they may have never seen or eaten.

Scavenger Hunt

Grades 3-4

Purpose

Students critically examine grocery ads, use vocabulary acquired in the introductory lesson, sharpen math skills, and work cooperatively in pairs to learn about food and fiber production.

Time

Teacher Preparation:
20 minutes

Student Activity:
Two 45-minute class sessions

Materials

For each team of two:

- *Scavenger Hunt 1* activity sheet (page 12)
- Grocery ads (several)
- Sample grocery ads *optional* (pages 38–40)
- Scissors
- Tape

For each student:

- Paper on which to show mathematics work
- Pencil

Procedure

1. Gather at least 40 grocery ads for students to use. Many grocery stores and newspaper manufacturers will save ads for use in the classroom. If you wish, you may also photocopy the grocery ads on pages 38–40 and make them available to students.
2. Review mathematics vocabulary with your students. The terms they should understand include sum, difference, total price, product, place value in decimals, etc. Students will search through grocery advertisements to find a part of an advertisement that satisfies a particular problem on the scavenger hunt.

3. Organize students into pairs.

4. Have each team look through the grocery ads and find an ad that satisfies each one of the questions on the *Scavenger Hunt* activity sheet. Have the students cut out the ads (picture and price) and tape it (top part only) on top of the clue they think it satisfies.



5. Have each member of the team show, on his/her own paper, the mathematics required to prove the ads they chose do satisfy the clues. Emphasize that neatness and organization is required, so the work can be followed easily. Discuss that many of the problems require a sequence of calculations.

Note: The teacher should circulate among the groups as students work on the activity and discuss the mathematics necessary to substantiate the ad being chosen for the clue. Group papers (one *Scavenger Hunt* activity sheet with ads taped to it and individual papers) should be collected and graded for mathematical content.

Scavenger Hunt

Grades 3-4

Content Standards

Grade 3

English/Language Arts

Reading • 2.6

Mathematics

Number Sense • 1.0, 1.1,
1.3, 2.0, 2.4, 2.8 3.3, 3.4

Algebra and Functions

1.4, 2.1

Mathematical Reasoning

2.0, 2.3, 2.4

Grade 4

English/Language Arts

Reading • 2.2

Mathematics

Number Sense • 1.0, 1.1,
1.2, 2.0, 2.1, 3.0, 3.1, 3.2,
3.3

Mathematical Reasoning

1.0, 1.1, 1.2, 2.0, 2.3, 2.4

Variations

- Complete the activity as a class.
- Have one team correct another team's work.
- Use parent volunteers or "big buddies" to assist with reading clues or finding ads.



Scavenger Hunt I

Name(s) _____

- Instructions:**
1. Read the math problem.
 2. Find grocery ads you can use to solve the problem.
 3. Cut the ads out of the newspaper and tape the ads on top of the problem.
 4. Show your work in an organized fashion, on a separate sheet of paper.
Be sure to write neatly and check your work!

1. Find a food that grows on a tree that costs less than a half dollar per pound.	2. Find a green food that you might put in a salad whose price has a nine in the hundredth's place.
3. Find the total price of two different canned vegetables you like to eat whose sum has a three in the ones place.	4. Find a fresh vegetable that costs more than three dimes per pound.
5. Find the price of two pounds of a yellow, orange, or green food that grows on a vine.	6. Find the total cost of two pounds of meat that comes from a steer and one pound of meat that comes from a pig.
7. Find a food made of potatoes whose total cost is over four quarters. Write the price as a decimal.	8. Find the difference in price between two different foods that grow underground.
9. Find the total cost of $\frac{1}{2}$ pound of a fruit whose price per pound ends in an even number.	10. Find a red or green food that grows on a tree. It must cost more than two nickels per pound, but less than nine dimes per pound.
11. Find the total price of three pounds of a fruit and one pound of a leafy vegetable.	12. Write, in words, the total price of three pounds of an underground vegetable.

Concluding Lesson

Grades 3-4

Purpose

In this activity, students will apply what they have learned about food to their daily lives by analyzing the foods they eat at a particular meal.

Time

Teacher Preparation:
10 minutes

Homework Assignment:
One 30-minute activity

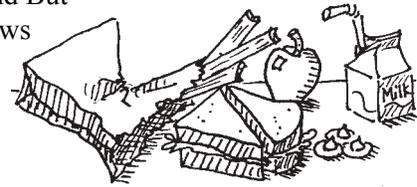
Student Activity:
One 45-minute class session

Materials

- *I Am What I Eat!* activity sheet – one per student (page 16)
- Overhead transparency of *Cherry Breakfast Bar* nutrition facts (page 41)
- Overhead transparency of *Meat Franks* nutrition facts (page 42)

Background Information

The nutrition fact labels of a food provide a variety of information that can be useful when determining the nutritional value of a product. The ingredients are listed in order of quantity. For example, the main ingredient in the cherry breakfast bar is wheat flour; the second ingredient is sugar and the third ingredient is cherries. If this were a food your student were to record on a chart, they would check three or more boxes—“Grows Above Ground But Not On a Tree” for the wheat, “Grows Underground” for the sugar, and “Grows on a Tree” for the cherries, etc.



This activity asks students to examine one specific meal and classify it into categories that they used in the introductory activity. If you feel an evening meal is not appropriate for your students to examine, have them analyze their breakfast or lunch meal. The idea is to have students take a closer look at what they are eating so they understand where their food comes from. At the same time, the students will be asked to think of how they could have altered their meal to make it more nutritious.

Preparation

1. Review the *I Am What I Eat!* activity sheet. If it will meet your needs, make one copy for each student. Otherwise, create an activity sheet that will be more suitable for your students.
2. Make overhead transparencies of the *Cherry Breakfast Bar Nutrition Facts* (page 41) and *Meat Franks Nutrition Facts* (page 42). Take advantage of talking with students about nutrition as you examine the food label examples.

Procedure

1. Ask the students to think to themselves what they ate for breakfast. On a sheet of paper, have them draw a picture of where they think their food came from. For example, if they drank orange juice, they would draw an orange tree. Allow five minutes for quick sketches.
2. Now display the *Cherry Bar Nutrition Label* on the overhead. Have students discuss what they see and discuss where the ingredients for this breakfast bar came from.

Concluding Lesson

Grades 3-4

Content Standards

Grade 3

Reading/Language Arts

Reading • 2.2, 2.6

Writing • 1.1a, 1.1b, 1.2

Written and Oral English

Language Conventions

1.0

Mathematics

Mathematical Reasoning

2.0, 2.3, 2.4

Grade 4

Reading/Language Arts

Reading • 2.2

Writing • 1.0, 1.2a, 1.2b,

1.2c, 1.2d, 1.2e, 1.4

Written and Oral English

Language Conventions

1.0

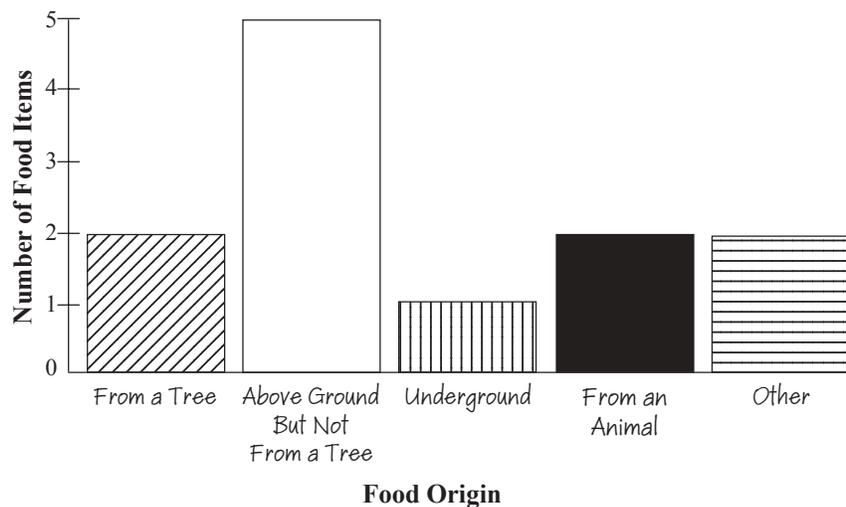
3. Distribute the *I Am What I Eat!* activity sheet or the activity sheet you created. If they actually ate a cherry breakfast bar, ask the students what boxes they would check. This will lead into a good discussion on where food comes from. If appropriate, examine and discuss the amount of fiber, fat, calcium, and protein found in this product.

4. Explain to the students that they will be collecting data on the food they eat for a particular meal. They will need to keep careful track of the foods they eat and drink. As they consume them, they are to write them down on the chart and then check the appropriate boxes. One food item may require several checks.



5. Have the students make a bar graph of their individual data. The graph should contain the categories across the bottom on the horizontal axis (x-axis) and the quantity (number of entries in a particular food category) of food eaten on the vertical axis (y-axis).

Where My Food at Dinner Came From



6. Have a class discussion on their findings. Sample discussion topics may include:

- Into which category does the majority of food you ate fall?
- Into which category does the majority of fruits fall?
- Into which category does your favorite food fall?

Concluding Lesson

Grades 3-4

7. In a well-written paragraph, have students write what they learned about where their food comes from. They should check their work for completeness in paragraph development, i.e. include a topic sentence, details to support thoughts, and a concluding sentence. They should also check for proper punctuation, spelling, and capitalization.

Variations

- Have students collect data for an entire day (24 hours) rather than for just one meal.
- Make a bar graph of the group's results.
- Have students write a report that includes a cover page, data, bar graph(s), and a conclusion.
- Have students compile data and generate graphs using a computer.

Extensions

- Have students compare bar graphs within their group and discuss or write reasons for the differences.
- Have students write stories or poems about growing food.
- Have students write thank you notes to local farmers for growing their favorite foods.
- Arrange for a farmer to visit your classroom to speak about his/her occupation.
- Visit a farmers' market and observe the variety of fresh food.

Introductory Lesson

Grades 5-6

Purpose

The purpose of this activity is for students to develop an understanding of the Food Guide Pyramid, create sample meals which incorporate the five important sections of the pyramid, and examine whether there is a relationship between how foods are grown and where they fall in the Food Guide Pyramid.

Time

Teacher Preparation:
30 minutes

Student Activity:
Two 45-minute class sessions

Materials

For each group of three to four students:

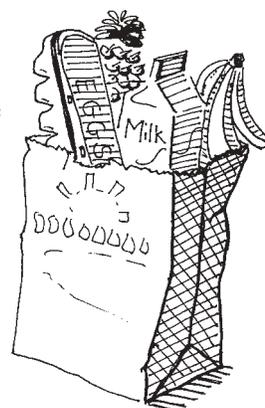
- *Let's Eat!* activity sheet (page 19)
- Magazines that contain pictures of food
- Blackline masters of food and food origin pictures (pages 43–49)
- *Food Guide Pyramid* (page 37)
- Scissors
- Glue

Background Information

This activity encourages students to look at the criteria for developing well-balanced meals. They will do this by creating three meals using pictures from magazines, newspapers, and other sources. This is a great opportunity for you to encourage healthy eating, a concept most children do not have. Perhaps you can invite students to share some of their healthy recipes with the rest of the class.

Procedure

1. Organize students in groups of three or four.
2. Have each group discuss meals they eat for breakfast, lunch, or dinner.
3. Distribute magazines, the Food Guide Pyramid, and poster-making supplies. Have each group create a breakfast meal by cutting out pictures of foods and gluing them to a piece of paper that represents a place mat. Have them create lunch and dinner meals in the same fashion. Each group should end up with three placemats.
4. Have each group complete the *Let's Eat!* activity sheet. In order to complete the last column, students may need to research how certain foods are grown.
5. Have student groups discuss whether or not relationships can be made between how the food is grown and where the food falls in the Food Guide Pyramid. For example, grains are generally grasses that grow above ground and are seeds of some sort; whereas fruits generally grow above ground on trees or bushes and contain seeds.
6. Have students share their meal creations. It may be appropriate to discuss cultural eating habits or how meals can be prepared so they are low in fat and high in nutrients and fiber.
7. In class journals or as homework, have the students write one well-written paragraph about what they learned about the relationships between where food is in the Food Guide Pyramid and how food is grown.



Introductory Lesson

Grades 5-6

Materials *(continued)*

- Three sheets of construction paper (12" x 18")
- Encyclopedias *(optional)*

Content Standards

Grade 5

Reading/Language Arts

Reading • 1.0

Writing • 1.0

Written and Oral English

Language Conventions

1.0, 1.1, 1.4

Grade 6

Reading/Language Arts

Reading • 1.0

Written and Oral English

Language Conventions

1.0, 1.4

Extensions

- Have each student find an interesting fact about a food from one of the Food Guide Pyramid categories. Share the facts with the class.
- Using the Food Guide Pyramid activity sheet and magazines, have the students create posters showing examples of food in each of the categories.
- Make fruit smoothies in class. Discuss what food groups are included in the snack. How many servings of each food group does this snack contain?
- For lunch one day, have an organized potluck that represents one of the meals prepared by a student group.
- Visit a farmers' market and learn about some interesting fresh foods.



Let's Eat!



Name(s) _____

	Ingredient	Food Group	Where Food Comes From
B R E A K F A S T			
L U N C H			
D I N N E R			

Scavenger Hunt

Grades 5-6

Purpose

Students critically examine grocery ads, use vocabulary acquired in the introductory lesson, sharpen math skills, and work cooperatively in pairs to learn about food and fiber production.

Time

Teacher Preparation:
20 minutes

Student Activity:
Two 45-minute class sessions

Materials

For each team of two:

- *Scavenger Hunt 2* activity sheet (page 22)
- Grocery ads (several)
- Sample grocery ads *optional* (pages 38–40)
- Scissors
- Tape

For each student:

- Paper on which to show mathematics work
- Pencil

Procedure

1. Gather at least 40 grocery ads for students to use. Many grocery stores and newspaper manufacturers will save ads for use in the classroom. If you wish, you may also photocopy the grocery ads on pages 38–40 and make them available to students.
2. Review mathematics vocabulary with your students. The terms they should understand include sum, difference, total price, product, place value in decimals, etc. Students will search through grocery advertisements to find a part of an advertisement that satisfies a particular problem on the scavenger hunt.
3. Organize students into pairs.
4. Have each team look through the grocery ads and find an ad that satisfies each one of the questions on the *Scavenger Hunt* activity sheet. Have the students cut out the ads (picture and price) and tape them (top part only) on top of the clue they think it satisfies.
5. Have each member of the team show, on his/her own paper, the mathematics required to prove the ads they chose do satisfy the clues. Emphasize that neatness and organization is required, so the work can be followed easily. Discuss that many of the problems require a sequence of calculations.

Note: The teacher should circulate among the groups as students work on the activity and discuss the mathematics necessary to substantiate the ad being chosen for the clue. Group papers (one *Scavenger Hunt* activity sheet with ads taped to it and individual papers) should be collected and graded for mathematical content.



Scavenger Hunt

Grades 5-6

Content Standards

Grade 5

Reading/Language Arts

Reading • 1.0

Mathematics

Number Sense • 1.0, 1.1,
1.4, 2.0, 2.1, 2.2, 2.3

Statistics, Data Analysis,
and Probability • 1.0, 1.1

Mathematical Reasoning
1.0, 1.1, 1.2, 2.0, 2.3, 2.4

Grade 6

Reading/Language Arts

Reading • 1.0

Mathematics

Number Sense • 1.0, 1.2,
2.0

Statistics, Data Analysis,
and Probability • 1.0, 1.1

Mathematical Reasoning
1.0, 1.1, 1.3, 2.0, 2.4, 2.5

Variations

- Complete the activity as a class.
- Have one team correct another team's work.
- Use parent volunteers or "big buddies" to assist with reading clues or finding ads.



Scavenger Hunt 2

Name(s) _____

- Instructions:**
1. Read the math problem.
 2. Find grocery ads you can use to solve the problem.
 3. Cut the ads out of the newspaper and tape the ads on top of the problem.
 4. Show your work in an organized fashion, on a separate sheet of paper.
Be sure to write neatly and check your work!

1. Find a dairy product whose price has a nine in the tenths place. How much will three of these items cost?	2. Find a food made of grain that costs more than 89¢ but less than \$2.89. Is three one of its prime factors?
3. Find the total cost of two pounds of pork and one pound of beef. Convert your answer to a fraction and reduce to simplest terms.	4. Find the cost of one pound of a vegetable and one pound of lean beef whose total sum contains an eight in the hundredths place.
5. Find the price of one food that contains both grain and fruit. Round the price to the nearest dollar.	6. Find the total cost of three items you could use to make dinner for your family. Include one vegetable and one source of protein (<i>be sure to state the quantity of each item</i>).
7. Find the mean price per pound of two types of citrus fruit. Round your answer to the nearest dime.	8. Find the cost of four grain products whose total is over eight and three-fourths dollars.
9. Find a food that costs the same backwards as it does forwards. This is called a palindromic number.	10. Find the total cost of four different products that partially or completely come from plants.
11. Find an item that is sold in multiple pound quantities. Determine the price per pound. Round your answer to the nearest cent.	12. Convert the price of two pounds of leaves to a fraction. Reduce the fraction to lowest terms.

Concluding Lesson

Grades 5-6

Purpose

The purpose of this lesson is for students to analyze the foods they eat in a 24-hour period. They will classify the foods they consume into corresponding categories in the Food Guide Pyramid.

Time

Teacher Preparation:
15 minutes

Student Activity:
Two 45-minute class sessions,
plus homework

Materials

For the teacher:

- Overhead transparency of *Cherry Breakfast Bar* nutrition facts (page 41)
- Overhead transparency of *Meat Franks* nutrition facts (page 42)

For each student:

- *Food Guide Pyramid* (page 37)
- *Food Intake Record* sheet (page 25)
- *"I Am What I Eat!" Report* form (page 26)

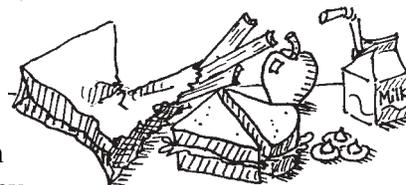
Students will record the food they consume in a 24-hour period. They may record their diet on the worksheet provided, or they may make their own chart. In either case, they will categorize the foods they eat into the Food Guide Pyramid categories. Emphasize to the students that their record sheet is for their personal use and they will be graded on their completed work rather than on the nutritional value of their diet.

Procedure

1. Make overhead transparencies of the cherry breakfast bar and meat frank nutritional labels (pages 40-41). Using these labels as examples, discuss with the class the concepts of servings, serving size, servings per container, and main ingredients.
2. Using the *Food Intake Record* sheet, have students record *everything* they eat *and* the quantity of each item eaten in a 24-hour period. Students should also classify the foods eaten into the categories on the Food Guide Pyramid.

The following points should be discussed prior to the 24-hour period in which students record what they eat:

- Many foods overlap the Food Guide Pyramid categories. For example, a cherry breakfast bar contains fruit, fruit juice from fruits, and flour from grains. The ingredients are listed in the order of quantity. The students may need to look at the ingredients list before categorizing the food.
- To calculate servings, students should estimate the quantity they have eaten by comparing how much they ate to the serving size and the number of servings per container listed on the food label. For example, suppose breakfast bars come in boxes. A serving size is one bar; there are six bars per box. If you ate two bars in the pack, you had two servings. Therefore, you must double all the nutritional information. Franks come in packages of ten, but the serving size is one frank. Again, if you ate two franks, you must double all the nutritional information.



Concluding Lesson

Grades 5-6

Content Standards

Grade 5

Science

Investigation and
Experimentation • 6, 6a,
6g, 6h, 6i

Reading/Language Arts

Reading • 2.1
Writing • 1.6
Written and Oral English
Language Conventions
1.0, 1.4

Mathematics

Number Sense • 2.0, 2.3
Statistics, Data Analysis,
and Probability • 1.0, 1.1,
1.2
Mathematical Reasoning
1.0, 1.1, 1.2, 2.0, 2.3, 2.4,
3.0, 3.3

Grade 6

Science

Investigation and
Experimentation • 7, 7a,
7c, 7d

Reading/Language Arts

Written and Oral English
Language Conventions
1.0, 1.4

Mathematics

Number Sense • 2.0
Mathematical Reasoning
2.0, 2.4, 3.0, 3.1, 3.2, 3.3

3. Have students present their findings in a written report. The written report should consist of:
 - A completed *Food Intake Record* sheet.
 - Data organized into a *student-made graph*.
 - A *written summary* of the data collected.
 - A *conclusion* about the content of the data and its effect on one's health.

4. Direct a class discussion on the eating habits of the class. The discussion should focus on the servings per day recommended in the Food Guide Pyramid. Also, discuss how this one day of food record-keeping may or may not accurately reflect the eating habits of a particular student population.



Variations

- Have students make a display board instead of a written report.
- Have the students ask their parents to recall a typical daily diet when they were the students' ages. Students can compare servings per day from each of the categories of the Food Guide Pyramid today with those of their parents when they were children.
- Compile the data from all students. Have student groups make a variety of graphs illustrating the data—bar graphs, pie graphs, photographs, etc. Discuss the data.

Extensions

- Have students write poems about their daily food intake.
- Invite a farmer into your classroom to speak about growing food.
- Have students interview a produce or meat manager at their local grocery store. Find out how they obtain the produce or meat. Discuss the cost and pricing of food items.
- Calculate the calories and/or fat grams consumed during the 24-hour food intake period.
- Compare the nutritional value or cost of a pre-packaged frozen dinner and a meal prepared from scratch.

“I Am What I Eat!” Report



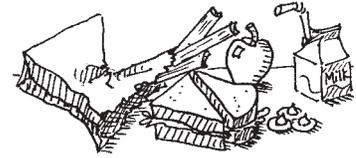
You have already collected data on your food intake for a 24-hour period. Now prepare the following neat, well-organized, and attractive packet.

_____ Completed *Food Intake Record* sheet.

_____ One or more graphs which clearly describe the data.

_____ A written summary of the data collected.

_____ A conclusion about the data and its effect on your personal nutritional needs.



“I Am What I Eat!” Report



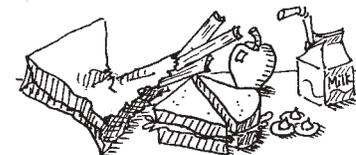
You have already collected data on your food intake for a 24-hour period. Now prepare the following neat, well-organized, and attractive packet.

_____ Completed *Food Intake Record* sheet.

_____ One or more graphs which clearly describe the data.

_____ A written summary of the data collected.

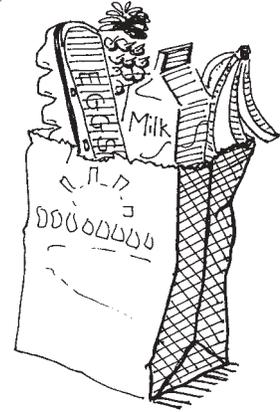
_____ A conclusion about the data and its effect on your personal nutritional needs.



Fun Agriculture Facts*

United States Facts and Figures

- A farmer in the United States grows enough to feed about 129 people for one full year.
- One acre of farmland is nearly the size of a football field.
- California agriculture provides about 1.1 million jobs or 7.4% of the nation's employment.



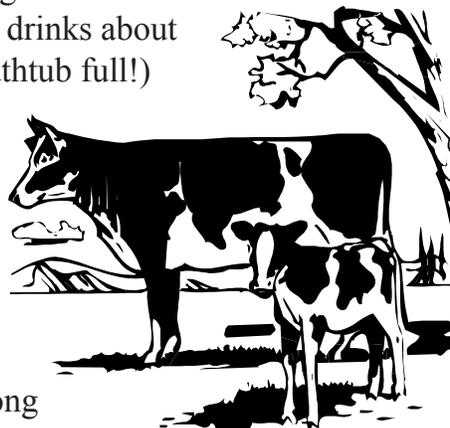
California Facts and Figures

- California has been the #1 ranking agricultural state in the United States for over 50 years. It is a \$27 billion annual industry.
- Dairy is the top agricultural commodity in California with \$4.1 billion in cash receipts, the amount of money obtained from sales.
- Grapes are California's second leading crop.
- More than $\frac{1}{4}$ of California's land is used for agriculture, but this number keeps getting smaller.
- 350 different kinds of crops are grown in California.

Fun Agriculture Facts*

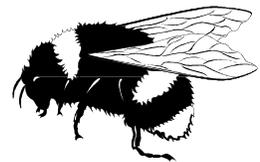
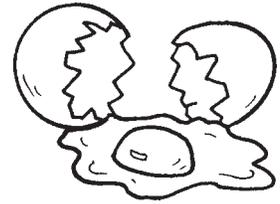
Animals

- About 26 million hot dogs are eaten at U.S. baseball games each year.
- Virtually all of each beef animal is used for one thing or another. In addition to meat, cattle are the source of thousands of by-products. Almost 600 pounds of a 1000-pound steer are used as by-products. Everything but the “moo” is used from a cow.
- Cattle are ruminants and have four stomach compartments.
- Today’s beef is 27% leaner than it was 20 years ago.
- Americans eat about 68 pounds of beef per year.
- By-products from cattle are used in producing leather, medicine, make-up, asphalt for roads, shaving cream, soap, paint, perfume, printing ink, film, china, cleanser, and thousands of other items.
- A dairy cow gives enough milk to furnish nine families with one-half gallon of milk everyday.
- A dairy cow which is producing milk eats nearly 100 pounds of food and drinks about 35 gallons of water (that’s a bathtub full!) everyday.
- Two dairy cows produce enough milk to make about three pounds of butter or nine pounds of cheese everyday. Milk is a source of calcium that helps develop strong bones and teeth.



Fun Agriculture Facts*

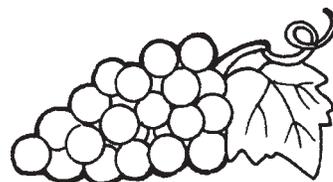
- Each California dairy cow produces about 21,000 pounds of milk per year.
- The heaviest turkey ever raised weighed 86 pounds, about the size of an average third-grader!
- It takes 24-26 hours for a hen to produce one egg.
- Eggs age more in one day at room temperature than they do in one week in the refrigerator.
- A baby pig weighs about 3.5 pounds (3 ½) at birth but doubles its weight in a week.
- One pig can provide 20 pounds of bacon, 30 pounds of ham, 30 pounds of pork chops, and 80 pounds of other meat. The rest of the pig is used in by-products such as gelatin and leather goods.
- About 425,000 commercial beehives help pollinate plants in California.
- A hive of bees flies over 55,000 miles to bring you one pound of honey.
- Honeybee workers must visit 2 million flowers to make one pound of honey.
- There are 914 different breeds of sheep in the world; 35 breeds are raised in America.



Fun Agriculture Facts*

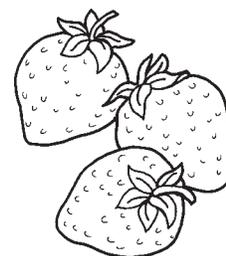
Fruits and Vegetables

- The average American consumes about 650 pounds of fruits and vegetables each year.
- When fully grown, one apple tree will produce enough apples to make about 225 apple pies each year.
- Green Thompson seedless grapes are the most common grapes dried to produce dark-colored raisins.
- Grapes are actually berries. On the average, there are about 100 grape berries per bunch.
- There are about 600 kernels on each ear of corn.
- A spear of asparagus can grow 10 inches in one day!
- Pumpkins are 90% water.
- Americans are eating 900% more broccoli than they did 20 years ago.
- One acre of land can produce 42,000 pounds of strawberries, or 25,400 pounds of potatoes, or 11,000 heads of iceberg lettuce.
- Oranges are one of the few fruits that will not over-ripen if left on a tree.
- Over 200 million pounds of blueberries are grown every year in North America.
- It takes less than eight tomatoes to produce one 14-ounce bottle of ketchup.



Fun Agriculture Facts*

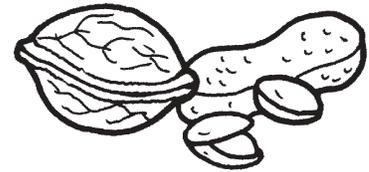
- Processing tomatoes are used to make ketchup, sauces, and soups.
- California grows nearly 94% of all U.S. processing tomatoes.
- From Palm Springs to the Salton Sea, nearly 250,000 date palms cover 5,000 acres of land producing 35 million pounds of dates annually.
- Americans eat about 30 pounds of lettuce every year.
- Lettuce is about 95% water and is a member of the lily family.
- More than 25,000 acres of California land grow strawberries.
- If all the strawberries produced in California in a year were laid end to end, they would wrap around the world 15 times.
- There are about 200 seeds on a strawberry.
- There are 1,000 seeds in a traditional watermelon.
- Americans eat about 17 pounds of watermelon each year. That's about 1½ watermelons.
- Farmers plant about 150 dried plum trees per acre. One mature tree produces about 3000 fruit per tree. Twenty pieces of fresh fruit produce one pound. There are about 40 dried plum fruit per pound.
- There are over 200 varieties of plums that people eat.



Fun Agriculture Facts*

Nuts

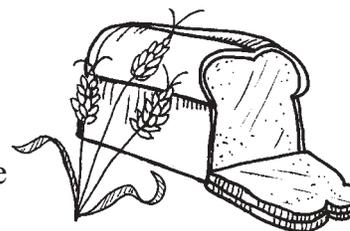
- Farmers plant about 108 almond trees per acre and pistachio farmers plant about 135 trees per acre.
- One average almond tree produces 27 pounds of in-shell almonds or 18½ pounds of almond meat per acre.
- Farmers plant about 40 walnut trees per acre. Each tree produces about 100 pounds of in-shell walnuts per tree or 50 pounds of walnut meat per year.
- Thirty-seven different walnut varieties are grown in the United States; however, nine varieties are the most popular.
- One mature California pistachio tree produces about 24 pounds of edible pistachio nutmeats per year.
- An average pistachio tree produces about 11,400 nuts each year.
- California produces almost 100% of the almonds grown in the United States.
- A peanut is not a nut. It is a legume which grows underground.



Fun Agriculture Facts*

Grains

- One acre of rice cleans about 23,000 pounds of carbon dioxide from the atmosphere—as much as is produced by an average car in a year.
- California ricelands are home to over 141 species of birds, 28 species of mammals and 24 species of amphibians and reptiles.
- Americans consume about 55 pounds of bread each year.
- Farmers earn less than 5 cents for each loaf of bread sold... that's before they pay their bills that helped produce that loaf of bread.
- The main ingredient of cookies is wheat flour, and Americans consume over 2 billion store-bought cookies per year.
- There are at least 350 shapes of pasta produced in the United States, and over 600 shapes worldwide.
- Over 2/3 of the tortillas produced in the United States are made from wheat flour. The other third is made from corn flour.
- Average white wheat flour contains 9 - 15% protein.
- There are six classes of wheat grown in the United States: hard red winter, soft red winter, hard red spring, hard white, soft white, and durum. Each are used for different purposes.
- Sunflower seeds, corn, and cottonseed contain oil which is pressed and used for cooking.



Fun Agriculture Facts*

Farm Equipment

- With a tractor and plow, a farmer can plow an area the size of one acre (a football field) in 12 minutes.
- One large new tractor may cost as much as \$200,000.
- A corn seeder plants about 24,000 seeds per acre.
- An orchard sprayer can hold 500 gallons of water mixed with 100 pounds of fertilizer. One hundred gallons of this mixture is spread on a dried plum orchard per acre.

Forest Resources

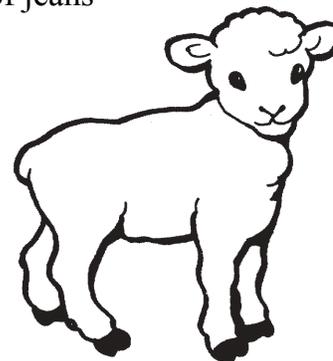
- One acre of trees can remove about 13 tons of dust and gasses every year from the air.
- One acre of young trees can consume almost 6,000 pounds of carbon dioxide and produce over 4,000 pounds of oxygen a year. An average person consumes over 365 pounds of oxygen a year.
- Nearly one-third of the world's land area is covered by forests.
- Each person uses the equivalent of a 100-foot (16" diameter) tree each year.
- California foresters plant an average of seven new trees for every one harvested.
- More than 2 billion wooden pencils are used in the United States each year.



Fun Agriculture Facts*

Fiber

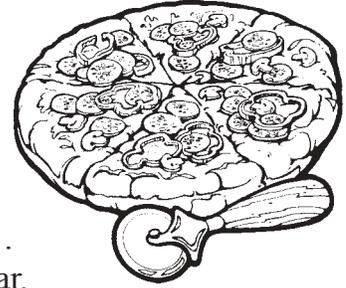
- California produces enough cotton each year to make 2.1 billion men's shirts, 560 million bed sheets, or 2.2 billion bath towels.
- There are about 150 yards of wool yarn in a baseball.
- On the average, there are 9 seeds per section, known as a block, on a cotton boll. There are about 5 blocks in one cotton boll.
- There are about 15 cotton bolls on one high quality Upland cotton plant.
- There are about 480 pounds of cleaned cotton fiber in one bale of cotton.
- A bale of cotton is about the size of a United States mailbox, approximately 4 feet x 3 feet x 2 ½ feet.
- One bale of cotton will make 325 pair of jeans or 200 bed sheets.
- It takes 24 ounces, that's 1 ½ pounds, of cotton to make one pair of child's jeans.
- Wool comes from sheep.
- Angora is a fiber that comes from goats or rabbits.



Fun Agriculture Facts*

Other

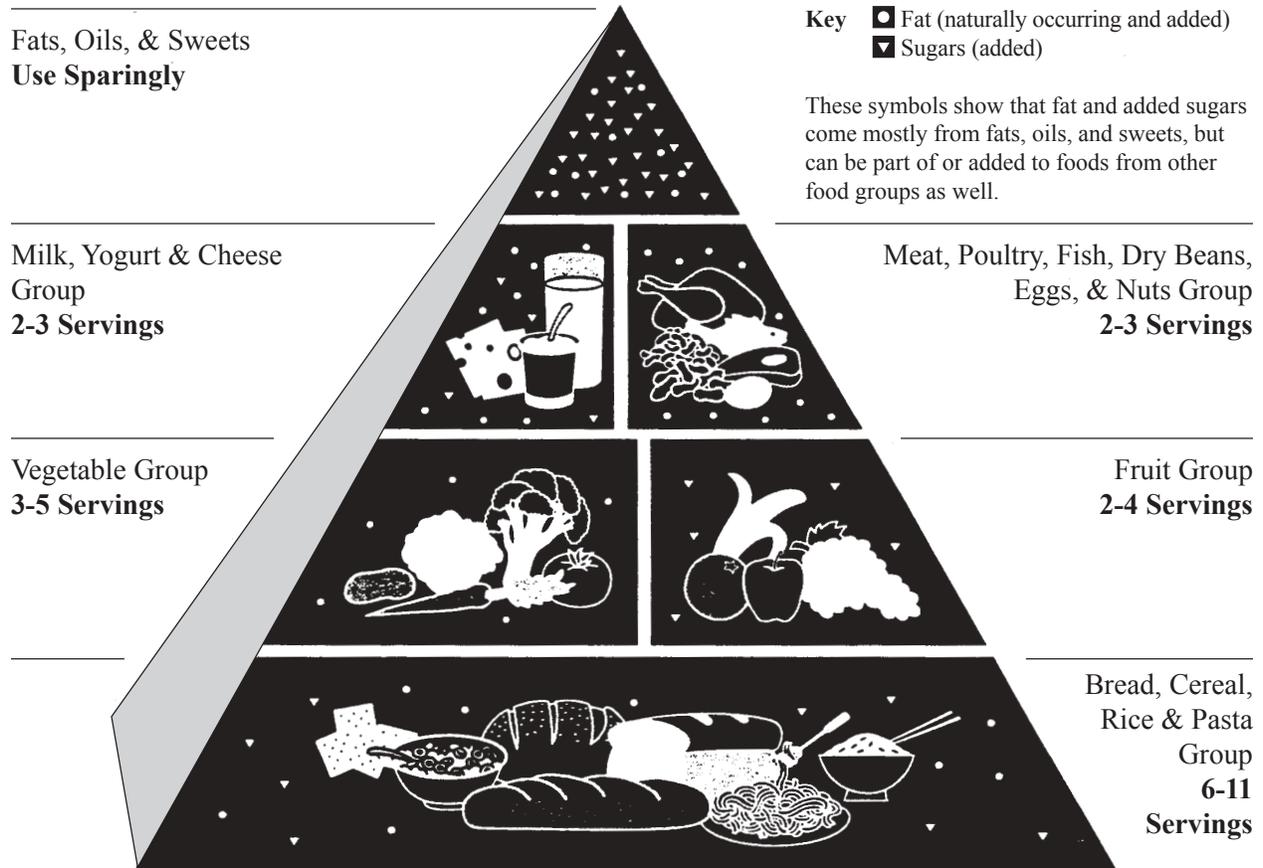
- The United States consumes about 7 billion pounds of candy annually.
- Americans eat more than 100 acres of pizza each day.
- Californians consume about 157 million gallons of ice cream each year... That's about 22 gallons per person a year.
- California growers produce over 88,000 tons of dry beans each year.
- California produces one out of every five glasses of milk that Americans drink.



* *The statistics stated in this section were obtained from a variety of sources and accurate at the time of printing. Please keep in mind that statistics vary from year to year for a variety of reasons including variations in weather and agricultural practices. For current statistics refer to www.cdfa.ca.gov or www.nass.usda.gov/ca.*

Food Guide Pyramid

A Guide to Daily Food Choices



SOURCE: U.S. Department of Agriculture/U.S. Department of Health and Human Services

Use the Food Guide Pyramid to help you eat better every day . . . the Dietary Guidelines way. Start with plenty of Breads, Cereal, Rice and Pasta; Vegetables; and Fruits. Add two to three servings from the Milk group and two to three servings from the meat group.

Each of these food groups provides some, but not all, of the nutrients you need. No one food group is more important than another—for good health you need them all. Go easy on fats, oils, and sweets, the foods in the small tip of the Pyramid.

To order a copy of “The Food Guide Pyramid” booklet, send a \$1.00 check or money order made out to the Superintendent of Documents to: Consumer Information Center, Department 159-Y, Pueblo, Colorado 81009.

U.S. Department of Agriculture, Human Nutrition Information Service, August 1992, Leaflet No. 572

Sample Grocery Ads # 1



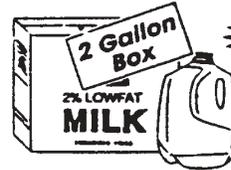
Ketchup
100% Natural
28 oz.

99¢



Cucumbers
Firm and Green

49¢
EACH



New Low Price

Lowfat Milk

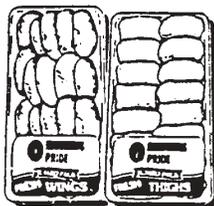
4⁰⁷



Jumbo Oranges
Sweet and Juicy

2 \$1
LBS

Large AA Eggs



Chicken Wings
Chicken Thighs

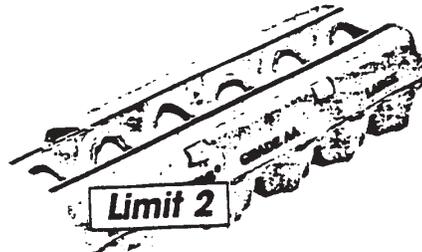
79¢
LB.



String Cheese

String Cheese
8 Oz. Pkg.

2¹⁹



Limit 2

99¢

DOZEN



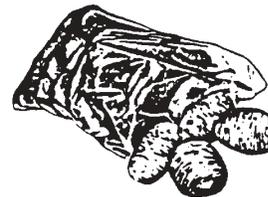
Apple Juice
12 Oz. Can

89¢



Baby Carrots

1⁹⁹
BAG



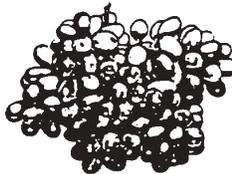
Potatoes
5 Lb. Bag

99¢
EACH

Sample Grocery Ads #2



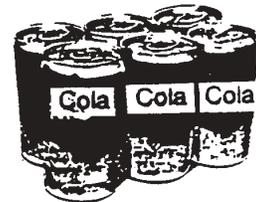
**Quick
Rice**
28 Oz.
Package
1.99



Seedless

Red Grapes
1.69

Lb.



Cola
6-Pack 33 Oz.
1.79



**Extra Lean
Meat Franks**
1 Lb.
Package
1.49



Canned Dog Food
13.2 Oz. Regular or Prime Cuts
or Canned Cat Food, 13 Oz.
Assorted

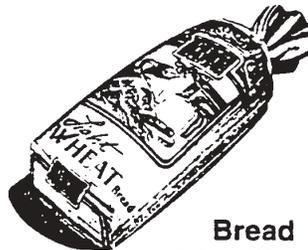
2 for \$1



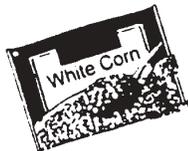
**Rump
Roast**
Beef Round or
Sirloin Tip
Roast
1.99
Lb.



**Medium
Cheddar**
2 Lb.
Package
5.79



Bread
Selected Varieties
1 Lb. Loaf
99¢



**Bag
Vegetables**
Corn
99¢
16 Oz.



Salad Mix
EACH
1.99

Sample Grocery Ads #3

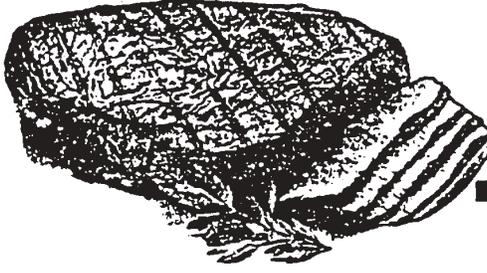
Lean Ground Beef
Not To Exceed
15% Fat

Fresh



1.49 Lb.

Round Steak



1.69 Lb.

Super TRIM
Satisfaction Guaranteed

Low Fat Ice Cream
Assorted Flavors
Cholesterol Free
64 ounce carton



Mashed Potatoes

1.79 13 Oz.



Bagels



2 for \$6

Kidney or Garbanzo Beans
15 1/4 to 15 1/2 Oz.
Regular or Lite



99¢

Bagels
Selected Varieties
6 Oz. Pkg.

2 for \$1

Kidney or Garbanzo Beans
15 1/4 to 15 1/2 Oz.
Regular or Lite



1.97

Granulated Sugar
5 Pound Bag



79¢ 18 Oz.

Flour Tortillas



1.99 15 Oz.

Whole Asparagus



1.35 5 Lb.

Flour



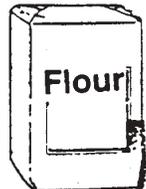
1.97

Fat Free Ricotta
2 Lb. Container



3.79

Flour



Cherry Breakfast Bar

Nutrition Facts

Serving Size: 1 Bar (37g)
Servings Per Package: 8

Amount Per Serving

Calories 140
Fat Calories 25

% Daily Value*

Total Fat 3.0g	5%
Saturated Fat 0.5g	3%
Cholesterol 0mg	0%
Sodium 60mg	3%
Total Carbohydrate 27g	9%
Dietary Fiber 1g	4%
Sugars 13g	

Protein 2g

Vitamin A 15%	•	Vitamin C 0%
Calcium 0%	•	Iron 10%
Thiamin 25%	•	Riboflavin 25%
Niacin 25%	•	Vitamin B-6 25%
Folate 25%	•	Phosphorous 4%
Magnesium 2%	•	Zinc 10%

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

	Calories:	2000	2500
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholesterol	Less than	300mg	300mg
Sodium	Less than	2400mg	2400mg
Total Carbohydrate	300g	375mg	
Dietary Fiber		25g	30g

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

Ingredients: wheat flour, sugar, cherries, whole oats, corn syrup, partially hydrogenated soybean and/or cottonseed oil, glycerin, dextrose, evaporated apples, modified corn starch, honey, nonfat dry milk, wheat bran, natural flavors, salt, pectin, potassium bicarbonate, malic acid, lecithin, sodium alginate, locust bean gum, whey protein concentrate.

Vitamins and Minerals: niacinamide, zinc oxide, iron, pyridoxine hydrochloride (vitamin B-6), riboflavin (vitamin B-2), vitamin A palmitate, thiamin hydrochloride (vitamin B-1), and folic acid.

Meat Franks

Nutrition Facts

Serving Size: One Frank (45g)
Servings Per Container: 10

Amount Per Serving

Calories 45 **Calories from Fat 15**

	% Daily Value*
Total Fat 10g	15%
Saturated Fat 7g	35%
Cholesterol 15mg	5%
Sodium 430mg	18%
Total Carbohydrate 2g	1%
Dietary Fiber 0g	0%
Sugars 2g	

Protein 5g

Vitamin A 0% • Vitamin C 8%

Calcium 0% • Iron 2%

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

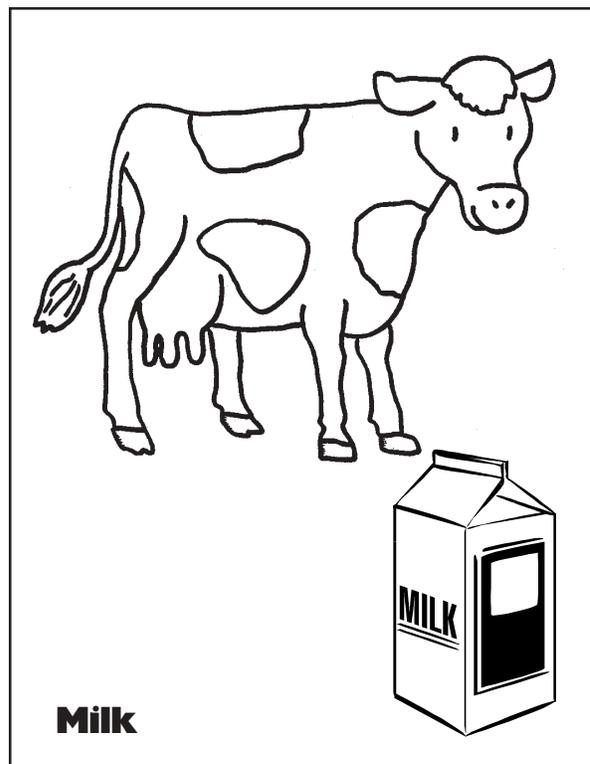
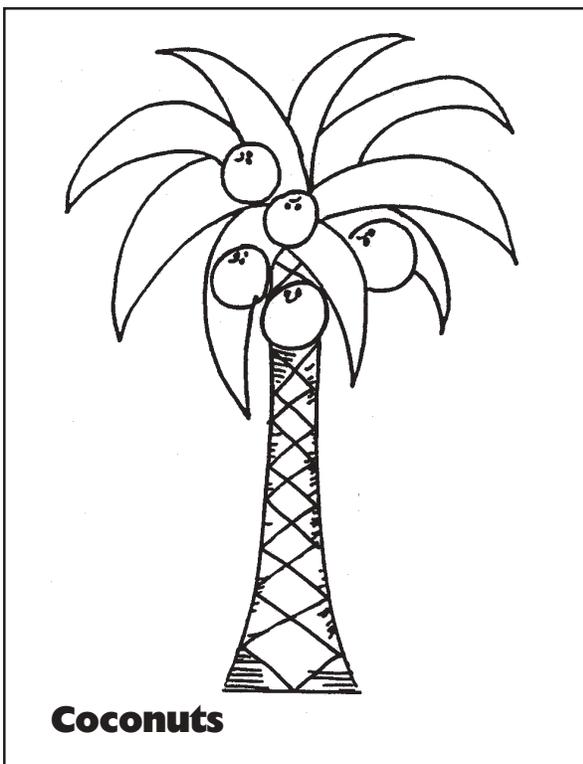
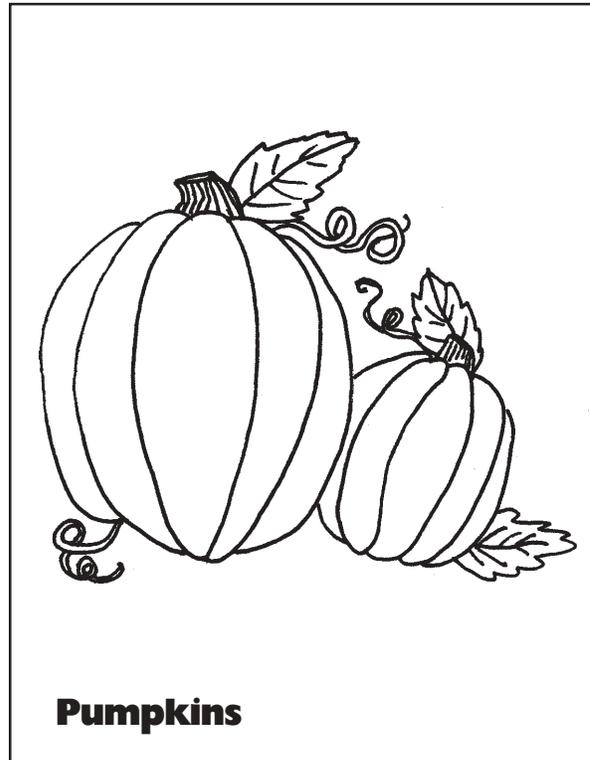
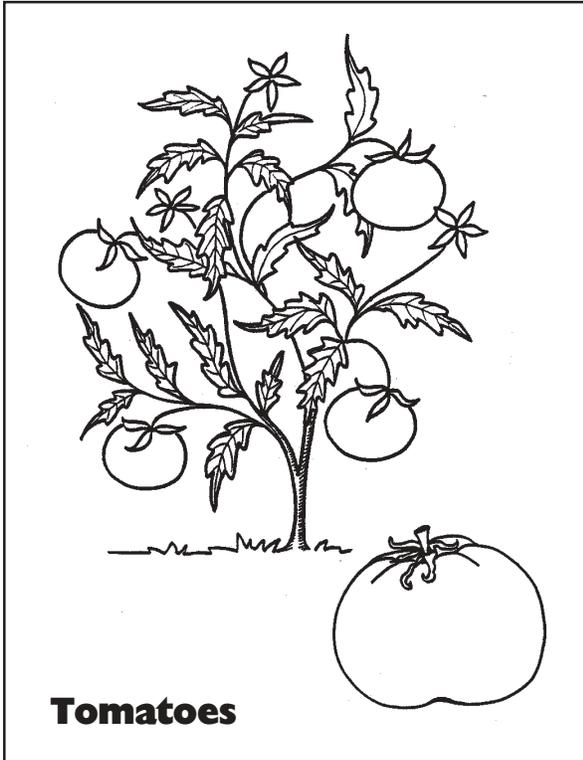
		Calories:	2000	2500
Total Fat	Less than		65g	80g
Sat Fat	Less than		20g	25g
Cholesterol	Less than		300mg	300mg
Sodium	Less than		2400mg	2400mg
Total Carbohydrate			300g	375mg
Dietary Fiber			25g	30g

Calories per gram:

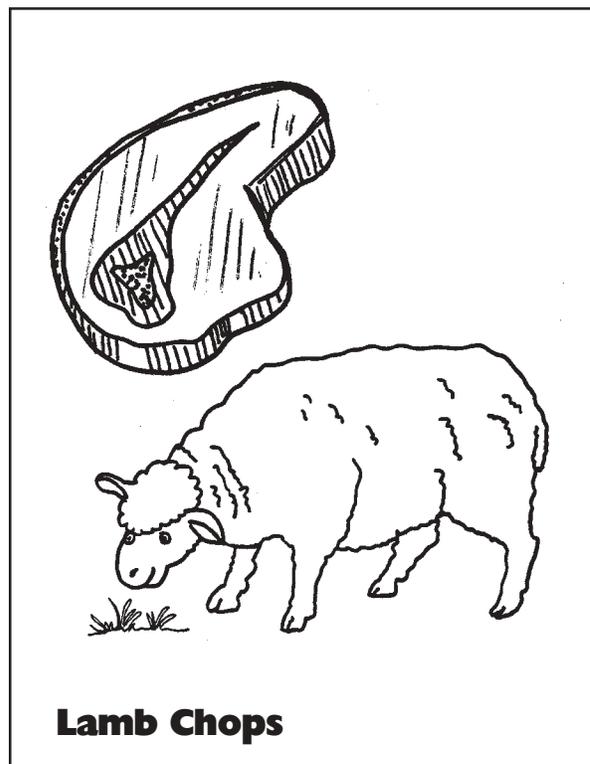
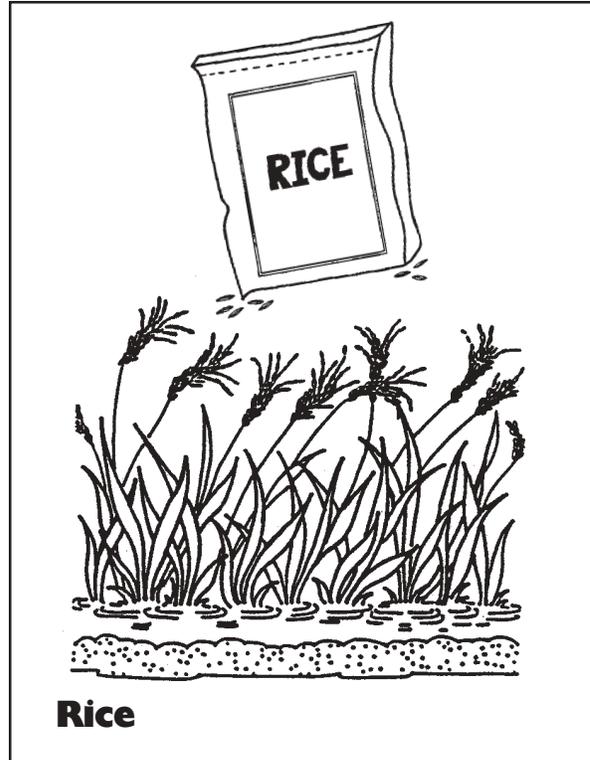
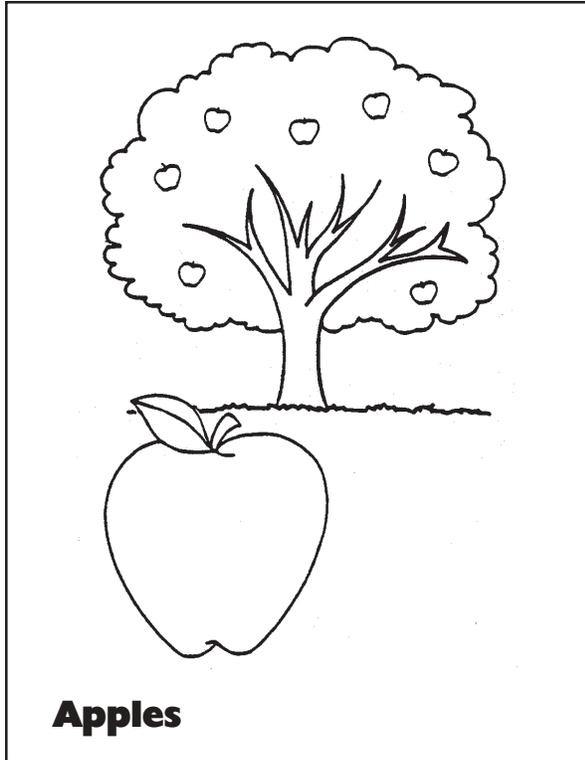
Fat 9 • Carbohydrate 4 • Protein 4

Ingredients: beef and pork, water, hydrolyzed vegetable protein, beef broth, potassium lactate, salt, corn syrup, dextrose, hydrolyzed milk protein, flavoring, smoke flavoring, ascorbic acid (vitamin C), oleoresin of paprika, sodium nitrate.

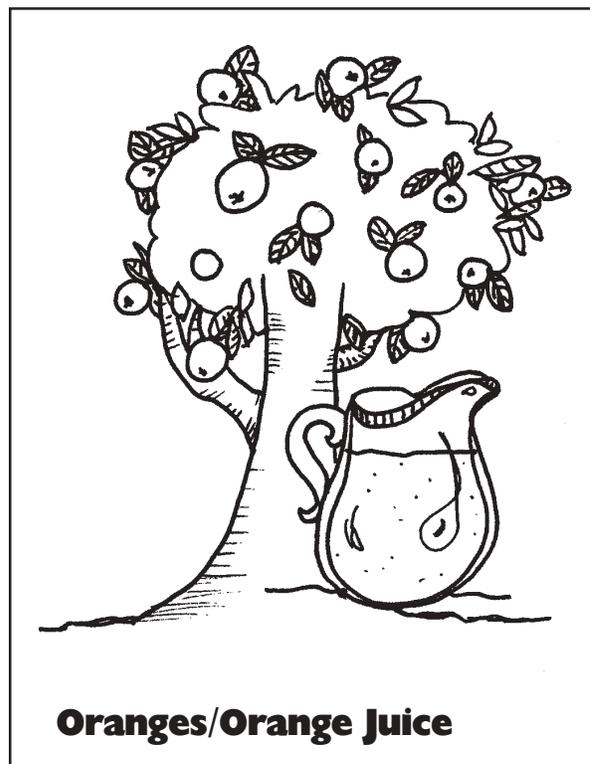
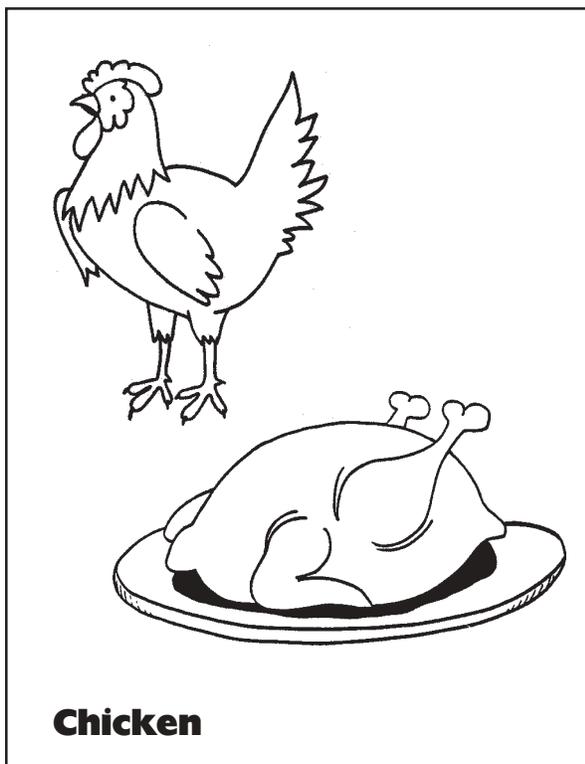
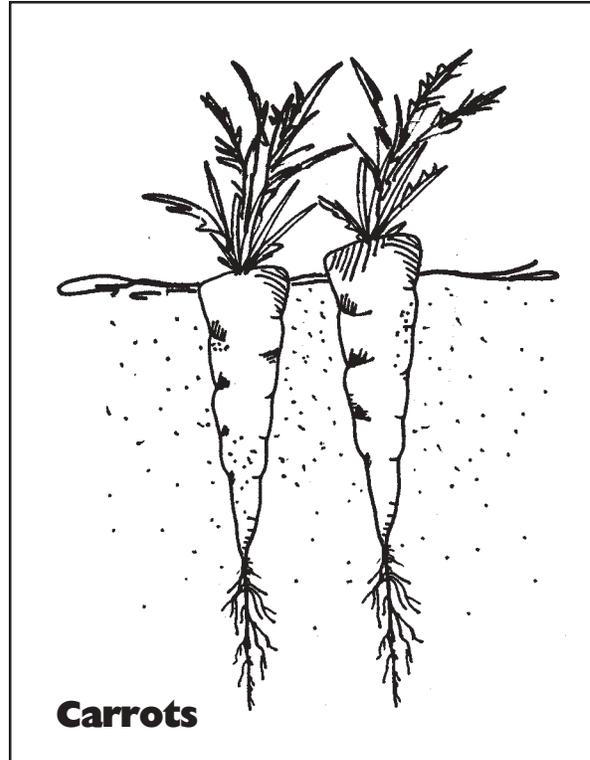
Food Pictures # 1



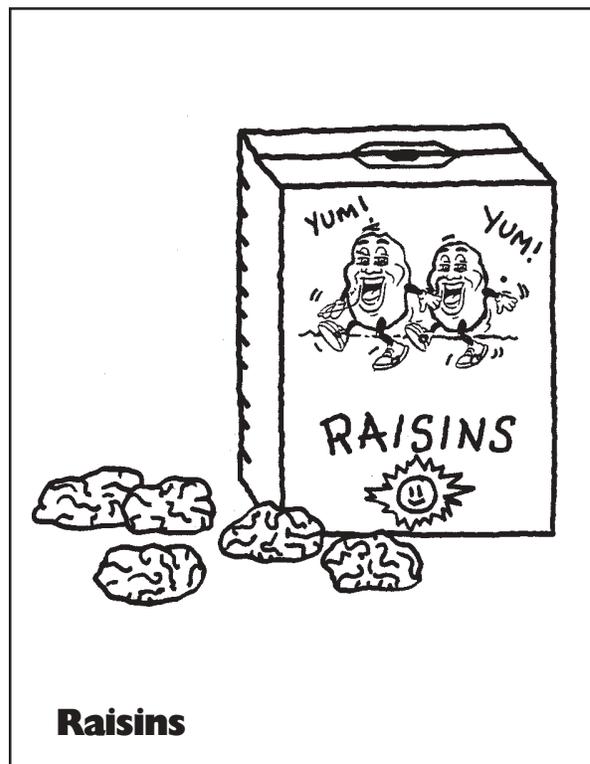
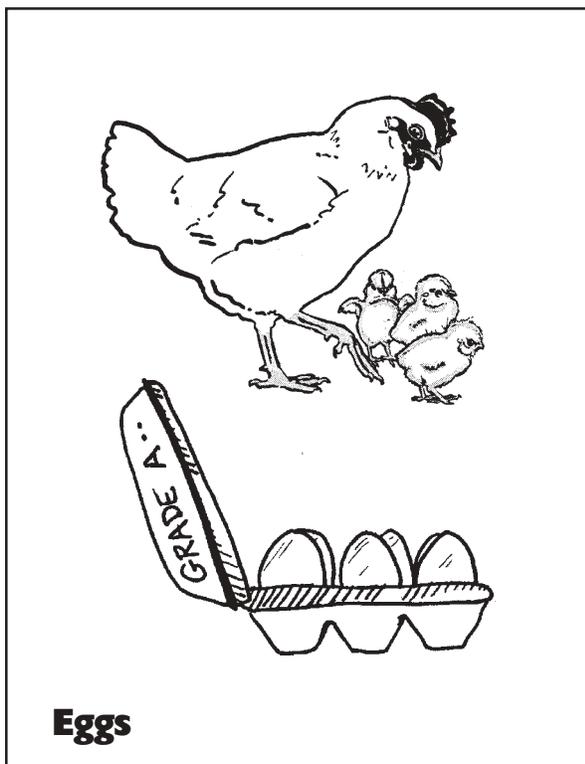
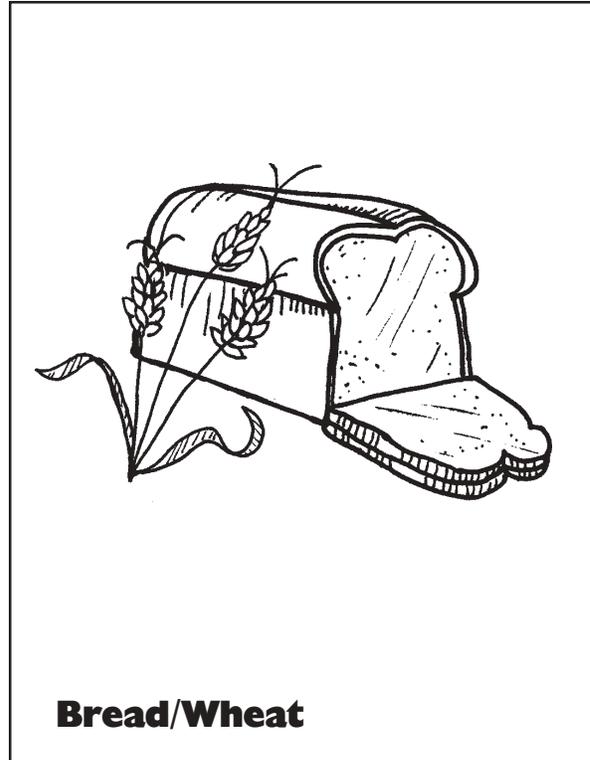
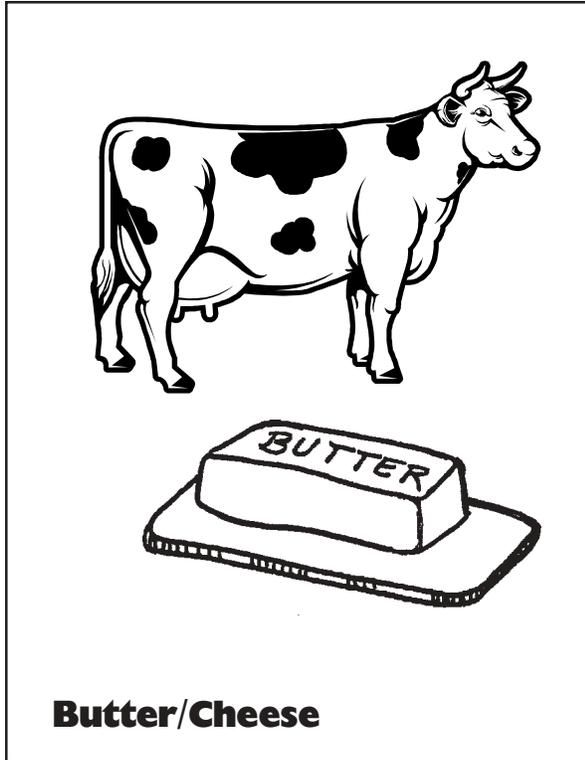
Food Pictures #2



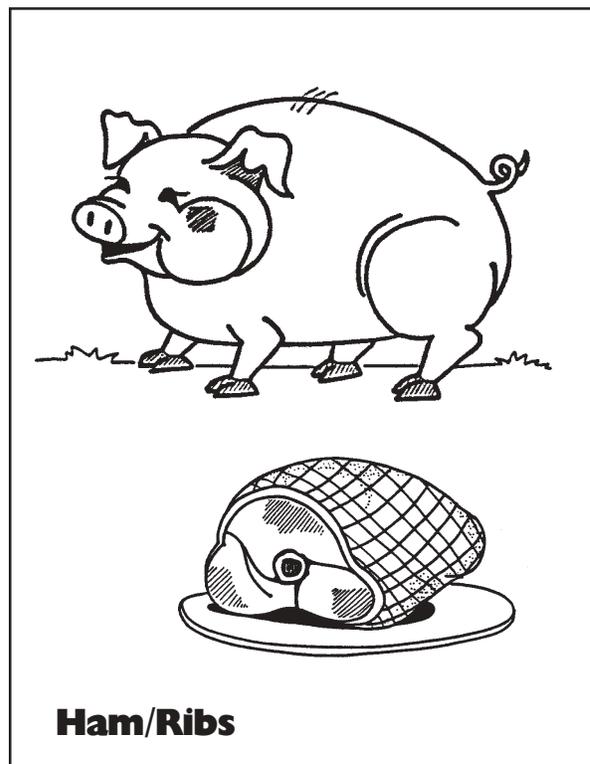
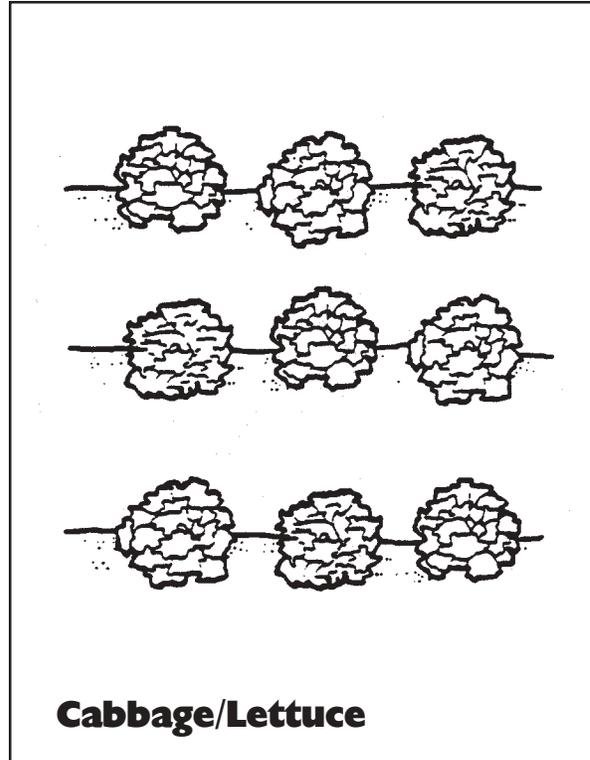
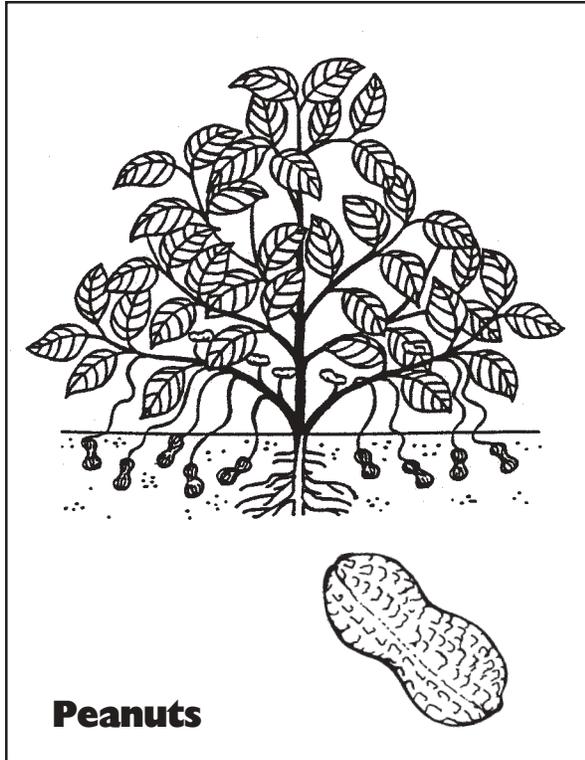
Food Pictures #3



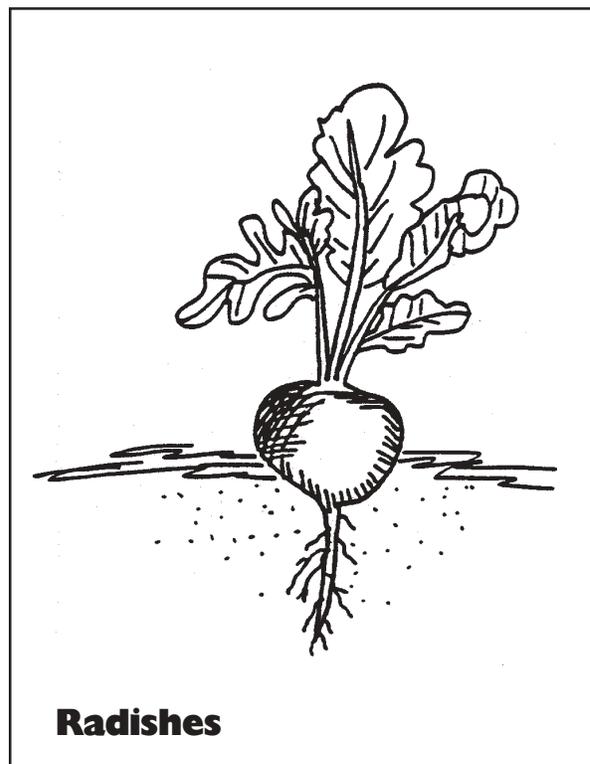
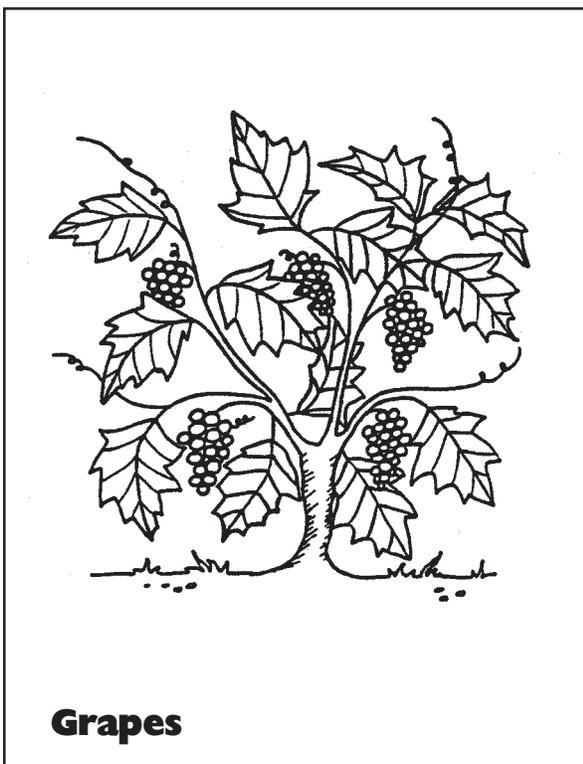
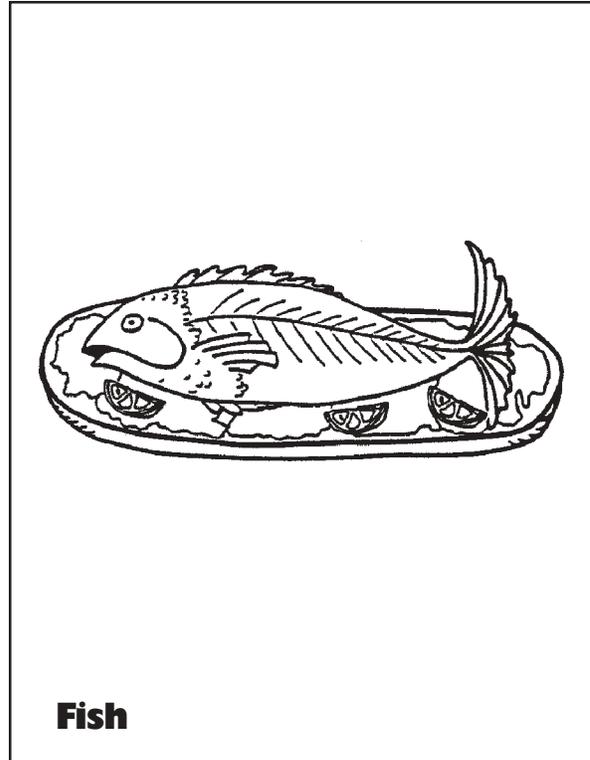
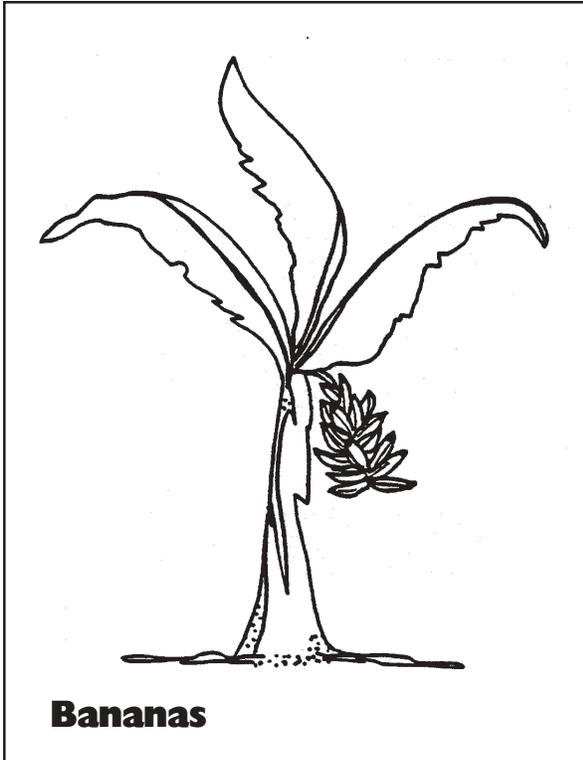
Food Pictures #4



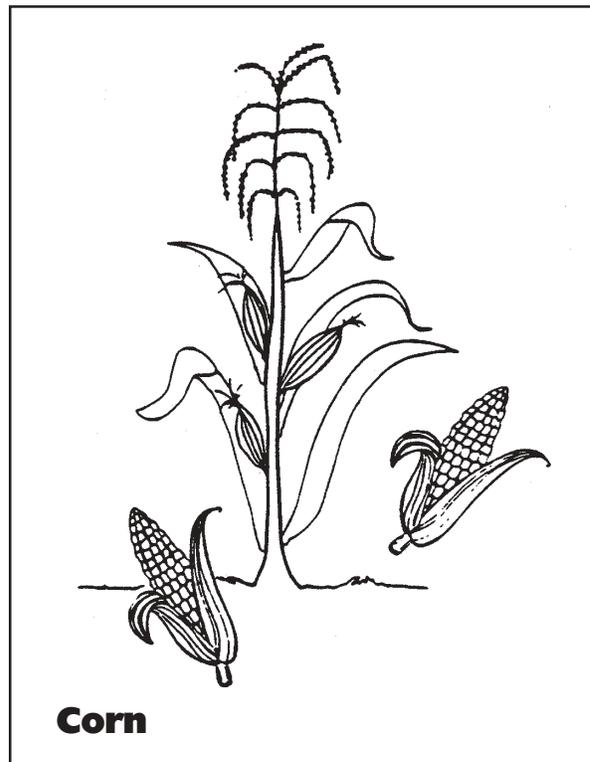
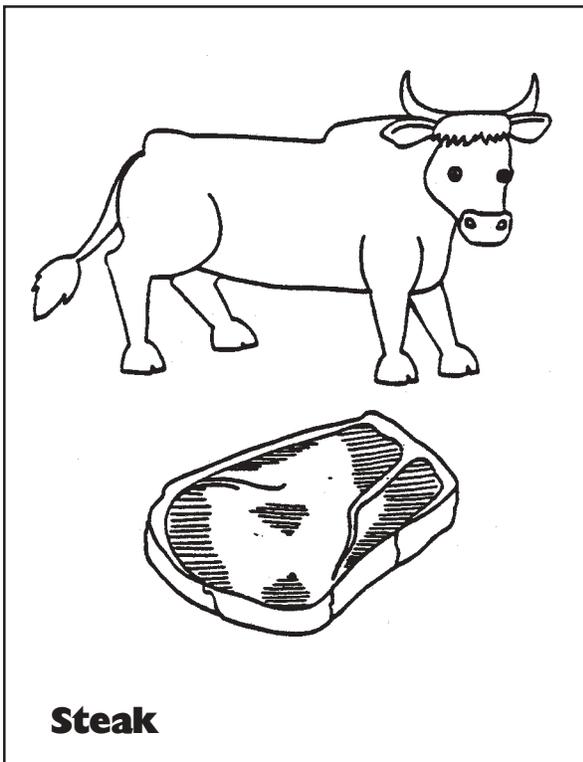
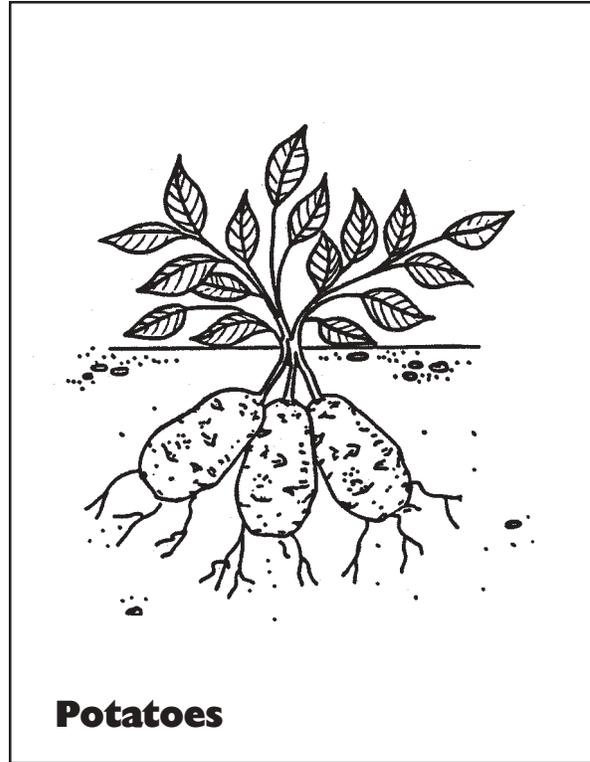
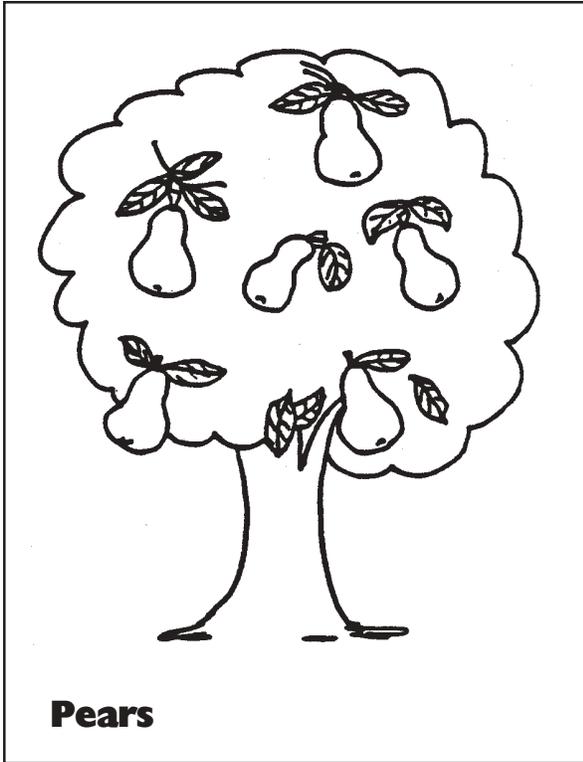
Food Pictures #5



Food Pictures #6



Food Picture #7





Teacher Resources and References

A Sour Subject

Students reinforce their skills of observation, mathematical computation, and written expression by comparing and contrasting grapefruits with lemons. Aligned to the fifth and sixth grade academic Content Standards for California Public Schools.

California Foundation for Agriculture in the Classroom
2300 River Plaza Drive
Sacramento, CA 95833-3293
(800) 700-2482
Fax: (916) 561-5697
Web site: www.cfaitc.org

California Agriculture

Flyer includes California statistics, including information on acreage, ranking of counties by agriculture value, and ranking of commodities. Available as a hard copy brochure and online.

California Department of Food and Agriculture
Communications Office, External Affairs
1220 N Street, Suite 427
Sacramento, CA 95814
(916) 654-0462
Fax: (916) 657-4240
Web site: www.cdffa.ca.gov

California Children's 5 a Day–Power Play Campaign

This program uses a tested, multi-channel, community-based approach to encourage youth ages nine to eleven to eat at least five servings of fruits and vegetables daily. A variety of kits and resources are available free to California teachers in schools with 50% or greater student participation in the free and reduced meal program.

California Department of Health Services
Cancer Prevention and Nutrition Section
601 North 7th Street, MS 662
Post Office Box 942732
Sacramento, CA 94234-7320
(888) EAT-FIVE
Fax: (916) 322-8799
Web site: www.ca5aday.com

California Healthy Kids Resource Center

A comprehensive health and nutrition, food service, and school garden education resource center. Online catalog includes descriptions of all videos, curricula, and professional resources available for loan to K-12 educators throughout California. Online catalog available.

California Healthy Kids Resource Center
313 West Winton Avenue, Room 180
Hayward, CA 94544
(510) 670-4581
Fax: (510) 670-4582
Web site: www.californiahealthykids.org



Teacher Resources and References

Dairy Council of California

This organization has a variety of nutrition education materials, a mobile dairy unit, and an interactive Web site located at www.virtualteacherslounge.org. All resources are free to California educators and are grade level specific.

Dairy Council of California
1101 National Drive, Suite B
Sacramento, CA 95834
(888) 868-3133
Fax: (916) 263-3566
Web site: www.dairycouncilofca.org
www.virtualteacherslounge.org
www.mealsmatter.org

Dole Food Company, Nutrition and Health Program

Provides a variety of 5 A Day nutrition education materials to teachers, including a 5 A Day Adventures CD, 5 A Day songs, and more.

Dole Food Company
Nutrition and Health Program
100 Hegenberger Road, Suite 100
Oakland, CA 94621
(510) 639-5550
Fax: (510) 639-5556
Web site: www.dole5aday.com

Farm Facts

This booklet contains colorful charts, graphs, maps provides easy-to-understand agricultural information and statistics. Available for purchase or online.

American Farm Bureau Federation
Attn: Rita Walaszek
225 Touhy Avenue
Park Ridge, IL 60068
(847) 685- 8858
Fax: (847) 685- 8950
Web site: www.fb.org

Food Pyramid Bingo Game™

This game teaches all aspects of the Food Guide Pyramid while increasing knowledge of 95 foods and portion sizes. Game includes 30 cards.

SmartPicks, Inc.
Post Office Box 771440
Lakewood, OH 44107
(888) 712-3144
Web site: www.smartpicks.com

Fresh Fruit and Vegetable Photo Cards

Cards contain the names of each item in both English and Spanish and provide the nutritional content of the foods.

CDE Press, Sales Unit
California Department of Education
Post Office Box 271
Sacramento, CA 95812-0271
(800) 995-4099
Fax: (916) 323-0823
Web site: www.cde.ca.gov/cdepress

Fruits and Vegetables for Health

This comprehensive unit teaches students about the production, distribution, and nutritional value of California fresh produce. Geography, writing, graphing, and science activities are used to teach the importance of eating a variety of fresh fruits and vegetables. Aligned to the fourth through sixth grade Content Standards for California Public Schools.

California Foundation for Agriculture in the Classroom
2300 River Plaza Drive
Sacramento, CA 95833-3293
(800) 700-2482
Fax: (916) 561-5697
Web site: www.cfaitc.org



Teacher Resources and References

GEMS—Great Explorations in Math and Science

Teacher guides and handbooks encourage activity-based science and mathematics. Titles include *Eggs, Eggs, Everywhere*, *Buzzin' a Hive*, and *Vitamin C Testing*.

University of California, Berkeley
GEMS
Lawrence Hall of Science, #5200
Berkeley, CA 94720-5200
(510) 642-7771
Fax: (510) 643-0309
Web site: www.lhsgems.org

Kids Cook Farm Fresh Food

This activity guide for students in grades two through seven links local agriculture to the pleasures of dining. It introduces students and teachers, through direct experience, to fresh, seasonal, locally grown produce.

CDE Press, Sales Unit
California Department of Education
Post Office Box 271
Sacramento, CA 95812-0271
(800) 995-4099
Fax: (916) 323-0823
Web site: www.cde.ca.gov/cdepress

National Cattlemen's Beef Association

A variety of free nutrition resources are available for grades 2-12.

National Cattlemen's Beef Association
Education Department
Post Office Box 670
Bloomington, IL 60108-0670
Fax: (312) 467-9729
Web site: www.teachfree.com

National Dairy Council

Materials for all grade levels are available on nutrition and the milk industry.

National Dairy Council
c/o Inland Marketing
3030 Airport Road
La Cross, WI 54603
(800) 426- 8271
Fax: (800) 974-6455
Web site: www.nutritionexplorations.org

Nutrition to Grow On

This garden-enhanced nutrition education curriculum for upper elementary school children contains nine hands-on activities, each linking gardening and nutrition.

CDE Press, Sales Office
California Department of Education
Post Office Box 271
Sacramento, CA 95812-0271
(800) 995-4099
Fax: (916) 323-0823
Web site: www.cde.ca.gov/cdepress

PCI Photo Bingo

Fresh produce and prepared food bingo games include 20 full-colored bingo cards, calling cards, bingo chips and more. Created especially for special education programs including second language learning classes.

PCI Educational Publishing
Post Office Box 34270
San Antonio, TX 78265-4270
(800) 594-4263
Fax: (888) 259-8284
Web site: www.specialed.net



Teacher Resources and References

Produce for Better Health Foundation

This organization promotes the “Eat 5 A Day” message and has a variety of materials available to educators and others interested in promoting healthy living.

Produce for Better Health Foundation
5301 Limestone Road, Suite 101
Wilmington, DE 19808-1249
(888) 391-2100
Fax: (302) 235-5555
Web site: www.5aday.com

Science in Your Shopping Cart

An abundance of marketplace miracles are depicted in this free, upper grade, full-color booklet.

Agricultural Research Service
5601 Sunnyside Avenue, Room 1-2232B
Beltsville, MD 20705-5130
(301) 504-1633
Fax: (301) 504-1641
Web site: www.ars.usda.gov/is/kids

That Was Then, This is Now

Students learn about food prices and how they have changed over time as they perform mathematical computations, analyze data charts, and compare and contrast statistical information. Aligned to third through sixth grade academic Content Standards for California Public Schools.

California Foundation for Agriculture in the Classroom
2300 River Plaza Drive
Sacramento, CA 95833-3293
(800) 700-2482
Fax: (916) 561-5697
Web site: www.cfaitc.org

Related Web Sites

AboutProduce.com

aboutproduce.com

Agricultural Research Magazine

www.ars.usda.gov/is/AR

American Egg Board

www.aeb.org

American Sheep Industry Association

www.sheepusa.org

Apricot Producers of California

www.apricotproducers.com

Broccoli Town, USA

www.broccoli.com

California Agricultural Statistics Service

www.nass.usda.gov/ca

California Apple Commission

www.calapple.org

California Artichoke Advisory Board

www.artichokes.org

California Asparagus Commission

www.calasparagus.com

California Avocado Commission

avocado.org

California Beef Council

www.calbeef.org

California Children's 5 A Day Campaign

www.ca5aday.com

California Cling Peach Advisory Board

www.calclingpeach.com

California Department of Food and Agriculture

www.cdfa.ca.gov

Related Web Sites

California Dried Plum Board

www.prunes.org

California Foundation for Agriculture in the Classroom

www.cfaitc.org

California Milk Advisory Board

www.realcaliforniacheese.com

California Olive Industry

www.calolive.org

California Rice Commission

www.calrice.org

California Strawberry Commission

calstrawberry.com

California Table Grape Commission

www.tablegrape.com

California Tomato Commission

www.tomato.org

Corn World

www.ohiocorn.org

Dairy Council of California

www.dairycouncilofca.org

Dole

www.dole5aday.com

Food Museum

www.foodmuseum.org

Grimmway Farms

www.grimmway.com

Hilmar Cheese Company

www.hilmarcheese.com

Moo Milk

www.moomilk.com

Related Web Sites

Mushroom Council

www.mushroomcouncil.com

National Cattlemen's Beef Association

www.teachfree.com

National Dairy Council

www.nutritionexplorations.org

National Pork Producers Council

www.otherwhitemeat.com

National Watermelon Promotion Board

www.watermelon.org

New York Apple Association

nyapplecountry.com

Northern American Blueberry Council

blueberry.org

North Carolina Sweet Potato Commission

www.ncsweetpotatoes.com

Ocean Mist Farms

www.oceanmist.com

Popcorn Board

www.popcorn.org

Produce for Better Health Foundation

www.5aday.com

Sunkist

www.sunkist.com

US Apple Association

www.usapple.org

Student Literature

Charles, N.N. **What Am I?—Looking Through Shapes at Apples and Grapes.** Blue Sky Press, 1994. Illustrations with cutout shapes and rhyming questions introduce fruits, colors, and shapes.

Demi. **One Grain of Rice.** Scholastic Inc., 1997. This mathematical folktale illustrates the concept of doubling using rice as the example.

Hausherr, Rosemarie. **What Food is This?** Scholastic, 1994. Fish, sausage, carrots, and many more foods are detailed in this tale of food origins. Fun trivia for all ages.

Hautzig, David. **At the Supermarket.** Orchard Books, 1994. A photo essay shows 24 hours of activity in a supermarket, including where the food comes from and who helps produce the food.

Hughes, Meredith Sayles. **Buried Treasures: Roots and Tubers.** Lerner Publications Company, 2001. Examines the discovery and migration of potatoes and edible roots, as well as their roles in cooking, technology, and world cultures. The field-to-table process is also examined.

Hughes, Meredith Sayles. **Cool as a Cucumber, Hot as a Pepper: Fruit Vegetables.** Lerner Publications Company, 1999. Information with a bit of history about vegetables which are scientifically fruits, includes colorful photographs and illustrations.

Hughes, Meredith Sayles. **Flavor Foods: Spices and Herbs.** Lerner Publications Company, 2000. This fun-filled book provides information on leaves, fruits, bark, flowers, pods, seeds—the aromatic odds and ends we call seasonings.

Hughes, Meredith Sayles. **Glorious Grasses: The Grains.** Lerner Publications Company, 1999. With colorful pages in a unique format, learn about some of the world's most important cereal grains, including wheat, rice, corn, millet, barley, oats, and rye.

Hughes, Meredith Sayles. **Green Power: Leaf and Flower Vegetables.** Lerner Publications Company, 2001. This book, with colorful photographs and a unique format, provides information, recipes and stories about leaf and flower vegetables such as cabbage, broccoli, artichokes, spinach, lettuce, and Belgian endive.

Hughes, Meredith Sayles. **Hard to Crack: Nut Trees.** Lerner Publications Company, 2001. With colorful pages in a unique format, learn about a variety of nuts, including pecans, walnuts, almonds, pistachios, cashews, and macadamias.

Student Literature

- Hughes, Meredith Sayles. **Spill the Beans and Pass the Peanuts.** Lerner Publications Company, 1999. With colorful pages in a unique format, learn about legumes and the many products made from these peanuts, lentils, peas, and beans.
- Hughes, Meredith Sayles. **Stinky and Stringy: Stem and Bulb Vegetables.** Lerner Publications Company, 1999. Examines the discovery and migration of onions, garlic, leeks, celery, asparagus, and rhubarb, as well as their roles in cooking, technology, and world cultures.
- Hughes, Meredith Sayles. **Yes We Have Bananas: Fruits from Shrubs and Vines.** Lerner Publications Company, 2000. Examines the discovery and migration of bananas, berries, and melons, as well as their roles in cooking, technology, and world cultures.
- Leedy, Loreen. **The Edible Pyramid.** Holiday House, 1994. Colorful and whimsical graphics complement the story of eating at the Edible Pyramid Restaurant where the specialty is a healthy diet.
- McMillan, Bruce. **Eating Fractions.** Scholastic Press, 1991. Food is cut into halves, thirds, and fourths to illustrate how parts make a whole. Enjoy a photographic feast of fractions as two playful youngsters eat their way through.
- Neuschwander, Cindy. **88 Pounds of Tomatoes.** Scholastic Inc., 2001. This whimsical mathematics story about a tomato seed encourages students to add, subtract, and multiply as the tomato plant produces more and more tomatoes.
- Pinczes, Elinor. **One Hundred Hungry Ants.** Houghton Mifflin Company. 1993. One hundred hungry ants in rows of various sizes march to sample the delights of a picnic.
- Rendon, Marcie R. and Cheryl Walsh Bellville. **Farmer's Market.** Carolrhoda Books Inc., 2001. Full of colorful photographs, this book describes the efforts of many families who work hard to produce food that is sold at farmers' markets.
- Schotter, Roni. **A Fruit & Vegetable Man.** Little, Brown and Co., 1993. A multi-cultural story of a small, urban fruit stand and the connections between farmer and consumer.
- Tang, Greg. **The Grapes of Math.** Scholastic Press, 2001. Use a few problem-solving techniques to solve the math puzzles in this book. Many have themes of fruits, vegetables, and insects.

Student Literature

Weaver, William Woys. **100 Vegetables**. Algonquin Books of Chapel Hill, 2000. Enjoy learning about 100 intriguing vegetables from around the world, some of which are regulars on the dinner table.

Weisner, David. **June 29, 1999**. Clarion Books, 1992. While third grade classmates are sprouting seeds in paper cups, Holly has a more innovative science project in mind.

Content Standard Details

Content Standards for California Public Schools Addressed in *Edible Numbers*

Obtained from the California Department of Education*

Grade 3		
Standard	Lesson(s) in which Standard is Taught or Reinforced	Standard Description
Reading-Language Arts		
Reading 1.0	Introductory Lesson: Grades 3-4	Understand the basic features of reading. Select letter patterns and know how to translate them into the spoken language by using phonics, syllabication, and word parts.
Reading 1.7	Introductory Lesson: Grades 3-4	Use a dictionary to learn the meaning and other features of unknown words.
Reading 2.2	Concluding Lesson: Grades 3-4	Ask questions and support answers by connecting prior knowledge with literal information found in, and inferred from, the text.
Reading 2.6	Scavenger Hunt: Grades 3-4 Concluding Lesson: Grades 3-4	Extract appropriate and significant information from the text, including problems and solutions.
Writing 1.0	Concluding Lesson: Grades 3-4	Write clear and coherent sentences and paragraphs that develop a central theme.
Writing 1.1a	Concluding Lesson: Grades 3-4	Develop a topic sentence for a single paragraph.
Writing 1.1b	Concluding Lesson: Grades 3-4	Include simple supporting facts and details in a paragraph.
Writing 1.2	Introductory Lesson: Grades 3-4 Concluding Lesson: Grades 3-4	Write legibly in cursive or joined italic, allowing margins and correct spacing between letters in a word and words in a sentence.
Written and Oral English Language Conventions 1.0	Introductory Lesson: Grades 3-4 Concluding Lesson: Grades 3-4	Write and speak with a command of standard English conventions.
Mathematics		
Number Sense 1.0	Scavenger Hunt: Grades 3-4	Understand the place value of whole numbers.
Number Sense 1.1	Scavenger Hunt: Grades 3-4	Count, read, and write whole numbers to 10,000.

Content Standard Details

Grade 3 <i>(continued)</i>		
Standard	Lesson(s) in which Standard is Taught or Reinforced	Standard Description
Mathematics		
Number Sense 1.3	Scavenger Hunt: Grades 3-4	Identify the place value for each digit in numbers to 10,000.
Number Sense 2.0	Scavenger Hunt: Grades 3-4	Calculate and solve problems involving addition, subtraction, multiplication, and division.
Number Sense 2.4	Scavenger Hunt: Grades 3-4	Solve simple problems involving multiplication of multi-digit numbers by one-digit numbers.
Number Sense 2.8	Scavenger Hunt: Grades 3-4	Solve problems that require two or more of the skills mentioned above.
Number Sense 3.3	Scavenger Hunt: Grades 3-4	Solve problems involving addition, subtraction, multiplication, and division of money amounts in decimal notation and multiply and divide money amounts in decimal notation by using whole-number multipliers and divisors.
Number Sense 3.4	Scavenger Hunt: Grades 3-4	Know and understand that fractions and decimals are two different representations of the same concept.
Algebra and Functions 1.4	Scavenger Hunt: Grades 3-4	Express simple unit conversions in symbolic form.
Algebra and Functions 2.1	Scavenger Hunt: Grades 3-4	Solve simple problems involving a functional relationship between two quantities.
Mathematical Reasoning 2.0	Scavenger Hunt: Grades 3-4 Concluding Lesson: Grades 3-4	Make decisions on how to approach problems.
Mathematical Reasoning 2.3	Scavenger Hunt: Grades 3-4 Concluding Lesson: Grades 3-4	Use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, and models, to explain mathematical reasoning.
Mathematical Reasoning 2.4	Scavenger Hunt: Grades 3-4 Concluding Lesson: Grades 3-4	Express the solution clearly and logically by using the appropriate mathematical notation and terms and clear language; support solutions with evidence in both verbal and symbolic work.

Content Standard Details

Grade 4		
Standard	Lesson(s) in which Standard is Taught or Reinforced	Standard Description
Science		
Life Sciences 2	Introductory Lesson: Grades 3-4	All organisms need energy and matter to live and grow.
Reading Language Arts		
Reading 2.2	Introductory Lesson: Grades 3-4 Scavenger Hunt: Grades 3-4 Concluding Lesson: Grades 3-4	Use appropriate strategies when reading for different purposes.
Writing 1.0	Concluding Lesson: Grades 3-4	Write clear, coherent sentences and paragraphs that develop a central idea. Writing shows consideration of the audience and purpose and writer progresses through the writing process.
Writing 1.2a	Concluding Lesson: Grades 3-4	Provides an introductory paragraph to a composition.
Writing 1.2b	Concluding Lesson: Grades 3-4	Establishes and supports a central idea with a topic sentence at or near the beginning of the first paragraph.
Writing 1.2c	Concluding Lesson: Grades 3-4	Includes supporting paragraphs in a composition containing simple facts, details, and explanations.
Writing 1.2d	Concluding Lesson: Grades 3-4	Concludes compositions with a paragraph that summarizes the points.
Writing 1.2e	Concluding Lesson: Grades 3-4	Uses correct indentation in a composition.
Writing 1.4	Concluding Lesson: Grades 3-4	Writes fluidly and legibly in cursive or joined italic.
Written and Oral English Language Conventions 1.0	Introductory Lesson: Grades 3-4 Concluding Lesson: Grades 3-4	Write and speak with a command of standard English conventions.
Mathematics		
Number Sense 1.0	Scavenger Hunt: Grades 3-4	Understand the place value of whole numbers and decimals to two decimal places and how whole numbers and decimals relate to simple fractions.
Number Sense 1.1	Scavenger Hunt: Grades 3-4	Read and write whole numbers to the millions.

Content Standard Details

Grade 4 <i>(continued)</i>		
Standard	Lesson(s) in which Standard is Taught or Reinforced	Standard Description
Mathematics		
Number Sense 1.2	Scavenger Hunt: Grades 3-4	Order and compare whole numbers and decimals to two decimal places and how whole numbers and decimals relate to fractions.
Number Sense 2.0	Scavenger Hunt: Grades 3-4	Extend use and understanding of whole numbers to the addition and subtraction of simple decimals.
Number Sense 2.1	Scavenger Hunt: Grades 3-4	Estimate and compute the sum or difference of whole numbers and positive decimals to two places.
Number Sense 3.0	Scavenger Hunt: Grades 3-4	Solve problems involving addition, subtraction, multiplication, and division of whole numbers and understand the relationships among the operations.
Number Sense 3.1	Scavenger Hunt: Grades 3-4	Demonstrate an understanding of, and the ability to use, standard algorithms for the addition and subtraction of multidigit numbers.
Number Sense 3.2	Scavenger Hunt: Grades 3-4	Demonstrate an understanding of, and the ability to use, standard algorithms for multiplying a multidigit number by a two-digit number and for dividing a multidigit number by a one-digit number; use relationships between them to simplify computations and to check results.
Number Sense 3.3	Scavenger Hunt: Grades 3-4	Solve problems involving multiplication of multidigit numbers by two-digit numbers.
Mathematical Reasoning 1.0	Scavenger Hunt: Grades 3-4	Make decisions about how to approach problems.
Mathematical Reasoning 1.1	Scavenger Hunt: Grades 3-4	Analyze problems by identifying relationships, distinguishing relevant from irrelevant information, sequencing and prioritizing information, and observing patterns.
Mathematical Reasoning 1.2	Scavenger Hunt: Grades 3-4	Determine when and how to break a problem into simpler parts.
Mathematical Reasoning 2.0	Scavenger Hunt: Grades 3-4	Use strategies, skills, and concepts in finding solutions.

Content Standard Details

Grade 4 <i>(continued)</i>		
Standard	Lesson(s) in which Standard is Taught or Reinforced	Standard Description
Mathematics		
Mathematical Reasoning 2.3	Scavenger Hunt: Grades 3-4	Use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, and models, to explain mathematical reasoning.
Mathematical Reasoning 2.4	Scavenger Hunt: Grades 3-4	Express the solution clearly and logically by using the appropriate mathematical notation and terms and clear language; support solutions with evidence in both verbal and symbolic work.

Content Standard Details

Grade 5		
Standard	Lesson(s) in which Standard is Taught or Reinforced	Standard Description
Science		
Investigation and Experimentation 6	Concluding Lesson: Grades 5-6	Scientific progress is made by asking meaningful questions and conducting careful investigations.
Investigation and Experimentation 6a	Concluding Lesson: Grades 5-6	Classify objects in accordance with appropriate criteria.
Investigation and Experimentation 6g	Concluding Lesson: Grades 5-6	Record data by using graphic representations and make inferences based on those data.
Investigation and Experimentation 6h	Concluding Lesson: Grades 5-6	Draw conclusions from scientific evidence and indicate whether further information is needed to support a specific conclusion.
Investigation and Experimentation 6i	Concluding Lesson: Grades 5-6	Write a report of an investigation that includes conducting tests, collecting data or examining evidence, and drawing conclusions.
Reading/Language Arts		
Reading 1.0	Introductory Lesson: Grades 5-6 Scavenger Hunt: Grades 5-6	Use knowledge of word origins as well as historical and literary context clues, to determine the meaning of specialized vocabulary and to understand the precise meaning of words.
Reading 2.1	Concluding Lesson: Grades 5-6	Understand how text features make information accessible and usable.
Writing 1.0	Introductory Lesson: Grades 5-6	Write clear, coherent, and focused essays that exhibit awareness of audience and purpose. Essays include formal introductions, supporting evidence, and conclusion. Writing progresses through the writing process.
Writing 1.6	Concluding Lesson: Grades 5-6	Edit and revise manuscripts to improve the meaning and focus of writing by adding, deleting, consolidating, clarifying, and rearranging words and sentences.

Content Standard Details

Grade 5 <i>(continued)</i>		
Standard	Lesson(s) in which Standard is Taught or Reinforced	Standard Description
Reading/Language Arts		
Written and Oral English Language Conventions 1.0	Introductory Lesson: Grades 5-6 Concluding Lesson: Grades 5-6	Write and speak with a command of standard English conventions.
Written and Oral English Language Conventions 1.1	Introductory Lesson: Grades 5-6	Identify and correctly use prepositional phrases, appositives, and independent and dependent clauses.
Written and Oral English Language Conventions 1.4	Introductory Lesson: Grades 5-6 Concluding Lesson: Grades 5-6	Use correct capitalization.
Mathematics		
Number Sense 1.0	Scavenger Hunt: Grades 5-6	Compute with very large and very small numbers, positive integers, decimals, and fractions and understand the relationship between decimals, fractions, and percents. Understand the relative magnitudes of numbers.
Number Sense 1.1	Scavenger Hunt: Grades 5-6	Estimate, round, and manipulate very large and very small numbers.
Number Sense 1.4	Scavenger Hunt: Grades 5-6	Determine the prime factors of all numbers to 50 and write the numbers as the product of their prime factors by using exponents to show multiples of a factor.
Number Sense 2.0	Scavenger Hunt: Grades 5-6 Concluding Lesson: Grades 5-6	Perform calculations and solve problems involving addition, subtraction, and simple multiplication and division of fractions and decimals.
Number Sense 2.1	Scavenger Hunt: Grades 5-6	Add, subtract, multiply, and divide with decimals; add with negative integers; subtract positive integers with negative integers; and verify the reasonableness of the results.
Number Sense 2.2	Scavenger Hunt: Grades 5-6	Demonstration proficiency with division, including division with positive decimals and long division with multidigit divisors.

Content Standard Details

Grade 5 <i>(continued)</i>		
Standard	Lesson(s) in which Standard is Taught or Reinforced	Standard Description
Mathematics		
Number Sense 2.3	Concluding Lesson: Grades 5-6	Solve simple problems, including ones arising in concrete situations, involving the addition and subtraction of fractions and mixed numbers, and express answers in the simplest form.
Statistics, Data Analysis and Probability 1.0	Scavenger Hunt: Grades 5-6 Concluding Lesson: Grades 5-6	Display, analyze, compare, and interpret different data sets, including data sets of different sizes.
Statistics, Data Analysis and Probability 1.1	Scavenger Hunt: Grades 5-6 Concluding Lesson: Grades 5-6	Know the concepts of mean, median, and mode; compute and compare simple examples to show that they may differ.
Statistics, Data Analysis and Probability 1.2	Concluding Lesson: Grades 5-6	Organize and display single-variable data in appropriate graphs and representations and explain which types of graphs are appropriate for various data sets.
Mathematical Reasoning 1.0	Scavenger Hunt: Grades 5-6 Concluding Lesson: Grades 5-6	Make decisions on how to approach problems.
Mathematical Reasoning 1.1	Scavenger Hunt: Grades 5-6 Concluding Lesson: Grades 5-6	Analyze problems by identifying relationships, distinguishing relevant from irrelevant information, sequencing and prioritizing information, and observing patterns.
Mathematical Reasoning 1.2	Scavenger Hunt: Grades 5-6 Concluding Lesson: Grades 5-6	Determine when and how to break a problem into simpler parts.
Mathematical Reasoning 2.0	Scavenger Hunt: Grades 5-6 Concluding Lesson: Grades 5-6	Use strategies, skills, and concepts in finding solutions.
Mathematical Reasoning 2.3	Scavenger Hunt: Grades 5-6 Concluding Lesson: Grades 5-6	Use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, and models, to explain mathematical reasoning.
Mathematical Reasoning 2.4	Scavenger Hunt: Grades 5-6 Concluding Lesson: Grades 5-6	Express the solution clearly and logically by using the appropriate mathematical notation and terms and clear language; support solutions with evidence in both verbal and symbolic work.

Content Standard Details

Grade 5 <i>(continued)</i>		
Standard	Lesson(s) in which Standard is Taught or Reinforced	Standard Description
Mathematics		
Mathematical Reasoning 3.0	Concluding Lesson: Grades 5-6	Move beyond a particular problem by generalizing to other situations.
Mathematical Reasoning 3.3	Concluding Lesson: Grades 5-6	Develop generalizations of results obtained and apply them in other circumstances.

Content Standard Details

Grade 6		
Standard	Lesson(s) in which Standard is Taught or Reinforced	Standard Description
Science		
Investigation and Experimentation 7	Concluding Lesson: Grades 5-6	Scientific progress is made by asking meaningful questions and conducting careful investigations.
Investigation and Experimentation 7a	Concluding Lesson: Grades 5-6	Select and use appropriate tools and technology to perform tests, collect data, and display data.
Investigation and Experimentation 7c	Concluding Lesson: Grades 5-6	Communicate the logical connection among hypotheses, science concepts, tests conducted, data collected, and conclusions drawn from the scientific evidence.
Investigation and Experimentation 7d	Concluding Lesson: Grades 5-6	Construct scale models, maps, and appropriately labeled diagrams to communicate scientific knowledge.
Reading/Language Arts		
Reading 1.0	Introductory Lesson: Grades 5-6 Scavenger Hunt: Grades 5-6	Students use their knowledge of word origins and word relationships, as well as historical and literary context clues, to determine the meaning of specialized vocabulary and to understand the precise meaning of words.
Written and Oral English Language Conventions 1.0	Introductory Lesson: Grades 5-6 Concluding Lesson: Grades 5-6	Students write and speak with a command of standard English conventions.
Written and Oral English Language Conventions 1.4	Introductory Lesson: Grades 5-6 Concluding Lesson: Grades 5-6	Use correct capitalization.
Mathematics		
Number Sense 1.0	Scavenger Hunt: Grades 5-6	Compare and order positive and negative fractions, decimals, and mixed numbers.
Number Sense 1.2	Scavenger Hunt: Grades 5-6	Interpret and use ratios in different contexts to show the relative sizes of two quantities, using appropriate notations.

Content Standard Details

Grade 6 <i>(continued)</i>		
Standard	Lesson(s) in which Standard is Taught or Reinforced	Standard Description
Mathematics		
Number Sense 2.0	Scavenger Hunt: Grades 5-6 Concluding Lesson: Grades 5-6	Calculate and solve problems involving addition, subtraction, multiplication and division.
Number Sense 2.3	Scavenger Hunt: Grades 5-6	Solve addition, subtraction, multiplication, and division problems, including those arising in concrete situations, that use positive and negative integers and combinations of these operations.
Statistics, Data Analysis and Probability 1.0	Scavenger Hunt: Grades 5-6	Compute and analyze statistical measurements for data sets.
Statistics, Data Analysis and Probability 1.1	Scavenger Hunt: Grades 5-6	Compute the range, mean, median, and mode of data sets.
Mathematical Reasoning 1.0	Scavenger Hunt: Grades 5-6	Make decisions on how to approach problems.
Mathematical Reasoning 1.1	Scavenger Hunt: Grades 5-6	Analyze problems by identifying relationships, distinguishing relevant from irrelevant information, identifying missing information, sequencing and prioritizing information, and observing patterns.
Mathematical Reasoning 1.3	Scavenger Hunt: Grades 5-6	Determine when and how to break a problem into simpler parts.
Mathematical Reasoning 2.0	Scavenger Hunt: Grades 5-6 Concluding Lesson: Grades 5-6	Use strategies, skills, and concepts in finding solutions.
Mathematical Reasoning 2.4	Scavenger Hunt: Grades 5-6 Concluding Lesson: Grades 5-6	Use a variety of methods, such as words, numbers, symbols, charts, graphs, tables, diagrams, and models, to explain mathematical reasoning.
Mathematical Reasoning 2.5	Scavenger Hunt: Grades 5-6	Express the solution clearly and logically by using the appropriate mathematical notation and terms and clear language; support solutions with evidence in both verbal and symbolic work.
Mathematical Reasoning 3.0	Concluding Lesson: Grades 5-6	Move beyond a particular problem to generalize to other solutions.

Content Standard Details

Grade 6 <i>(continued)</i>		
Standard	Lesson(s) in which Standard is Taught or Reinforced	Standard Description
Mathematics		
Mathematical Reasoning 3.1	Concluding Lesson: Grades 5-6	Evaluate the reasonableness of the solution in the context of the original situation.
Mathematical Reasoning 3.2	Concluding Lesson: Grades 5-6	Note the method of deriving the solution and demonstrate a conceptual understanding of the derivation by solving similar problems.
Mathematical Reasoning 3.3	Concluding Lesson: Grades 5-6	Develop generalizations of the results obtained and the strategies used and apply them in new situations.

* For a complete listing of the Content Standards for California Public Schools, contact CDE Press, Sales Office, California Department of Education, Post Office Box 271, Sacramento, CA 95812-0271; (916) 445-1260; www.cde.ca.gov.

Glossary

Abundant: plentiful

Annual: every year.

Average: another term for mean; determined by adding up all of the numbers in the set and dividing it by the number of entries.

Bull: mature male cattle.

Cattle: farm animals such as cows, bulls, steer raised for beef, dairy, and other products.

Cereal: a product produced from grains of a cereal plant.

Citrus: a fruit high in vitamin C which grows on a tree and has fruit that forms in segments. Examples include lemons, grapefruits, oranges, limes, and tangerines.

Classification: systematic division into classes or groups.

Cow: mature female cattle.

Cylinder: a container made of two circles and perpendicular sides.

Dairy: milk and milk products such as cheese, yogurt, and ice cream.

Difference: the amount by which one quantity is greater or less than another; remainder left after subtraction.

Factor: any of two or more quantities that form a product when multiplied together.

Fat: any solid or semisolid oily or greasy material found in animal tissue or in plants.

Flower: the reproductive portion of a plant.

Food Guide Pyramid: a pyramid that illustrates the research-based guidance system developed by the USDA and supported by the Department of Health and Human Services. It is a general guide of what to eat each day.

Fruit: a swollen ovary of a plant that contains seeds.

Grain: a small hard seed, especially that of any cereal plant, such as wheat, rice, corn, or rye.

Glossary

Leaf: any of the flat, thin, expanded organs growing laterally from the stem or twig of a plant.

Least Common Multiple (LCM): the smallest positive whole number that is exactly divisible by two or more given whole numbers.

Mean: another term for average; determined by adding up all of the numbers in the set and dividing it by the number of entries.

Meat: the flesh of animals used for food, such as mammals and fowl.

Multiple: a number that is a product of some specified number and another number.

Nut: the edible kernal of a dried fruit or seed. Examples include almonds, pistachios, walnuts, and pecans.

Palindrome: a number or word that reads the same forwards and backwards; for example, 1991, 101, 99.

Pie Graph: a graph divided into sectors in which relative quantities are indicated by the proportionally different sizes of the sectors.

Place Value: the position of a number.

Prime: a number whose only factors are one and itself.

Product: the number obtained by multiplying two or more numbers together.

Quotient: the number obtained by dividing two numbers.

Rectangular Prism: a three-dimensional object shaped like a rectangle on all six sides.

Root: the part of the plant that grows underground, absorbs nutrients and water, and anchors the plant.

Row Crop: crops planted in a series of horizontal rows.

Seed: the part of a flowering plant that typically contains the embryo with its protective coat and stored food.

Steer: a male beef animal with reproductive organs removed; raised mainly for meat.

Glossary

Stem: any stalk or part supporting leaves, flowers, and fruit.

Sum: the result obtained by adding numbers together.

Tenth: one out of ten pieces; the first place to the right of the decimal.

Tree: a woody perennial plant with one main stem or trunk that develops branches, usually at some height above the ground.

Tuber: a short, thickened, fleshy part of an underground stem with buds.

United States Recommended Daily Allowance (USRDA): forms the basis for the daily number of servings that your body needs from the five major food groups in the Food Guide Pyramid. Breads/Cereals–6-11 servings, Fruit–2-4 servings, Vegetables–3-5 servings, Meat/Poultry–2-3 servings, Dairy–2-3 servings, Fats–use sparingly.

Vegetable: a plant that is eaten whole or in part, raw, or cooked, generally with an entrée or in a salad, but not as a dessert; vegetation put on the table.

Vine: any part of a plant with a long, thin stem that grows along the ground or climbs a wall or other support by means of tendrils.