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CHOW

A Simulation of Nutrition and Food Budgeting

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About the authors

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Welcome to CHOW!

During this comprehensive unit, students learn everything they need to know about the new USDA's 2011 MyPlate guidelines. As an "Appetizer," they complete whole-class or team activities to learn about major nutrients, food labels, and specifics of MyPlate. In the main "CHOW" simulation, student teams plan meals within a limited budget, shop at a classroom store, react to fate cards (allergies, food shortages, etc.) and keep daily records. Throughout, your students maintain exercise logs, an essential part of the new MyPlate guidelines. An extensive third, "A La Carte" section offers optional activities in art, ELA, science, health, social studies, and home economics for enrichment or differentiated instruction.

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Author's Note

CHOW has undergone numerous revisions since it was first published in 1981, when the United States Department of Agriculture (USDA) based its food recommendations on the four food groups. This newest version is based on the *MyPlate* program that was introduced by Michelle Obama in the spring of 2011. Improving the diet of fellow citizens is not just a First Lady's project. Studies are showing conclusively that obesity (with all its attending diseases) is a real threat to all Americans. The fact that the obesity rate in children increased from 6.5% in 1980 to 19.6% in 2008 makes this an even more urgent problem.

Another problem is the fact *that many other Americans consume less than optimal intake of certain nutrients even though they have adequate resources for a healthy diet.* The USDA hopes that *MyPlate* can help them to *choose a healthy, nutritionally adequate diet.*

To overcome these serious problems, the *MyPlate* program has two overarching goals for all Americans:

- *To maintain calorie balance over time to achieve and sustain a healthy weight.*
- *To focus on consuming nutrient-dense foods and beverages.*

This newest *CHOW* provides the tools for students to meet the USDA's 2011 goals. It helps them to create menus that will maintain calorie balance and provides them with the information to recognize nutrient dense foods and beverages. It teaches basic nutrition, introduces the *MyPlate* program, and helps students understand what constitutes a healthy diet.

MyPlate has a key recommendation *to increase physical activity and reduce time spent in sedentary behaviors.* With the widespread use of recreational electronics, students are spending far too much time sitting rather than playing sports or running around outside. In the new *CHOW*, students make a commitment to exercise daily. They must maintain a personal log or participate in a short exercise activity with their classmates every day.

As a part of the plan to maintain a balance of calories, MyPlate recommends that Americans try to *control total calorie intake to manage body weight*. To control calorie intake, a person first needs to be aware of all they eat. *CHOW* raises student awareness of what they eat and helps them to develop the skills needed to evaluate the nutritional value of their diets. Furthermore, *CHOW* helps students to avoid "portion distortion." That phrase describes when what we consider to be one serving is actually two or more servings. For example, many people settle down to a full plate of pasta and think that they are eating one serving. In fact, they are eating probably four

servings or more. The new *CHOW*, therefore, stresses serving sizes. It also has activities that help students be aware of the low fat and whole grain, healthy alternatives for nutrient poor foods.

In the new *CHOW*, students will continue to work with the Nutrition Facts labels that are found on most food packaging. The label information is based on a 2000 calorie diet—an amount that is close to the needs of most 8–13 year-olds who are moderately active. By planning for a 2000-calorie diet, your students will learn the skills to write their own meal plans.

Finally, the new MyPlate guidelines require that people keep track of discretionary calories—sometimes called empty calories because they come from foods having solid fats and added sugars with no nutritional benefit. The system for tracking these as outlined in the guidelines is too complicated and time consuming for the classroom. However, *CHOW* now includes a simplified system to track discretionary calories that encourages students to choose lean and low-fat foods over high-fat and high-sugar foods.

To enhance their students' experience, teachers should introduce them to: **www.ChooseMyPlate.gov**, the USDA's excellent website. This website will provide each of your students a personalized MyPlate plan after they type in basic information about their age, height, weight, and activity level. This plan tells them their total calorie need and specifically how many servings of each food they should eat every day.

* All *italics* are quotes from the *Executive Summary of the Dietary Guidelines for Americans, 2010*

Purpose

CHOW teaches nutrition in a unique way. The first part, called **Appetizer**, provides whole class and team activities to learn about basic nutrition and the new USDA program MyPlate. Throughout, students have the opportunity to reinforce what they are learning by choosing from **A La Carte** activities in science, math, social studies, English/language arts, home economics, and health. In the second part of *CHOW*, students use all they have learned in a true-to-life simulation. In teams of three, they will play three roles: Planner, Shopper, and Diner. They will develop menu plans reflecting the MyPlate guidelines, purchase the food at a classroom grocery, react to **Fate Cards** (allergies, financial hardships, food shortages, etc.), make group decisions, and keep daily records. From what they learn in *CHOW*, they will be prepared to make better nutritional choices for the rest of their lives.

Educational Standards

National Health Education Standards

- The student will comprehend concepts related to health promotion and disease prevention.
- The student will demonstrate the ability to access valid health information and health-promoting products and services.
- The student will demonstrate the ability to practice health-enhancing behaviors and reduce health risks.

National Science Education Standards

Life Science

- The structure and function of living systems: Cells carry on the many functions needed to sustain life. They grow and divide, thereby producing more cells. This requires that they take in nutrients, which they use to provide energy for the work that cells do and to make the materials that a cell or an organism needs.

Science in Personal and Social Perspectives

- Personal health: Food provides energy and nutrients for growth and development. Nutrition requirements vary with body weight, age, sex, activity, and body functioning.
- Risks and benefits: Students should understand the risks associated with personal hazards (dieting).

National Standards for School Mathematics (National Council of Teachers of Mathematics)

Number and Operations Standard

- Compute fluently and make reasonable estimates.

Measurement Standard

- Understand measurable attributes of objects and the units, systems, and processes of measurement.

Problem Solving Standard

- Solve problems that arise in mathematics and in other contexts
- Apply and adapt a variety of appropriate strategies to solve problems

Representation Standard

- Create and use representations to organize, record, and communicate mathematical ideas.
- Select, apply, and translate among mathematical representations to solve problems

California Applied Learning Standards

- Students will understand how to apply communication skills and techniques. Students will demonstrate ability to communicate orally and in writing.
- Students will understand the importance of teamwork. Students will work in teams to achieve project objectives.

Knowledge, Skills, and Attitudes

Knowledge—*Your students will understand that:*

- Our bodies need proteins, fats, carbohydrates, vitamins, minerals and water to survive.
- Some nutrients are called essential because our body cannot make them and we must eat them in our foods.
- Proteins are our building blocks used to build and repair our bodies.
- Carbohydrates provide our bodies with energy to live.
- Fats provide stored energy when food supplies are low.
- There are essential vitamins and minerals that we must eat to remain healthy.
- Water is essential to all bodily functions and, without water, a person would die.
- MyPlate was created by the U.S. Department of Agriculture to provide guidelines for all Americans above the age of two.
- Essential nutrients come in a variety of foods.
- Daily exercise can offset only some of the calories a person eats.
- Foods having solid fats, added sugars, and salt should be restricted in an American diet.
- Whole grains, fruits, vegetables, low-fat meats, and low-fat dairy should be increased in an American diet.
- Portion size is important to maintaining a proper calorie balance.
- Eating too many calories may cause weight gain and eventually health problems.
- Some foods are nutrient rich, while others are just filled with empty calories.
- No food is banned from an American diet, but high-fat, high-sugar, or salty foods should be eaten as a "treat" and not a daily staple.

Skills—*Your students will learn how to:*

- Read and understand Nutrition Facts labels by using them to decide the healthiest purchases.
- Plan menus that meet the MyPlate guidelines for a healthy diet.
- Use the Nutrition Fact Labels to determine calorie intake, fat intake, and percent of Daily Value.

Purpose

- Interpret a percentage value.
- Maintain a daily record of menus and purchases.
- Maintain an exercise log.
- Evaluate diets according to the MyPlate guidelines
- Manage a grocery budget for three days.
- Use the USDA ChooseMyPlate.gov webpage.

Attitudes—*Your students will appreciate that:*

- To live a healthy lifestyle, they need both good nutrition and moderate exercise
- Good health usually depends on good choices.
- Their knowledge of nutrition and their skills managing a food budget empower them to make good choices for a healthy life.
- It is healthier to enjoy their food, but generally avoid oversized proportions and eat less.
- It is healthier to fill half their plates with fruits and vegetables.
- It is healthier to eat at least half their grains as whole grains.
- It is healthier to switch to fat-free or low-fat (1%) milk.
- It is healthier to choose foods with lower sodium content
- It is healthier to drink water instead of sugary drinks.
- It is healthier to cut back on "junk" food that is high in solid fats and added sugars.

Overview

CHOW is presented in three parts—Part 1: Appetizer; Part 2: Main Course—The Simulation; and Part 3: A La Carte.

Part 1: Appetizer—Learning about Nutrition

Use the **Pretest** to determine what your students will need to learn before the simulation and whether you will need all or only part of the Appetizer part of *CHOW*. Like the appetizer of any meal, these activities are a starting point. They present a variety of activities where students work either individually or in teams of three to become experts on nutrition and to become competent consumers.

The timeline offered is only a suggestion because some of your students will bring no previous knowledge to this unit, while others may have learned nutrition at other grade levels. Also, some of your students will need little instruction to understand what 30% of the daily nutritional value means, and others will need a full lesson. Read through the daily lesson plans and decide where your students will need more time or instruction. Consider using math time and *CHOW* materials to reinforce percent and graphing.

If your class moves quickly through the material, you may add **A La Carte Activities** to a day's lesson for some or all of your students.

In **Appetizer**, your students will also be introduced to Exercise Stations and the Personal Exercise Log. This component is essential to the overall goal of *CHOW*—to improve student health. The new MyPlate not only encourages good eating habits, but also promotes exercise as a daily activity. Use the exercise stations during *CHOW* and continue throughout the year. You may reward teams that keep good records and cooperate in the Exercise Stations by giving them extra points or "exercise coupons" to boost their budgets for the simulation. You may choose one or a combination of the following exercise options:

1. Use the **Exercise Stations** outline on page 114 .
2. Use out-of-class exercise records whereby students report on an honor system or with the signature of a parent that they have completed a certain amount of exercise on a given day.
3. Work with the PE teacher or coach to create written records of student exercise activity.

Part 2: Main Course—The Simulation

The simulation allows students to use what they have learned during Part 1. Students continue to work in their teams of three. Within these teams they rotate new roles—Planner, Shopper, and Diner. Students keep daily records of meals planned, food purchased, and calories consumed. **Food Fate** and **Cash Consequences Cards** and rolling the Exercise Die affect the simulation daily. The simulation runs for three days, but you may extend it to six days. In three days, each student plays the three roles once; in six days, twice. Students earn and record points each day trying to reach a four-star rating goal. If you believe that competition will help motivate your students, announce the points earned each day to show students how close they are to achieving their goal.

An important debriefing activity ends the simulation and the **Posttest** ends the unit.

Part 3: A La Carte—Extension Activities

Take time to study the **A La Carte** activities and plan how to incorporate them into your curriculum. These extension activities are in language arts, social studies, science, math, art, and home economics. They may extend over several weeks either before, during, or after the simulation. Choose to do as many or as few of these extension activities as you like.

ChooseMyPlate.gov—This new version of *CHOW* offers a new subpart to **A La Carte**. The choosemyplate.gov website has interactive tools that students can use to make a personal plan to follow the MyPlate guidelines.

Use the **A La Carte Rubric** to assess student work. This rubric also uses a four-level rating. If a student completes an extra activity as you expected, award them a 3-rating. However, if someone goes well beyond what you asked, award a 3-rating.

Two major extension activities—a Food Fair and a Food Drive—result in a school-wide "happening." The Food Fair or Food Drive may be used as a culminating activity to *CHOW*, or as follow-up activities throughout the year.

Unit Time Chart

Week 1

Day 1:
- Pretest
- Introduction
- Set Up Teams
- Questionnaire
- Cooperative Group Rubric
- Exercise is Not Optional
- Exercise Stations

Day 2:
- Exercise Logs
- Building Blocks: Proteins
- Graphic Organizer: Proteins
- A La Carte Activities (optional)
- A La Carte Rubric

Day 3:
- Exercise Logs
- Quiz: Proteins
- Quick Energy: Carbohydrates
- Graphic Organizer: Carbohydrates
- A La Carte Activities (optional)

Day 4:
- Exercise Logs
- Quiz: Carbohydrates
- Stored Energy: Fats
- Graphic Organizer: Fats
- Fat Detective (optional)
- A La Carte Activities (optional)

Day 5:
- Exercise Logs
- Quiz: Fats
- Vitamins, Minerals, & Water
- Graphic Organizer: Vitamins, Minerals, & Water
- Comic Hero (optional)
- Wanted Poster (optional)
- A La Carte Activities (optional)

Week 2

Day 6:
- Exercise Logs
- Quiz: Vitamins & Minerals
- Appetizer Test 1
- A La Carte Activities (optional)

Day 7:
- Exercise Logs
- Percent Perceiver
- A La Carte Activities (optional)

Day 8:
- Exercise Logs
- Quiz: Perceiving Percent
- Nutrition Facts Labels
- A La Carte Activities (optional)

Day 9:
- Exercise Logs
- Quiz: Nutrition Facts Label
- MyPlate
- Translating Servings into Measurements
- A La Carte Activities (optional)

Day 10:
- Exercise Logs
- Appetizer Test 2
- Intro to Simulation
- Food Preference
- Practice *CHOW* Procedure
- A La Carte Activities (optional)

Week 3

Day 11:
- Exercise Logs
- Team Scoring
- Start First Day *CHOW*
- A La Carte Activities (optional)

Day 12:
- Exercise Logs
- Finish First Day *CHOW*
- A La Carte Activities (optional)

Day 13:
- Exercise Logs
- Second Day *CHOW*
- A La Carte Activities (optional)

Day 14:
- Exercise Logs
- Third Day *CHOW*
- A La Carte Activities (optional)

Day 15:
- Exercise Logs
- Debriefing
- Questionnaire
- Posttest
- Awards (optional)

After CHOW
- A La Carte Activities (optional)—Food Fair or Food Drive

General Directions

1. **Look Before You Leap.** Thoroughly study this Teacher's Guide before beginning *CHOW*. Be certain to follow directions and prepare the classroom and materials. See **Before Starting This Unit** on page 15.

2. **Time Commitment.** Running the simulation alone will take four to seven days depending on whether you run a three-day or six-day simulation. If you need to complete the whole Appetizer portion and teach basic nutrition, add five to six days. Include one to two more days for **Pretest**, **Posttest**, and **Debriefing**. The Food Fair and/or Food Drive will require additional time to organize and complete. See **Unit Time Chart** on Page 9.

3. **A La Carte Activities.** Before beginning *CHOW* instruction, read through all the extension activities and decide which your class will do. Many of these activities may be set up at centers where students or teams work independently. Others, like the Food Drive or Food Fair, require much more pre-planning and coordination. Allow your students time to explore the ChooseMyPlate.com webpage.

4. **Teams.** Determine how you will group your students into teams. The three methods—choice, chance, and dictation—all have advantages. Realize that the students are going to be working together within these groups for an hour a day for several days. If your number of students does not divide evenly by three, set up one or two teams with only two players. These teams should combine the shopper and meal planner into one role.

5. **Classroom Setup.** Plan where and how you will set up the classroom grocery. Other teachers have made "store shelves" by making shallow pockets on large sheets of oak tag pinned securely to a bulletin board. Slip the **Food Choice Cards** into the pockets. See page 18.

6. **Star Ratings.** The scoring in *CHOW* uses the same numbering as the Restaurant Food Guides. Four-star is the highest rating a restaurant can achieve in the AAA or Zagat Guides. Before beginning the unit, create point criteria for four-star, three-star, two-star and one-star ratings for your class. This way, teams compete to reach a standard rather than compete against each other.

7. **Duplication—Part 1 Appetizer.** Duplicate the following in the quantity indicated:

   - Food Choice/Nutrition Facts Cards—*duplicate the number indicated on each page for one class set. See #9 on page 18 for more information*

Teaching tip

*Compute a four-star level for Appetizer and a second four-star level for the CHOW simulation. In that way, students who did not quite earn four-stars in the first part can work to achieve a higher level in the Main Course simulation. You might even include a star rating for the **Posttest** to recognize student achievement.*

- Cooperative Group Work Rubric—*Choose which type you will use. Make at least five class sets*
- A La Carte Activities Rubric—*class set, more as needed*
- Pretest/Posttest—*two class sets*
- CHOW Vocabulary—*as needed*
- Food, Food, Food—*class set*
- Questionnaire—*two class sets*
- Exercise Is Not Optional—*class set plus one per team*
- Exercise Stations—*class set*
- Exercise Stations Log—*class set, more as needed*.
- Personal Exercise Log—*two class sets*
- Building Blocks: Proteins Essay—*class set plus one per team*
- Graphic Organizers For Proteins—*class set or one per team*
- Quick Quiz: Proteins—*class set*
- Quick Energy: Carbohydrates Essay—*class set plus one per team*
- Graphic Organizers for Carbohydrates—*class set or one per team*
- Quick Quiz Carbohydrates—*class set*
- Stored Energy: Fats Essay—*class set plus one per team*
- Graphic Organizers for Fats—*class set or one per team*
- Fat Detective—*class set* (optional)
- Quick Quiz: Fats—*class set*
- Vitamins, Minerals, and Water Essay—*class set plus one per team*
- Graphic Organizers For Vitamins, Minerals, and Water—*class set or one per team*
- Wanted Poster—*class set* (optional)
- Comic Hero—*class set* (optional)
- Major Nutrients of Your Body—*class set*
- Quick Quiz: Vitamins And Minerals—*class set*
- Appetizer: Test 1—*class set*

- Percent Perceiver Pattern—*class set*
- Quick Quiz: Perceiving Percent—*class set*
- Nutrition Facts Labels Essay—*class set plus one per team*
- Nutrition Facts Labels Homework—*class set*
- Quick Quiz: Nutrition Facts Labels—*class set*
- MyPlate and Servings Essay—*class set plus one per team*
- Translating Servings Into Measurements—*class set*
- Appetizer Test Two—*class set*

Teaching tip
The copy numbers suggested are those necessary for three days of the simulation. If you want to practice more or run more days of the simulation, duplicate more copies.

8. **Duplication—Part 2 Simulation.** Duplicate the following in the quantity indicated in *Italics*:
   - Food Fate and Cash Consequences Cards—*one set (Cut apart and glue each type onto a different color of construction paper. Laminate, if possible for durability. Place each set of cards in separate envelopes.)*
   - Price List and Food Preference—*class set*
   - CHOW: A Simulation Of Nutrition And Food Budgeting—*class set*
   - CHOW Procedure—*one per Team Folder, transparency, or poster (optional)*
   - Menu and Budget Practice—*three per Team Folder*
   - Daily Meal Evaluation Practice—*three per Team Folder*
   - Menu and Budget—*three per Team Folder*
   - Daily Meal Evaluation—*three per Team Folder*
   - Sample Team Score Sheet—*one per Team Folder*
   - Team Score Sheet—*three per Team Folder*
9. **Duplication: Part 3—A La Carte.** Duplicate the following in the quantity indicated in *Italics* if you plan to use them in their related activity:
   - Rube Goldberg Invention (Home Economics A La Carte #4)—*transparency or class set*
   - Outline Maps—(Social Studies A La Carte #2, 3, 4) *class set or one per group*
   - Digestive System (Science A La Carte all)—*class set or one per group*

10. **Nutrition Facts Food Choice Cards.** These cards present nutritional information and are essential to the simulation and many of the activities. You need to make only one set that you can use from year to year. However, if this is the first year, dedicate a day at least before Day Six (or earlier if students understand the food groups) and ask your students to prepare the **Food Choice Cards**. See Making Food Choice Cards on page 18 for directions**.** Use extra pictures for other A La Carte activities (e.g., the Food, Glorious Food collage) or to decorate the classroom.

11. **Exercise Stations.** Modify the exercises if space is a factor. Create other activities that cause students to use their muscles and/or raise their heart rate. If you intend to use the Exercise Stations as written for daily activities, you will need one each of the following:

    - hacky sack
    - soft rubber ball
    - elastic cord
    - jump rope
    - ping-pong paddle and ball
    - stairs, or a firm platform for step aerobics
    - hula hoop
    - watch or clock with a sweep second hand

12. **Objective and Informal Assessments.** *CHOW* includes many opportunities to assess how well your students are absorbing content.

    a. The **Pretest** and **Posttest** provide an objective assessment of knowledge gained by students during the lessons.

    b. **Quick Quizzes** and **Appetizer Tests 1 and 2** provide objective assessment for content during Part 1 of this unit.

    c. The graphic organizers and similar activities also offer opportunities for assessments.

13. **Performance Assessments.** The **Team Score Sheet** provides performance assessments of student willingness to follow directions, complete accurate math computations, and apply theMyPlate guidelines. Administer the **Cooperative Group Work Rubric**, especially as students work to correct the **Quick Quizzes**. Individual students, regardless of how their teams finish in the simulation, may strive to achieve a score of "four" when you apply one of these rubrics**.**

14. **Rubrics.** Always post and discuss rubrics before using them. During the simulation, complete the **Cooperative Group Rubrics** for all students at least *once every three days.* Choose the type of **Cooperative Group Work Rubric** that you believe will work best with your class—Holistic or Chart form. After the first evaluation, students generally attend to their tasks better and work to improve their rubric scores by the end of the simulation.

Teaching tip
Occasionally some of these magazines may have "adult" stories, advertisements, or photos. Take a moment to peruse the magazines ahead of time to find them. Either remove the stories, ads, or photos from the magazine, or tear out the photo pages of food and discard the magazine.

Teaching tip
Do not "grade" the **Quick Quizzes**—they are designed to help students understand what they know and what they need to learn. Use the **Appetizer Tests 1 and 2** for a more formal assessment.

15. **What Do Rubric Scores Mean?** When completing performance assessments, focus on "student work." This work is *not* limited to only written work. It may include demonstrated skills, oral exchanges, individual and cooperative group behavior, processes, strategies, and any other evidence that proves that the students have learned the targeted content or skill and can apply what they know.

    4 – Generally this rating describes ***exemplary*** student work that *exceeds the standard* for the activity. The descriptor includes words such as *consistently, complete, with detail, actively,* and *willingly.* Students who earn a "4" demonstrate leadership and knowledge during the simulation.
    3 – Generally this rating describes ***expected*** student work that *meets the standard with quality*. The descriptors lack some of the positive adjectives of a "4," but this student has mastered the content or skill and can demonstrate his/her understanding in an application setting.
    2 – Generally this rating describes ***nearly there*** student work that *almost meets the standard*. Sometimes inconsistent effort or a misconception of the content will result in a "2" rating. This student needs a little re-teaching, needs to try a little harder, or needs to revise his/her work in order to meet the standards described.
    1 – Generally this rating describes student work that is ***incomplete***, that *has not yet met the standard in content and/or skill*. This student will require more instruction and another opportunity to demonstrate a knowledge or skill, or will require alternative instruction and assessment.
16. **Weighting Rubric Scores for Awarding Points.** Because earning a four-rating (exemplary) is much more difficult than earning a two-rating (nearly there), you can weight the scores for purpose of awarding points. Award the following:

    4-rating = 10 points 2-rating = 4 points

    3-rating = 7 points 1-rating = 1 point

17. **Awards.** There are two awards certificates on pages 170 and 171 that you may award at the end of the unit. You must decide if the awards are necessary and/or helpful. A little celebration to congratulate the students can be a wonderful idea. However, try to serve healthy snacks and not those that are high fat or high sugar treats.

Before Starting This Unit

1. Read through the entire **Teacher's Guide** to familiarize yourself with the content and materials. Peruse the (optional) **A La Carte Activities** in art, home economics, language arts, math, science, and social studies to use throughout the unit. The A La Carte Science activities represent an entire five-day science unit about digestion.
2. Organize the **teams** and prepare the **Team Folders.** Try to create teams that are mixed by gender, academic ability, and work ethic.
3. Decide how you will **arrange your classroom** to accommodate teams of three and choose the place where folders will be stored.
4. Decide where and when you will be using the **Exercise Stations** to complete the Exercise component of *CHOW*. If you decide not to use the Exercise Stations, you need to establish the criteria for meeting the exercise requirements in this unit. Work with the PE/health teacher.
5. Administer the **Pretest** to all students individually before starting this unit. Remind students that they should never guess on a pretest because you are trying to know what they know, not how lucky a guesser they are. Review student answers because having a general idea of student pre-knowledge will help you pace your unit.
6. **Make the Food Choice Cards**. Ask students to bring in **magazines** that have pictures of food—the more, the better. Use these pictures to make a class set of **Food Choice/Nutrition Facts Cards** before Day Seven in the Appetizer Phase and for the *CHOW* simulation. See page 18 of this guide. (If you decide to do this as part of a whole class activity, it will take at least one full period.)
7. **Duplicate** the handouts for at least the first two days of **Appetizer.** Those marked *one per Team Folder* should be put in the Team Folders ahead of time. Those marked *class set* will be distributed during the instructional period. Some teachers like to duplicate all of the Appetizer and store the handouts in order in a hanging file box. There is a whole page of **CHOW Vocabulary** (see page 170). You may choose to use the lists of words as spelling words, vocabulary words, or topics for research throughout the unit. Duplicate the list as needed.

Pretest/Posttest Answers

1. B
2. B/D
3. A
4. C
5. B
6. A/C/D
7. D
8. C/D
9. C
10. D
11. A
12. A
13. C
14. B
15. A
16. C
17. C
18. B
19. C
20. B
21. D
22. A
23. B
24. C
25. B
26. eat less
27. oversized
28. one-half, vegetables
29. whole grains
30. low-fat, skim
31. sodium
32. water
33. fats, sugars, sodium
34. 30–60

Before Starting the Simulation

1. Duplicate the **Food Fate** and **Cash Consequence Cards** and laminate them for durability.
2. **Set up** classroom grocery making three to four shopping shelves.

Materials

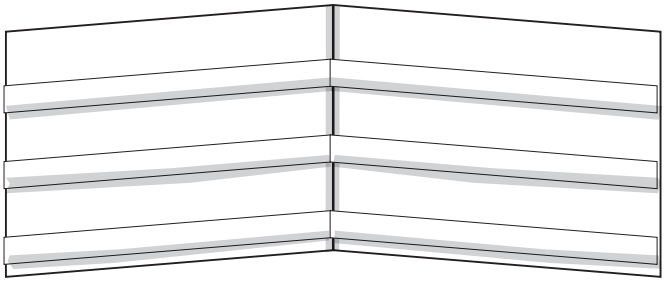
- (24" x 18") oak tag or poster board (12 pieces)
- clear packing tape (1 roll), scissors

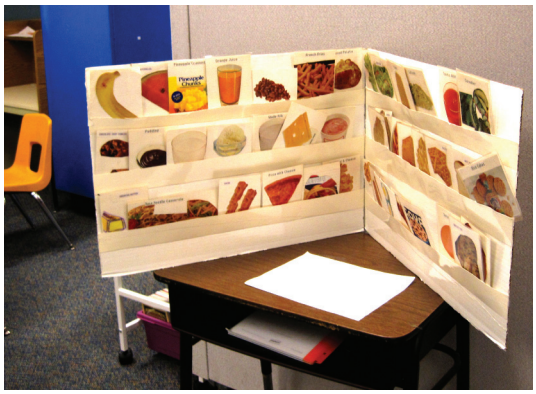
Procedure for making shelves

a. Cut 2 pieces of poster board into strips (24" x 2")—No wider or the pockets will be too deep.

b. Tape the *bottom* edge of 3 strips across the 24" x 18" piece of poster board. Space them equally. These will form long pockets.

c. Tape together 2 large pieces of poster board along a short side. Reinforce the clear tape to make it a hinge joint.





3. Make the **Food Choice Cards**.

See page 18 for directions.

Making Food Choice Cards

Materials

- Catalogs, magazines that feature food—*as many as possible*
- Glue or glue sticks—*enough for students*
- Envelopes (5" x 7" or 9" x 12")—*seven for food groups, combination foods, and discretionary calories*
- Index Cards (3" x 5" or 4" x 6")—*at least 250; 120 more for optional activities*
- Scissors—*class set*

If you choose to make collages with the extra food pictures:

- Construction paper (light color, 9" x 12")
- Crayons or markers—*enough for students*

Procedure

1. Label seven large envelopes: *Grains, Fruit, Vegetable, Milk, Protein* and *Discretionary Calories* (discretionary calories refer to foods that have high-sugar or high-fat content, such as butter, mayonnaise, jam, or soda).

Teaching tip
Occasionally some of these magazines may have "adult" stories, advertisements, or photos. Take a moment to peruse the magazines ahead of time to find them. Either remove the stories, ads, or photos from the magazine, or tear out the photo pages of food and discard the magazine.

2. Collect seed catalogs (*Burpee, Guerney, Harris*, etc) and food magazines (*Gourmet, Eating Well, Weight Watchers)*, or magazines that feature food (*Good Housekeeping, Woman's Day, Family Circle*.) As a whole class or at a center, ask the students to cut out pictures of different kinds of foods and place them into the correct envelopes.
3. Duplicate the Nutrition Facts labels in the number indicated at the top of each page. Paste each label onto an index card.
4. As a class or at a center, ask students to find pictures in the envelopes to match the foods listed on the Nutrition Facts labels. Paste the food pictures on the other side of the index cards. If a picture of a food cannot be found, ask your students to draw the food or use an actual food label from a can or box.

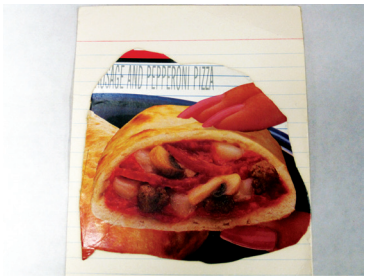
Teaching tip
You need 2–3 copies of some **Food Choice** pages.

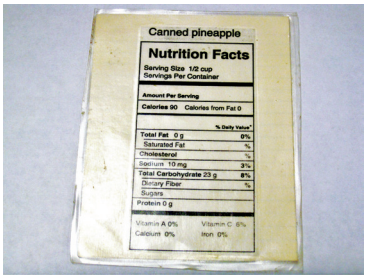
5. When you have made a card for every Nutrition Facts label, you will have a class set ready for the simulation. Use extra pictures for other simulation activities (e.g., **A La Carte Art #1** and **#2**) or to decorate the room.
6. **Other Foods Not On the Price List**
    - There are blank Nutrition Facts labels that your students can use for favorite foods found in your part of the country. Because all

packaged food products use nutrition labels, you may photocopy actual labels and laminate the pictures from the boxes.

- If you have vegetarians in your class, ask them to bring in labels from foods they often eat at home and make cards for them to use in the simulation.
- If you are not certain about the Nutrition Facts of a new food, just do a Google search on the Internet. Enter "New Food + Nutrition Facts." You'll usually find it. Also http://caloriecount.about.com/ has lots of information.

7. Because the cards will be used repeatedly throughout the simulation, it is important to glue the pictures securely. You may decide to laminate the cards for durability.





Daily Directions

Day 1

Materials

- Food, Food, Food—*class set*
- Questionnaire—*class set*
- Cooperative Group Work Rubric—*transparency, class set, or poster*
- Exercise Is Not Optional—*class set*
- Exercise Stations—*one per team*
- Exercise Stations Record—*class set*

and/or

- Personal Exercise Logs—*class set*

Procedure

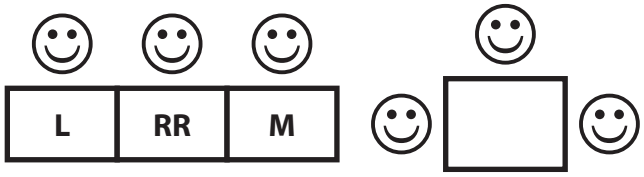
Teaching tip
Only the best restaurants earn the four–star rating.

1. Distribute the **Food, Food, Food Essay** and discuss what the students will be doing over the next 15 days. Remind students that in this unit, they are trying to achieve enough points to earn a four-star rating. Because they are competing to a standard, more than one team can be a "winner."

2. Set up the teams and rearrange your room so that the trios can work together comfortably. Give students four to five minutes to come up with team names. Encourage students to choose teams names that are food or nutrition related. (For example, Veggie-Magicians, Pasta Pirates, Knights of Nutrition, etc.) Discourage "junk food" names.

Teaching tip
During the *CHOW* simulation, the three roles (Planner, Shopper, and Diner) are different and have different responsibilities.

3. Go over the team roles (the Leader, the Reader/ Recorder, and the Manager) for this first part of *CHOW*—Appetizer. Assign each team member a role for today and tell them that they will rotate these roles every day. The rotation will be the same each day. Leader becomes the Reader/ Recorder becomes the Manager becomes the Leader again: L → R/R → M → L → R/R → M.



4. Direct students to the **Cooperative Group Work Rubric**. Explain that they will be earning (and losing) points depending on how well they work together.

5. Ask all the Team Managers to come to you for three copies of the Questionnaire for their team. Have students separate their desks to fill in these questionnaires independently. When they have finished, have the Leaders collect them and bring them to you.

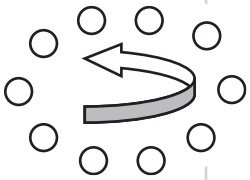
Teaching tip
Put aside to use on the last day of the unit.

6. Have Managers come to you for three copies each of **Exercise is Not an Option**. Discuss why exercise is so important and tell your students that for the next three weeks, they will be maintaining **Exercise Logs**.

7. If you are using Exercise Stations, introduce them today. Have the Managers come to you for one copy of **Exercise Stations** and three copies of **Exercise Stations Record**. Review how students will be running the stations.

Teaching tip
If you need to modify the activities, choose ones that will cause students to use muscles and/or raise their heart rate.

   - Have them go to the place where you have decided to run the Stations. Assign one or two stations to each trio who will be responsible for setting up in a specific area.
   - As a whole class, walk through each set of directions. Have the responsible team demonstrate to the rest of the class what needs to be done at their station. Remind students that they will be going to all the stations in order, (counterclockwise? you decide) but will start and finish at their station.



   - Once students are familiar with each station, have the teams put away "their" station(s). Tell the teams that they will be responsible for setting up and breaking down their station(s) each day. Students will soon be able to quickly set up the Stations, complete all 10 tasks, record their results, and break down the Stations.

Teaching tip
Although each day's lesson plan begins with the **Exercise Log**, you may decide to run the **Exercise Stations** and **Exercise Log** at some other time of the day leaving more class time for the lesson.

8. If you are not using the **Exercise Stations**, have Managers come to you for three copies of the **Personal Exercise Log**. You must establish criteria for students to meet their exercise requirements. Include walking to and from school, PE classes, recess, after-school sports, using a pedometer, home gyms, etc. Discuss what you expect. Encourage students to "partner up" when they exercise because it's generally more fun.

Teaching tip
This exercise record is based on an honor system. Some students will not exercise and then fib that they did. However, don't scold and remember to stay on message. Stress the importance of daily exercise and point out that studies have shown that people who participate in daily exercise are healthier and feel happier than those who don't. They also do better in school.

9. At the end of the class, have the Leaders collect the handouts, put them into the folders, and bring the folders to you.

Daily Directions

Day 2

Materials

- Building Blocks: Proteins—*class set plus one per team*
- Graphic Organizer for Proteins—*class set or one per team*
- Cooperative Group Work Rubric—*class set or one per team*
- Plain white (8½" x 11") paper—*two per student*

  or

- Large pieces of chart paper—*two per team*.
- A La Carte Rubric—*class set or as needed*

Procedure

1. Distribute the Team Folders or ask today's Team Managers to get them from you or the storage area.

Teaching tip
To encourage exercise record keeping, make a list of how many minutes of exercise each team has recorded and keep a running tally of exercise minutes for the whole class.

2. **Exercise Log**—Regardless of whether you are doing the **Exercise Stations** or just recording in the **Exercise Logs**, use the first few minutes of class to have students update their logs for the exercise they did the day before.

3. Today you are starting **Appetizer**, the first part of *CHOW* where students learn about nutrition. There are a total of six essays in Appetizer. Each essay has a list of focus questions that helps students to recognize important information. You may run this as a whole class or team activity. Ask Managers to come to you for four copies of the first essay, **Building Blocks: Proteins**. (One for each team member and one for the Team Folder).

4. If you use the essay as a team activity, review student roles, especially the Leader and Reader/Recorder. The Reader/Recorder reads the paragraphs and at the end of each paragraph, the Leader reads the focus question(s). It is not necessary for students to write answers to the Focus Questions, but they do have to answer them orally within the group.

Teaching tip
This activity can be either a group or individual activity—there are advantages to both choices. The graphic organizers help the teams to organize important information simply and in a form that is easy to remember.

5. When teams have finished reading the essay, give Managers from each team four copies of **Graphic Organizers for Proteins**. Decide if these organizers will be created by the individual or team. If individual, give Managers six pieces of plain white paper and direct each student to make his/her own graphic organizers. If team will create these graphic organizers, give each team two large pieces of chart paper

and a black marker. The Reader/Recorder will actually create the team graphic organizer with the help of teammates.

6. Read the directions as a whole class before students begin. Stress the importance of writing the words first, and then drawing the circle or square around them. (If they do it otherwise, they usually can't fit what they need in the box or circle. Walk around the room informally evaluating the graphic organizers. Award points to teams or individuals who have done a good job. When students finish the graphic organizers, reconvene the teams as a whole class and go over the information on the board or chart paper modeling the correct answers. Announce that tomorrow there will be a **Quick Quiz** on the information they have studied about proteins today. (The Leader can review the content with his/her team.)

Teaching tip
Allow students to take home the essays or their graphic organizers to study. The extra copy of the essay should remain in the folder.

7. (Optional) **A La Carte Math Activity #5** allows students to use math to determine the cost of fat and waste in meat products. Review the **A La Carte Rubric** so that students understand what a four-star project should be.

Teaching tip
You can ask students to make the generic rubric more specific by listing what you all agree is "expected" and what more would be necessary in order to earn a four-star rating.

8. Take a moment to give students feedback on how well their teams worked together. Use the **Cooperative Group Work Rubric**. Reinforce what you want the students to do. Point out where their behavior has met, exceeded, or disappointed your expectations.

9. Ask the Team Leader to organize the Team Folder and give it to you or store it in a designated place.

Daily Directions

Day 3

Materials

- Quick Quiz: Proteins—*class set*
- Quick Energy: Carbohydrates—*class set plus one per team*
- Graphic Organizer for Carbohydrates—*class set or one per team*
- Plain white (8½" x 11") paper—*two per student*

  or

- Large pieces of chart paper—*two per team*.
- A La Carte Rubric—*class set or as needed*

Procedure

1. Rotate roles and review, if necessary. Distribute the Team Folders or ask today's Team Managers to get them from you or the storage area.
2. **Exercise Log**—Regardless of whether you are doing the **Exercise Stations** or just recording in the **Exercise Logs**, use the first few minutes of class every day to have students update their logs for the exercise they did the day before.
3. Separate desks for privacy and distribute **Quick Quiz: Proteins**. When all students have finished, have students meet as a team. The Leader should read each question and ask his/her teammates to compare answers and see if and where they disagree. Students should refer to the folder copy of the essay to determine which answers are correct. After all the teams have corrected their team papers, have a quick whole class discussion of the answers.
4. Ask Managers to come to you for four copies of the essay **Quick Energy: Carbohydrates**. (One for each team member and one for the Team Folder). This is the second of six essays in Appetizer. Like the others, this essay has a list of focus questions that helps students to recognize important information. You may run this as a whole class or team activity.
5. If you use the essay as a team activity, review student roles especially the Leader and Reader/Recorder. The Reader/Recorder reads the paragraphs and at the end of each paragraph, the Leader reads the focus question(s). It is not necessary for students to write answers to the Focus Questions, but to answer them orally within the group.

Teaching tip

The **Quick Quizzes** are an opportunity for students to see how much they have learned so far. It is a formative assessment and need not be recorded as a grade. When students check their own papers, they are more aware of their mistakes and learn from their peers what is correct.

6. When teams have finished reading the essay, give Managers from each team three copies of **Graphic Organizers for Carbohydrates**. Decide if these organizers will be created by the individual or the team. If by individuals, give Managers six pieces of plain white paper and direct each student to make his own graphic organizer. If these graphic organizers will be prepared by the team, give each team two large pieces of chart paper and a black marker. The Reader/Recorder will actually create the team graphic organizer with the help of teammates.

7. Read the directions before students begin. Stress the importance of writing the words first, and then drawing the circle or square around them. Walk around the room informally evaluating the graphic organizers. Award team points to teams or individuals who have done a good job. When students finish the graphic organizers, reconvene the teams as a whole class and go over the information on the board or chart paper modeling the correct answers. Announce that tomorrow there will be a **Quick Quiz** on the information they have studied today on carbohydrates. (The Leader can review the content with his/her team.)

8. (Optional) **A La Carte Activities**

   - **Social Studies Activity #5** allows students to research the Staff of Life of different countries. They will find that most have high-starch content. The exception is the diet of indigenous people in the Arctic whose staff of life is fish.

   - **Math Activity #7: Part of a Healthy Breakfast** allows students to discover the high-sugar content of many breakfast cereals marketed to children.

9. Ask the Team Leader to organize the Team Folder and give it to you or to store it in a designated place.

Bright Idea
This activity can be either a group or individual activity. If you tried individual for the Protein essay, try Carbohydrates as a group activity today. See which works best for your students.

Teaching tip
Allow students to take home the essays or their graphic organizers to study. The extra copy of the essay should remain in the folder.

Teaching tip
You can ask students to make the generic **A La Carte Rubric** more specific by listing what you all agree is "expected" and what more would be necessary in order to earn a four-star rating.

Daily Directions

Day 4

Materials

- Quick Quiz: Carbohydrates—*class set*
- Stored Energy: Fats—*class set plus one per team*
- Graphic Organizer for Fats—*class set or one per team*
- Plain white (8½" x 11") paper—*two per student*

  or

- Large pieces of chart paper—*two per team*
- Stored Energy: Fats essay—*class set*
- Fats Detective (optional)—*class set*
- A La Carte Rubric—*class set or as needed*
- Cooperative Group Work Rubric—*class set or one per team*

Procedure

1. Rotate roles. Distribute the Team Folders or ask today's Team Managers to get them from you or the storage area.
2. **Exercise Log**—Regardless of whether you are doing the **Exercise Stations** or just recording in the **Exercise Logs**, use the first few minutes of class every day to have students update their logs for the exercise they did the day before.
3. Separate desks for privacy and distribute **Quick Quiz: Carbohydrates**. When all students have finished, have students meet as a team. The Leader should read each question and ask his/her team mates to compare answers and see if and where they disagree. Students should refer to the folder copy of the essay to determine which answers are correct. After all the teams have corrected their team papers, have a quick whole class discussion of the answers.
4. Ask Managers to come to you for four copies of the essay **Stored Energy: Fats**. (One for each team member and one for the Team Folder). You may run this as a whole class or team activity.
5. If you use the essay as a team activity, remind students of their roles. It is not necessary for students to write answers to the Focus Questions, but to answer them orally within the group.

Teaching tip

The **Quick Quizzes** are an opportunity for students to see how much they have learned so far. It is a formative assessment and need not be recorded as a grade. When students check their own papers, they are more aware of their mistakes and learn what is correct from their peers.

6. When teams have finished reading the essay, give Managers from each team three copies of **Graphic Organizers for Fats** and either six pieces of plain white paper or two large pieces of chart paper with a black marker, depending on whether they will be completed by individuals or as a team.

7. By now students should understand what is required to complete the graphic organizers, but remind them again about writing the words first, and then drawing the circle or square around them. Walk around the room informally evaluating the graphic organizers. Award team points to teams or individuals who have done a good job. When students finish the graphic organizers, reconvene the teams as a whole class and go over the information on the board or chart paper modeling the correct answers. Announce that tomorrow there will be a **Quick Quiz** on the information they have studied today on fats. (The Leader can review the content with his/her team.)

8. (Optional) **Fats Detective** (homework activity.)

   Distribute the directions to individuals and assign this activity as homework. Be certain that students place their completed "experiment" in a plastic bag before transporting it back to school. Put all food covered bags into the trash at the end of the period. You may use the **A La Carte Rubric** to assess this homework activity.

9. (Optional) **A La Carte Activities**

   - **Language Arts #14** allows students to research the problems associated with high-fat diets.
   - **Home Economics #5: Make it Lite** allows students to redesign favorite recipes to be lower fat and healthier.

10. Take a moment to give students feedback on how well their teams worked together for the past two days. Evaluate the team using the **Cooperative Group Work Rubric**. Reinforce what you want the students to do. Point out where their behavior has met, exceeded, or disappointed your expectations. Explain to students that the next time you evaluate group work that you will prepare individual **Cooperative Group Work Rubrics**.

11. Put the **Cooperative Group Work Rubrics** in the Team Folder. Ask the Team Leader to organize the Team Folder and give it to you or to store it in a designated place.

Teaching tip
Allow students to take home the essays or their graphic organizers to study. The extra copy of the essay should remain in the folder.

Bright Idea
Better idea—Allow students to take photos of their **Fat Detective** homework and leave the bags at home!

Teaching tip
You can ask students to make the generic **A La Carte Rubric** more specific by listing what you all agree is "expected" and what more would be necessary in order to earn a four-star rating.

Daily Directions

Day 5

Materials

- Quick Quiz: Fats—*class set*
- Vitamins, Minerals, and Water—*class set plus one per team*
- Graphic Organizer for Vitamins, Minerals, and Water—*class set or one per team*
- Plain white (8½" x 11") paper—*two per student*

  or

- Large pieces of chart paper—*two per team*
- Comic Hero Activity (optional)—*class set*
- Wanted Poster Activity (optional)—*class set*
- A La Carte Rubric—*class set or as needed*

Procedure

1. Rotate roles. Distribute the Team Folders.
2. **Exercise Log**—Use the first few minutes of class every day to have students update their **Exercise Logs** for the exercise they did the day before.
3. Separate desks for privacy and distribute **Quick Quiz: Fats**. When all students have finished, have students meet as a team and ask the Manager to get the Team Folder. The Leader should read each question and ask his/her team mates to compare answers and see if and where they disagree. Students should refer to the folder copy of the essay to determine which answers are correct. After all the teams have corrected their team papers, have a quick whole class discussion of the answers.
4. Ask Managers to come to you for four copies of the essay **Vitamins, Minerals, and Water**. (One for each team member and one for the Team Folder). You may run this as a whole class or team activity.
5. If you use the essay as a team activity, remind students of their roles. It is not necessary for students to write answers to the Focus Questions, but to answer them orally within the group.
6. When teams have finished reading the essay, give Managers from each team three copies of **Graphic Organizer for Vitamins, Minerals, and Water** and either pieces of plain white paper or one large piece of

chart paper with a black marker, depending on whether the first three graphic organizers will be completed by individuals or as a team. The fourth graphic organizer task requires all team members to complete their own Major Nutrient Chart.

7. Walk around the room informally evaluating the graphic organizers and Nutrient Charts. Award team points to teams or individuals who have done a good job. When students finish the graphic organizers, reconvene the teams as a whole class and go over the information on the board or chart paper modeling the correct answers.

Teaching tip
The Major Nutrient Chart will prove to be a great study aid. They will use the first few lines for the **Appetizer 1 Test**.

Answer Key: Major Nutrients of Your Body

Nutrient	Nutrient's Main Duties	Nutrient's Food Source
Protein	Build and repair body tissues, make antibodies to fight disease, supply enzymes.	Lean meats, poultry, fish, eggs, milk, and cheese.
Carbohydrates	Provide quick energy.	Vegetables, grains, fruit.
Fats	Provide stored energy, store and carry certain vitamins.	Shortening, oils, butter, fish, nuts.
Vitamin A	Promotes healthy skin and digestive tract tissue. Needed for good vision.	Dark yellow and orange vegetables and fruit.
Vitamin D	Helps the body absorb calcium. May fight heart disease, diabetes, and cancer.	Produced in the skin. Found in milk.
Vitamin C	Keeps blood vessels strong and elastic, helps body use iron, heals cuts and broken bones, and fights infection.	Citrus fruits, tomatoes, strawberries, broccoli, dark green leafy vegetables.
Calcium	Forms strong bones and teeth, helps blood to clot, and heart to beat.	Milk products, fish.
Iron	Makes hemoglobin that carries oxygen in the body.	Red meat, beans.
Water	Necessary for all bodily functions.	All foods and liquids.

8. Announce that there will be a test (**Appetizer Test One**) at the beginning of the next lesson focusing on what they have learned about proteins, carbohydrates, and fats (not vitamins). Allow them to take home their quick quizzes, graphic organizers or essays, and the Major Nutrient Chart.

Teaching tip
Allow students to take home their essays or their graphic organizers to study. The extra copy of the essay should remain in the folder. **Appetizer Test One** is the first major assessment and all teams should study to earn a four-star grade.

9. (Optional) **Comic Hero Activity**. Distribute the directions to individuals and assign this activity as homework or a center activity. Use the **A La Carte Rubric** to assess this activity. Students may share

Teaching tip
Students who make a card or wanted poster will become much more familiar with the vitamin or mineral. If you give them time to share or post their work, all students will find it easier to remember the information.

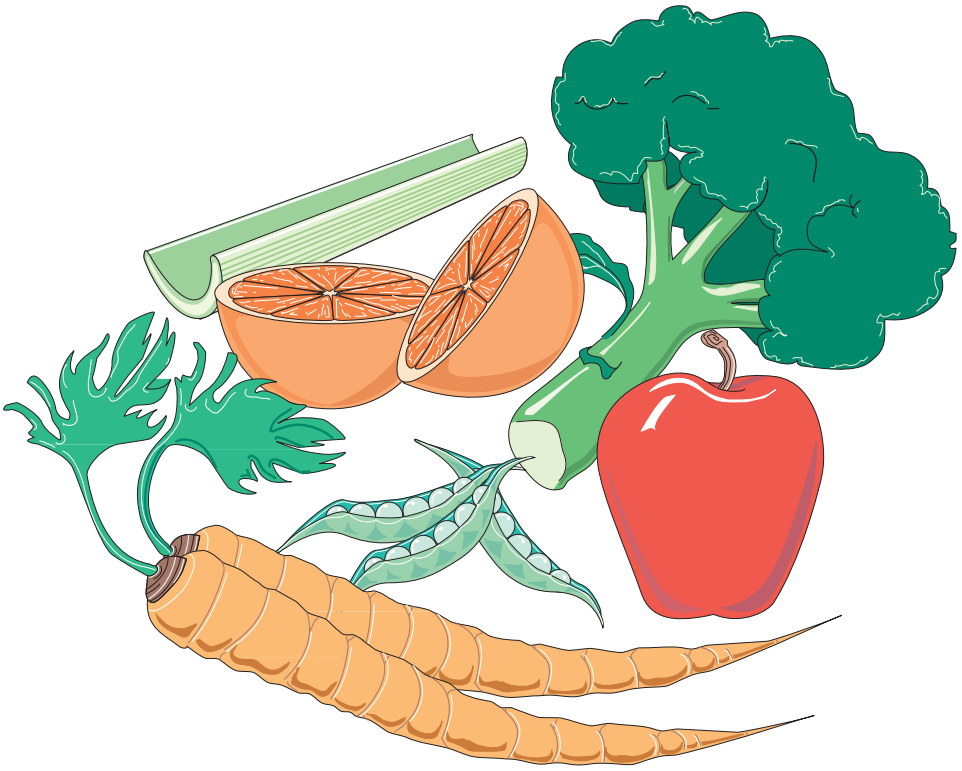
their cards with the whole class or you may organize a quick class activity where students walk around the room finding other students whose cards have similar major nutrients. Have groups of students report why they think their foods should be grouped together.

10. (Optional) **Wanted Poster Activity**. Distribute the directions to individuals and assign this activity as homework or a center activity. Hang the posters on a bulletin board for all students to share. Use the **A La Carte Rubric** to assess this activity.

11. (Optional) **A La Carte Activities**

    - **Math Activity #4: High Price of Garbage** allows students to discover the true cost of fruits and vegetables when they look at the cost of the waste of skins, rinds, seeds, etc. that they do not eat.
    - **Language Arts Activity #14: Research Reports** direct students to investigate different diseases associated with vitamin or mineral deficiencies.

12. Ask the Team Leader to organize the rest of the Team Folder and give it to you or to store it in a designated place.



Daily Directions

Day 6

Materials

- Appetizer Test One—*class set*
- Quick Quiz: Vitamins and Minerals—*class set*
- Cooperative Group Work Rubric—*class set*

Procedure

1. Separate desks for privacy and distribute Appetizer Test One. Go over the directions so that students know they have to write their answers in the blocks to the right. Also be certain they understand that sometimes there is *more than one answer* so there will be more than one letter in the box.

2. When all the students are finished, collect the test and correct before tomorrow's class.

   Answer Key: Appetizer Test One

1. C	6. A	11. C
2. B, C, D	7. D	12. B, C
3. D	8. C	13. C
4. C	9. A, C, D	14. B
5. C	10. A, B	

3. Allow students to put their desks back into a group. Rotate roles and distribute the Team Folders.

4. **Exercise Log**—Use the first few minutes of class to have students update their **Exercise Logs** for the exercise they did the day before.

5. **Team Study**—Allow the teams 10–15 minutes to work together to study the **Vitamin, Mineral, and Water** essay and **Graphic Organize**r, as well as the Major Nutrient Chart. Have students share the strategies they normally use to study content. When the teams are ready, they should organize the folder and have the Leader give it to you.

6. **Quick Quiz: Vitamins and Minerals**—Separate the desks again for privacy and have students complete the quiz. When all students have finished, have students meet again as a team and ask the Manager to get the Team Folder. The Leader should read each question and ask his/her team mates to compare answers and see if and where they disagree. Students should refer to the essay to determine which

Teaching tip
Students should use their Major Nutrient Chart and their graphic organizers to learn the Vitamin and Mineral material, which will be on **Appetizer Test Two**.

answers are correct. After all the teams have completed the Quick Quiz, conduct a brief whole class discussion of the answers. Model correct answers on the board so that students can correct their papers.

7. Ask the Team Leader to organize the Team Folder and give it to you or to store it in a designated place.

8. **Food Choice/Nutrition Facts Cards.** If this is the first time you have run the *CHOW* unit and you haven't yet made a class set of the **Food Choice/Nutrition Facts Cards**, you need to make time to create them now. See directions on page 18 of this guide. If you have a class set already made, check to see that it is complete and ready to use on Day Seven.

9. (Optional) **A La Carte Art Activity #1** allows students to use the extra magazine pictures to make a Food, Glorious Food Collage. Consider also using the extra pictures to complete **A La Carte Language Arts Activities #7: Appetizing Adjectives** or **#10: Poetry**. Review the A La Carte rubric so that students understand what a four-star project should be.

Daily Directions

Day 7

Materials

- Cooperative Group Work Rubric—*class set*
- Percent Perceiver Pattern—*class set*
- Colored markers or crayons—*class set*
- Glue—*enough for students*
- Scissors—*class set*
- Stapler—*several*
- Construction paper (12" x 18")—*one per team*
- Counting pieces such as rice, dried beans, tiles, paper squares, etc.—*100 per team*

Procedure

1. Rotate roles and distribute the Team Folders.
2. **Exercise Log**—Have students update their **Exercise Logs** for the exercise they did the day before.
3. Return the graded **Appetizer Test One** to students in their teams. Have them look over their answers and see where they made mistakes, if any. Allow class discussion of the test and help students who might be confused. After discussing the test**,** *collect it again* and store it until the end of the unit.
4. **Percent Perceiver**. It is possible that your students are already familiar with percent. However, unless they are very confident follow these additional lesson plans for one class period. Be certain to use enough concrete examples so that students can fully understand what a percent means.
5. Most nutritional labeling presents information as a percentage. The best way to understand percent is to be able to visualize a percent value. Have students make individual Percent Perceivers. Using this simple instructional tool, the students can see what part of the whole is represented by a certain percent. The pattern and directions for making it are on page 139.
6. **Lesson.**
    a. Have each student make a Percent Perceiver following the directions on the pattern pieces. Although students will work as a

Teaching tip
Depending on how well your students understand percent, this lesson may last one or two days. Read through the lesson plans and decide which you will use with your students. Consider differentiating your lesson by helping those who need percent instruction and allowing those who know percent to do **A La Carte Activities** listed at the end of today's plans.

Teaching tip
In some cases, students who did poorly just didn't study enough. Ask successful students to share how they study. Remind them to use their own graphic organizers to help simplify the content. The content on **Appetizer Test One** is important and must be mastered. Allow those students who did not make a three-star rating to study more and retake the test at a later date to improve their grades.

Teaching tip
Consider using your math time for the Percent Perceiver activity. Interpreting percent is a major math concept that your students will need and use.

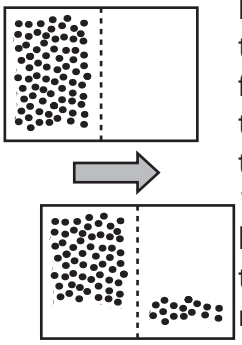
team with the counting pieces, all team members need a Percent Perceiver of their own.

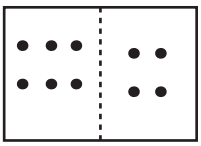
b. Distribute 100 counting pieces to each team.

c. Give each team a piece of construction paper that they should fold in half.

d. **Concrete Experience.** Start with concrete examples. Tell them to first put all the counting pieces on the left side of the paper. Then ask them to move 10 to the right side of the fold. Direct them to set their Percent Perceivers on 10%. Write on the board that "percent" originally meant "per 100." If they have moved 10 of the original 100 to the right, then they have 10% on the right and a larger, remaining pile of 90%. Little by little have students move more of the pieces from the left side to the right. Every time they move more of pieces, move the center bar of the Percent Perceiver to represent how much is now on the right. When they have moved all the pieces from the left to the right, they have moved all or 100%.

7. **More Concrete Experience.** What happens when there are *not* 100 items? If your students understand equal ratios or equivalent fractions, their own math knowledge will help them understand that 1 of 10 is the same as 10 of 100—10%. If they haven't had fractions, ratios, or percent in their math program, continue to give them concrete examples, this time with only 10 counting pieces on the left side of the fold. Have students begin by moving just one of the 10 to the right. What percent is that? If they are not certain, ask them how many would be half of the 10 pieces. They will know five. Ask them to make the Percent Perceiver to show halfway to 100. They will realize that half is 50% so that one piece of popcorn will have to be one of 10 or 10%. Go through moving each of the pieces until 100% is on the right.





8. **Fractions.** Understanding how to compute a percent is not important to the concept of perceiving percent. However, you may choose to show the students that they can determine a percent when the number is not 100 or 10. (*Example: Find the percent for 35 calories from fat from a total of 105 calories*). First they need to write a fraction ($\frac{35}{105}$). Next, using the calculator, enter 35 divided by 105. The answer is a repeating decimal 0.3333. When they multiply it by 100, they will get the percent ($0.3333 \times 100 = 33.333$ percent). Therefore, 33% of the calories were from fat. With another food it might be 5 calories of fat from a total of 50 calories. They would enter 5 divided by 50 and the decimal of 0.1 would come up. Multiply $0.1 \times 100 = 10\%$.

9. **More than 100%.** Point out that some foods provide more than 100% of a daily value or daily allowance in one serving. In those cases, the single serving provides all you need or all you are allowed on a given day. Some Chinese dishes that use soy sauce have well over 100% of the daily allowance for sodium in one serving. Carrots have 330% of the daily value for Vitamin A.

10. **Using the Percent Perceiver.** Your students may or may not know how to generate a percent. However, in *CHOW*, it is more important to know what the percent means. For example, if a food gets 60% of its calories from fat, then they should use the Percent Perceiver to show 60% and realize that more than half of the calories in that food came from fat. It is also important for them to realize that if a food provides only 15% of the daily value of a nutrient, then they must eat other foods to get the remaining 85% in order to reach the recommended daily value for that nutrient.

11. **Percent Perceiver Practice 1.** As a whole class, ask students to interpret 20%. Write 20% on the board and ask the students to show 20% on their Percent Perceiver. Guide them through the following questions:

    a. Is 20% more or less than half?

    b. How much more do you need to make 100%?

    c. A 6 ounce (oz.) glass of apple juice gives you 20% of the vitamin C you need each day. How many servings of apple juice would you need to drink to get 100%?

    d. 6 oz. of apple juice has 80 calories, how many calories would you need to drink to get 100% of the daily value of vitamin C?

    e. 4 oz. of orange juice gives you 53% of the daily value of vitamin C and has 66 calories. How many calories would you need to drink of orange juice to get 100% of the daily value of vitamin C?

    f. How do the Nutrition Facts help you make better choices?

12. **Percent Perceiver Practice 2.** As a whole class, ask students to interpret 34%.
    a. Is 34% more or less than half? What fraction is it close to? (⅓)
    b. How much more are you allowed to eat before you hit 100%?
    c. 3 oz. of sliced turkey gives you 800 mg. of sodium, which is 34% of the daily allowance for sodium. How many servings of sliced turkey could you eat to reach before exceeding 100%?
    d. If you made two sandwiches with 6 oz. of sliced turkey, how much of your daily allowance have you used up?
    e. Analyze this lunch: Suppose you made a sandwich with 2 slices of bread (sodium:170 mg., 7% *each*); 3 oz. of sliced turkey (sodium: 800 mg., 34%); mayonnaise (sodium: 80 mg., 3%); pickle (sodium: 210 mg., 9%). You also had potato chips (sodium: 180 mg., 8%) and a glass of milk (sodium: 125 mg., 5%). How much of your sodium allowance have you used?
    f. If you ate the lunch in (e), could you eat a one cup serving of macaroni and cheese (sodium: 980 mg., 41%) and stay below your allowance?
    g. If you ate the lunch in (e), could you eat one beef taco (sodium: 215 mg., 9%) and stay below your allowance?
    h. How do the Nutrition Facts help you make better choices?
13. (Optional) **A La Carte Math: #2 Tipping**, **#3 Out to Lunch with Friends**, or **#5 Lean and Mean**
14. Ask the Team Leader to organize the Team Folder and give it to you or to store it in a designated place.

Daily Directions

Day 8

Materials

- Quick Quiz: Perceiving Percent—*class set*
- Nutrition Label Essay—*class set plus one per team*
- Nutrition Facts Label Homework—*class set*

Procedure

1. Separate desks for privacy and distribute **Quick Quiz: Perceiving Percent**. When all students have finished, have students meet as a team and ask the Manager to get the Team Folder. The Leader should read each question and ask his/her teammates to compare answers and see if and where they disagree. Students should refer to the folder copy of the essay to determine which answers are correct. After all the teams have corrected their team papers, have a quick whole class discussion of the answers.

2. Ask Managers to come to you for four copies of the **Nutrition Label Essay**. (One for each team member and one for the Team Folder). This essay does not have focus questions or graphic organizers and works best as a whole class activity. Help them to realize that before Nutrition Facts labeling, consumers had no idea of what they might be eating.

3. Discuss each part of the label. Note that the Fat portion of the label may be abbreviated. If there are no fats, then the Fat section just has one line reading 0%. However, if there are "bad" fats, then there will be two more lines for Saturated Fat and Trans Fat. If there are "good" fats, then there might be lines for Polyunsaturated Fat and Monounsaturated Fat. There is a percentage amount next to Saturated Fat and students should avoid exceeding 100% of this value.

4. (Optional) **Homework.** Give students the **Nutrition Facts Label Homework Sheet**. Ask students to look in their refrigerators and kitchen cabinets to find labels that fit the four descriptions: 1. High-Fat content (>11g), 2. Low-Fat content (<3g), 3. High Sodium content (>500 mg.), and 4. High Protein content (>14g). Take time in the next class or display the students' homework papers on the bulletin board and let them read and comment on the different labels.

5. If time permits play several rounds of STAND UP!

   Rules: Give one (or two) **Food Choice/Nutrition Facts Card(s)** to each student. Have them look at the card and note the nutrition

Teaching tip
The MyPlate guidelines on page 143 are essential to the unit and to maintaining good nutrition in life. Have students commit them to memory.

Teaching tip
Note that for *CHOW* we use an abbreviated Nutrition Facts label.

information. Spend a few minutes playing the following game to reinforce reading a Nutrition Facts food label.

Teaching tip
As students stand up and report their foods, reinforce what they have learned about high-fat, low-fat, high vitamin A, high protein, low protein, etc. foods.

Procedure: Say to the class: "STAND UP if you have a food that has less than 40 calories per serving!" Instruct students who have such a card to stand at their desk and report what food they have. When all have reported, tell students to sit down.

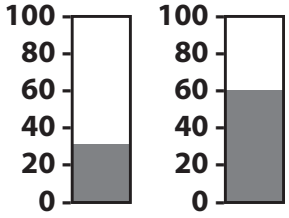
Continue giving STAND UP commands that require students to read the information from the **Food Choice/Nutrition Facts Card**. Ask about the vitamins and minerals, sodium, saturated fats, etc.

6. (Optional) **Close Enough**. This is another nutrition-based game that reinforces the ability to read a nutrition label and to graph the nutrition information for fats, vitamins, and minerals. It also familiarizes the students with high sources of fats and good sources of other nutrients. See page 39 for directions.

7. At the end of the period, be sure to ask the Managers to collect all the food cards and return them to you. Ask the Leaders to organize the Team Folder and give it to you or put it away. Announce that there will be a **Quick Quiz** on reading a Nutrition Facts label tomorrow.

Close Enough

Set-up



- Prepare two large vertical graphs either on the chalk/whiteboard or using a transparency. Chart the daily nutritional value amounts as the game progresses. We recommend that you do the math on the chalkboard so that the students can see where the numbers come from.
- Divide the class into two teams and arrange seating so that each team can see the graphs on the board.
- Set up a display of **Food Choice Cards** that students can easily access near the front of the room.
- *CHOW* provides eight challenges.
    - You may alter the questions by using different or limited **Food Choice Cards** (i.e., take citrus fruits out of the choices for vitamin C so that students must choose foods such as spinach and tomatoes, which are also excellent sources of vitamin C).
    - You may compose your own challenges to target information you want to reinforce.

Teaching tip
Prepare more questions as your time or the needs of your students dictate.

How to Play

1. Read a question to the class. Example challenge: Choose three foods that give you the full (100%) daily value of vitamin C. Ask the first contestant from Team A to choose one **Food Choice Card**.
2. Team A chooses yogurt. Now ask the first contestant from Team B. He chooses a glass of orange juice.
3. Students read the back of each **Food Choice Card** to find the daily value for vitamin C for each food choice and report the percent. Graph the amounts on each team's graph.
4. Display the **Food Choice Cards** chosen on or near each team's graph. These **Food Choice Cards** may not be used again to answer this first question.
5. Ask the next two contestants—one from each team—to choose a second **Food Choice Card** that will give additional daily values toward the final amount. Display these choices and add their daily value for vitamin C to the first choice. Graph the totals.
6. Two more students choose the third **Food Choice Card**. This final nutritional daily value is added to the first two values and graphed. (The questions tell you how many Food Cards must be chosen.)
7. Give points to each team that reaches 100% or more for nutrients that are good for them. However, for foods which should be limited, award points for the lowest amount after choosing three cards.
8. Read the next question to start a new round.

Close Enough Challenges

Read one challenge at the beginning of each round. Graph the percentage as students choose food cards.

1. Choose four foods that will give you 100% of the daily value for calcium.
2. Choose four foods that will give you 100% of the daily value for vitamin A.
3. Choose three foods that will give you 100% of the daily value for vitamin C.
4. Choose five foods that will give you 100% of the daily value for carbohydrates.
5. Choose five foods that will give you *less* than 100% of the daily value of fats.

6. Choose five foods that will give you *less* than 100% of the daily value of sodium.
7. Choose six foods that will give you *more* than 80% of your daily value for dietary fiber.
8. Choose four foods that will give you *more* than 50% of your daily value of iron.

Daily Directions

Day 9

Materials

- Cooperative Group Work Rubric
- Quick Quiz: Reading Nutrition Facts Labels—*class set*
- MyPlate and Servings essay—*class set plus one per team*
- Translating Servings Into Measurements—*class set*

Procedure

1. Separate desks for privacy and distribute **Quick Quiz: Reading Nutrition Facts Labels**. When all students have finished, have students meet as a team and ask the Manager to get the Team Folder. The Leader should read each question and ask his/her teammates to compare answers and see if and where they disagree. Students should refer to the folder copy of the essay to determine which answers are correct. After all the teams have corrected their team papers, have a quick whole class discussion of the answers.
2. Ask Managers to come to you for four copies of the essay **MyPlate and Serving Sizes**. You may run this as a whole class or team activity.
3. If you use the essay as a team activity, remind students of their roles. It is not necessary for students to write answers to the Focus Questions, but to answer them orally within the group.
4. This essay has a lot of information. Some of it is review from other essays, and most of it will be reinforced in the simulation. However, in order to do well on the **Appetizer Test Two**, they must know the daily totals in cups and ounces.
5. When teams have finished reading the essay, give Managers from each team four copies of **Translating Servings into Measurements**. The directions tell them to work independently and then discuss with their team how the servings translated into measurements on the plate. See answers on page 42.
6. Reconvene the class and ask if there are any questions. Go over the answers briefly and insist students correct their paper.
7. (Optional) **Translating Menus to Servings Challenge.** If time allows, ask students to challenge other teams with a menu for a meal. They should write their meal menu and create their own answer sheet. Ask a team to present their menu and challenge the teams to assign servings in each food group. Allow teams time to decide and make

Teaching tip
The website for ChooseMyPlate.gov gives amounts and equivalents, some of which not are not intuitive. 1 cup green beans = 1 vegetables, but 2 cups of salad greens = only 1 cup vegetables. The *CHOW* nutrition cards give the equivalent amounts.

Teaching tip
Asking students to do their own work first requires them to engage in the activity. If it's purely a group activity, some students may "sit out" and wait to hear the group's answers, rather than choosing an answer and trying to convince others of their choice.

an answer sheet. When all the teams are done, have each report their servings analysis. The originating team puts up their evaluation and the whole class decides which of all the teams is most accurate.

Teaching tip

Allow students to take home their essays and charts to study. The extra copy of the essay should remain in the folder. **Appetizer Test Two** is the second major assessment and all teams should study to earn a four-star grade.

8. Announce that there will be a test (**Appetizer Test Two**) at the beginning of the next lesson focusing on what they have learned about percent, Nutrition Facts Labels, MyPlate, and servings. Allow them to take home their quick quizzes, graphic essays, and any charts that may help them.
9. Ask the Leaders to organize the Team Folder and give it to you or put it away
10. (Optional) **A La Carte Activities: Math. #4 High-priced Garbage**, **#7 Part of this Healthy Breakfast**, and **#8 Measure for Measure**.
11. (Optional) **A La Carte Activities: Internet.** Have students check out ChooseMyPlate.gov and create an account online. There are all sorts of activities to reinforce MyPlate.

Answers for Translating Servings into Measurements

#	SERVINGS	GR (1 oz)	VE (½ cup)	FR (½ cup)	DA (1 cup)	PR (1 oz)	DC
1	1 grapefruit			2			
2	1 cup milk + 1 cookie	½			1		1
3	1 cup brown rice	2					
4	1 cup sweetened cereal w/ ½ cup milk	1			½		1
5	2 cups pasta w/ tomato sauce	4	1				
6	2 pieces of toast w/ 1 tablespoon (tbs) butter	2					1
7	1 cup of fruit juice			1			
8	1 cup of cooked green beans		2				
9	1 medium tomato		1				
10	1 cup fat free yogurt w/ ½ cup berries in syrup			½	1		1
11	salad w/ 2 cup lettuce and 1 cup chopped veggies		3				
12	¼ cup raisins and 8 walnuts			½		1	1
13	toasted cheese sandwich made w/ 2 oz. slices cheese	2			1		1
14	2 eggs + 2 slices bacon					3	1
15	½ cup ice cream w/ chocolate syrup				½	¼	3
16	2 sticks of celery stuffed w/ 1 tablespoon peanut butter	1				1	1
17	3 oz. hamburger on a large bun w/ 1 tablespoon tomato ketchup	2				3	1
18	baked potato stuffed w/ ½ cup broccoli and sour cream		2½				1
19	cheese ravioli	1					2
20	bacon, lettuce, and tomato sandwich w/ 1 tbs mayo	2	2				2

Daily Directions

Day 10

Materials

- Appetizer Test Two—*class set*
- Price List and Food Preference—*class set*
- CHOW: A Simulation of Nutrition and Food Budgeting—*class set plus one per team*
- CHOW Procedure—*one per team and one to post*
- Menu and Budget Practice—*one per team*
- Meal Evaluation Practice—*one per team*
- Cooperative Group Work Rubric—*class set*
- Calculators—*two per team*
- Permanent marker or crayon—*class set*

Procedure

1. Separate desks for privacy and distribute **Appetizer Test Two**. Go over the directions so that students know they have to write their answers in the blocks to the right. Also be certain they understand that sometimes there is *more than one answer* so there will be more than one letter in the box.
2. When all the students are finished, collect the test and correct before tomorrow's class.

   Answer Key: Appetizer Test Two

1. C	6. C	11. C	16. C
2. D	7. B	12. A/B	17. B
3. D	8. A	13. C	18. C
4. A	9. C	14. C	19. A
5. A	10. C	15. B	20. water

3. Allow students to put their desks back into a group. Rotate roles and distribute the Team Folders.
4. **Exercise Log**—Use the first few minutes of class to have students update their **Exercise Logs** for the exercise they did the day before.

Teaching tip

When students are very picky eaters, during the simulation the Planner has a much more difficult job, especially if the **Food Fate Card** limits what the Diner can eat.

5. Ask the Managers to come to you for three copies of the **Price List and Food Preference**. Ask students to write their name at the top of the page and take a permanent marker or crayon and strike out any food that they will *not* eat. This is not a matter of food preference, but in fact, of not being able to eat the food—even if they are hungry. For example, students' food allergies or religious values might affect food choice. Once students cross out a food, they can't use that food in the simulation later. Have students staple **Price List and Food Preference** into the cover of their folders.

6. Ask the Managers to come to you for four copies of the introductory essay called **CHOW: A Simulation of Nutrition and Food Budgeting**. As a whole class, go over the information in the essay. There's a lot to absorb all at once, but they are going to have a chance to practice it all right away.

7. Announce that the old roles are going to have new names and new responsibilities.

   - The Leader is now the Planner.
   - The Reader/Recorder is now the Shopper.
   - The Manager is now the Diner.

   They will continue the same role rotation they have been following for the last week. L → R/R → M → L → R/R → M will now become P → S → D → P → S, etc.

8. Ask the Managers to come to you for one copy of the **CHOW Procedure** that they should staple onto the back of the folder. It is a good summary of what needs to be done.

9. Have students take all their Appetizer handouts out of the folder. They should store them in their own loose-leaf binder to study for the Posttest. Distribute the extra copies to students who do not have a full set to study.

10. Ask the Managers to come to you for one copy each of the **Menu and Budget Practice Sheet** and the **Meal Evaluation Practice Sheet**.

    a. Explain that these sheets are just like the sheets they will be using in the *CHOW* simulation. In this case, the first two meals have been planned, bought, and "eaten."

    b. Have them analyze what has happened. The Planner wrote the menu first on the **Menu and Budget Sheet**. She planned to have toast, eggs, cantaloupe, and milk for breakfast. The Shopper took the menu to the store, but because there was no cantaloupe left, the Shopper substituted an orange. The Shopper came back with

the food cards and gave them to the Diner. The Diner had a lot to do. She had to write the calories in one column and fat in the next one. She had to circle an asterisk (*) when a food was high in fat or added sugar. She had to keep track of vitamin A and make the graphs. While the Diner was busy, the Shopper was computing the costs. The Planner was checking to see what the Diner needs before starting to plan the second meal.

c. For the second meal, the team kept their same roles and planned, shopped, and evaluated the lunch meal. They used their calculators to be certain their computations were correct.

d. **CHOW Practice.** The teams now have to plan the last meal of the day. They all should look at what is left to meet the MyPlate guidelines. They have only two more asterisks left so they should be looking for lower fat, lower added sugar foods. They still need to get 30 of the 80% of the vitamin A for the day. They need at least three more ounces of grains, two more vegetables (one has to be orange colored), one more cup of milk, 1 cup of fruit, and two-and-a-half ounces of meat or beans. They can plan for more servings, as long as they don't go over 2200 calories for the whole day. (They earned 200 extra available calories when they rolled the die.) Remind them that they *must work in pencil*.

Teaching tip
Have students use calculators. This is *not* a math unit, but a nutrition unit. Having students do simple addition without a calculator is not the best use of time.

e. Walk around as they do their work. Encourage each team member to assume their rightful responsibilities. Have the Planner write the menu, send the Shoppers to the grocery to pick up the **Food Choice Cards**, and have the Diner evaluate the meal. They should collaborate and help check each other's math. Encourage them to write neatly, so that they can read their own numbers, and spell correctly. (All the words are properly spelled on the cards.)

Teaching tip
The whole team can go into the store, but only the Shopper can touch the food.

11. **Short Debriefing.** When all the teams are finished, have all the Planners report their menus. Have all the Shoppers report the cost of this final meal of the day. Have all the Diners report the total calorie, fat, and vitamin A results. Ask students to share: Was there any confusion? What was the hardest part? Who made the best choices?

12. This is the first practice run-through of the simulation. Tomorrow, they will rotate roles again and actually begin *CHOW*.

13. Have the Planner organize the folder and give it to you or store in a designated place.

14. **Check Student Work.** Before the next class, look at the team's practice work. Using a highlighter, rather than a red pen, highlight errors (spelling? math computations? missing MyPlate servings? too high in fat or calories?) These will be discussed on Day 11.

Daily Directions

Days 11–12

Materials

- Practice Menu and Budget Sheets and Daily Meal Evaluations from the last class
- Daily Team Score Sheet—*one per team*
- MyPlate Guidelines—*one per team*
- Food Fate Cards—*chosen by Diners*
- Cash Consequence Card—*read by teacher*
- Price List and Food Preference—stapled into folder
- Menu and Budget—*one per team*
- Meal Evaluation—*one per team*
- Sample Team Score Sheet—*one per team*
- Cooperative Group Work Rubric—*class set*
- Six-sided dice—*one per team*
- Calculators—*at least two per team*

Teaching tip

The first day of *CHOW* can be a bit overwhelming and your students will be starting with less time because they had to look over their tests and evaluate their practice sheets. Allow students two days to complete the first day of the simulation (three meals). Do *not* rotate roles until you are starting the second day of the simulation.

Teaching tip

In some cases, students who did poorly just didn't study enough. Allow those students who did not make a three-star rating to study more and retake the test at a later date to improve their grades.

Procedure

1. Set up the classroom grocery. Standing the "shelves" along a back counter or on a series of desks in a row works well. Some teachers securely pin the shelves to a bulletin board.
2. Allow students to put their desks into a group and distribute the Team Folders.
3. **Exercise Log**—Have students update their **Exercise Logs** for the exercise they did the day before.
4. Return graded **Appetizer Test Two** to students in their teams. Have them look over their answers and see where they made mistakes, if any. Allow class discussion of the test and help students who might be confused. After discussing the test, *collect it again* and store it until the very end of the unit.
5. Hand back or have students find in their folders the **Practice Menu and Budget Practice Sheet** and **Practice Daily Meal Evaluation** you corrected last night. Have them look over the errors you found. Hand out **Monitoring MyPlate Guidelines**. Ask teams to evaluate the

menus planned during the practice round using the 1–4 Rubric. They will complete this evaluation after each round for Days 1–3 so they should staple the handout to the inside of their folders.

6. Distribute a **Sample Daily Team Score Sheet** to each team. Discuss possible error, etc. from the **Sample Daily Team Score Sheet**. Now ask them to look at their work and do a self-evaluation of what they might have earned in points from the Practice. Tell them that you will be using the **Daily Team Score Sheet** to evaluate the work they begin today.

7. Announce again new roles and new responsibilities. They will continue the role rotation from yesterday P → S → D → P → S, etc.

8. Ask the new Diners to come to you for one copy each of **Menu and Budget Sheet** and the **Meal Evaluation** for their team. Tell the Planner to fill in the team names and role names on the top of both sheets. Tell the Shoppers that they have a budget of $53 for three days so they should put that amount in the box marked Balance. Ask students to use division to determine an approximate daily budget.

9. Have teams look at the **CHOW Procedure** handout. Step 1 tells them that you will read a **Cash Consequence Card** for the whole class. (The Shoppers should put in the amount they must pay in the Cash Consequence box and subtract it to find the Beginning Balance or apply the Cash consequence to the daily food prices.) Diners from each team will come to you to pick a **Food Fate Card** and roll an **Exercise Die** for their team fates. See Roll the Die Fates in the margin.

10. Once the fate cards have been read and the die has been rolled, then the simulation may begin. Have students follow the directions, working *one meal at a time*! When you are not being the "grocer," observe the teams as they work and offer help as needed. Remind them not to worry too much about time today because they will have time tomorrow to finish all the meals for Day 1.

11. Ten minutes before the end of the period, tell students to hurry to finish copying the information off the **Food Choice Cards**. (They can do the math and complete the graphs later). Five minutes before the end of the period, have the Shoppers return all **Food Choice Cards** to the grocery.

12. Have the Planner organize the Team Folder and give it to you.

Roll the Die Fates

Have a student roll the **Exercise Die**. Announce their fate or make a chart of the fates on the board for them to read:

1. You sat on the couch all day. No exercise and no increase in daily allowance.
2. You walked 10,000 steps today. Add 200 extra available calories to your daily allowance.
3. You played a wicked game of basketball for 45 minutes today. Add 275 extra available calories to your daily allowance.
4. You sat at your computer all day. No exercise and no increase in daily allowance.
5. You went to a party and danced fast for 3 hours. Add 250 extra available calories to your daily allowance.
6. You rode your bike 10 miles today. Add 200 extra available calories to your daily allowance.

Bright Idea

Check out the following link or put "Exercise + calories" in your search engine to find out the calorie expenditure for other exercises:

http://www.prohealth.com/weightloss/tools/exercise/calculator2_2.cfm

Teaching tip

Quickly check all the folders before the next class to catch any problems. Highlight obvious errors.

Day 12

1. Fill in the **Exercise Logs**.
2. Set up the Grocery, but do *not* rotate roles. Students stay in the same roles until they complete three meals. Review the **CHOW Procedure**.
3. Complete all the meals for Day One of the simulation.
4. When the teams are finished, make sure the Planners put all the **Food Choice Cards** back in the grocery. Have teams check over their sheets for computation errors and spelling errors.
5. Collect the folders and correct all the sheets. Complete the **Daily Team Score Sheet** before the next time the class meets. It is very important that you correct the folders at the end of each day. Your students need feedback right away. If time is short, spend the most time looking to see that your students have met the MyPlate guidelines. Use the highlighter instead of a red pen because it allows students to erase and correct their mistakes.
6. **Monitoring MyPlate Guidelines.** At the end of every day of *CHOW*, have the Planner read all the guidelines and ask the whole team how they did to determine a team score. The scale runs from 1–Not so good to 4–Awesome! This is a self evaluation, not a grading opportunity. Students should reflect on how well they did and what they will do differently the next time.
7. Remind students that they will be taking a **Posttest** at the end of the unit. Encourage them to study their handouts, Focus Questions, graphic organizers, and **Quick Quizzes**.

Daily Directions

Days 13–14

Materials

- Daily Team Score Sheet—*one per team*
- Food Fate Cards—*chosen by Diners*
- Cash Consequence Card—*read by teacher*
- Price List and Food Preference—stapled into folder
- Menu and Budget—*one per team*
- Meal Evaluation—*one per team*
- Cooperative Group Work Rubric—*class set*
- Calculators—*at least two per team*

Procedure

1. Set up the grocery for the second day of simulation.
2. Arrange the room into teams. Allow students to fill in their **Exercise Logs**. Rotate the roles and distribute the Team Folders.
3. Before starting the second day of simulation, provide feedback to students for the first day using the **Daily Team Score Sheet**. Show them how to improve their scores and encourage them to strive for a four-star rating. Keep an eye on teams that you believe may not earn at least a three-star rating today and provide the support or discipline to help them succeed.
4. Follow the **CHOW Procedure** reading a **Cash Consequence Card** and having the Diners pick a **Food Fate Card** and roll the **Exercise Die**.
5. When the teams are finished, make sure the Planners put all the **Food Choice Cards** back in the grocery. Have teams check over their sheets for computation errors and spelling errors. Tell teams to complete the **Monitoring MyPlate Guidelines** for Day Two.
6. If you finish before the end of the period, take advantage of a Student Audit and have teams check the computations on another team's **Menu and Budget** and **Daily Meal Evaluations**.
7. Collect the folders and correct all the sheets. Complete the **Daily Team Score Sheet** before the next time the class meets. It's *very* important that you correct the folders at the end of each day. Your students need feedback right away. If time is short, spend the most time looking to see that your students have met the MyPlate guidelines. Use the highlighter instead of a red pen because it allows students to erase and correct their mistakes.

Teaching tip
On the first day of the simulation, you and your class might have been a bit overwhelmed, but you will be surprised how quickly they catch on to their responsibilities and complete their tasks in one period.

Bright Idea
Student Audits. A handy way to lighten your correcting load is to allow other teams to check *only* the math calculations on another team's sheets. You can do these as part of your math class, too.

Teaching tip
Follow the same directions if you want to run the simulation a few more days. Add $15 for every extra day.

Day 14

1. Set up the grocery for the last day of the simulation.
2. Hand back the folders and go over the **Daily Team Score Sheet** from yesterday. Answer student questions and encourage them to do their best today.
3. Rotate the roles so that each student has held all three roles for a one full day of simulation.

Teaching tip
Ask students to take home the **Monitoring MyPlate Guidelines** and use it to evaluate their own or their family's food choices.

4. Follow the **CHOW Procedure.** Remind students to check their spelling and computations. They should also complete the **Monitoring MyPlate Guidelines** for Day 3.
5. Have Planners put food back into the grocery. Have students organize the pages in the folder so you can find them easily. Have the Planner return the folder to you. Announce that there will be a **Posttest** tomorrow.

Before Day 15, the final day

6. Correct the Team Folder *before* the last day.
7. Add up the total Team Scores to determine who has earned four-star or three-star ratings.
8. Check through the **Exercise Logs**. Consider giving four-star and three-star ratings for good **Exercise Logs**.
9. Give an overall **Cooperative Group Work Score** for each team and each individual on the team. Recognize those with consistent three-star and four-star ratings.
10. Make a list of students who completed good **A La Carte Activities**, especially those earning four-star or three-star ratings.

Daily Directions

Day 15

Materials

- Cooperative Group Work Rubric—*class set*
- Questionnaire—*class set*
- First Questionnaire taken on Day One of the unit
- Posttest—*class set*

Procedure

1. Announce the team scores and individual scores as of today. If you want to include scores from the **Posttest**, delay announcing points until after you have corrected the **Posttest**. Recognize those who have met the three-star ratings and who had achieved four-star ratings in daily work or in **A La Carte** projects.
2. Announce Cooperative Group Work Score for each team and each individual in the team. Recognize those with consistent three-star and four-star ratings.
3. Conduct a Debriefing
   - Ask students to reflect on what strategies they used to successfully complete the simulation.
   - Ask students if they are changing how they are eating, or at least thinking about what they are eating now.
   - Ask students if they have talked about the simulation at home. Do they appreciate how much work it is for their parent(s) to put healthy food on the table?
   - Ask if the **Exercise Logs** have helped them to be more active.
4. Allow students to take the **Questionnaire** again. After they are finished, give them the first **Questionnaire** they took and ask them to compare their answers.
5. Separate the desks for privacy. Administer the **Posttest**.

   See page 16 for the answers to the **Posttest**.
6. Ask teams to organize their folders and give them to you.
7. Today, at the next class meeting, or when you have time, have an age-appropriate awards ceremony and award certificates to recognize student achievement in Nutrition, Cooperation, Earned Points, or **A La Carte Activities**. Be certain to recognize improvements between the **Pretest** and **Posttest**.

Teaching tip
Consider what you want to do for those teams or individuals who did not earn at least a three-star rating. You might assign **A La Carte Activities**, including those on the ChooseMyPlate.gov website, in order to earn points.

A La Carte

Art

1. **Food, Glorious Food Collage.** In order to make the Food Choice Cards for the simulation, your class has collected lots of extra pictures from magazines and newspaper flyers with which to make a large class collage of food. Cover an entire bulletin board, or make the collage When the collage is finished, add descriptive words or phrases. These may be handwritten, computer printed, or just exciting words cut from magazines. The bigger the collage, the more dramatic it will be.

2. **Mobiles.** Make mobiles of MyPlate individually or in groups and hang them about the room. Trace an outline of the plate sections including the glass for dairy onto oak tag and cut them out. Decorate the sections with pictures clipped from magazines on one side and the number of recommended servings on the back. Punch holes in the bottoms and tops of each piece and string them back together using yarn, string, fishing line, or ribbon.

3. **Food Sculpture**. Direct the students to design and sculpt various items by carving fruits or vegetables or assembling several pieces of food. You may decide to leave the choice of design completely open, or you may prefer to give specific directions such as, "Using only edible items, design a model of a race car," or "Using only edible items, make a portrait of a famous American." If students do a web search putting "Carl Warner + Foodscapes" into the search box, they will find an amazing number of photos showing at first what looks like ordinary landscapes until they realize they are all constructed from different kinds of food.

4. **Food, All "Dolled Up."** Using only fruits and vegetables to make the doll figures, have the students make paper-doll outfits or, better still, cloth clothing outfits. The students may make the clothing to represent a certain period of history (e.g., Parsnip Pilgrims) or characters from a book they have read. They may create the edible characters and put them into a diorama of a scene from history or literature.

5. **Pumpkin Carving.** This traditional activity always provides an opportunity to be creative. Students who may balk at some art activities are often comfortable with pumpkin carving. If you prefer, students may be directed to paint faces on their pumpkins using a thick poster paint. Caution: painted pumpkins do not travel well in damp weather!

6. **Dried Apple Faces.** This is also a traditional craft activity. Students peel and core the apples. Using plastic knives, they cut into the white apple to make eyes, a nose, and a mouth. Immerse the carved apple

into salted water (2 tablespoons for 1 cup water) for one hour, or rub the apple surface thoroughly with salt. Store the apple in a dry area away from direct sunlight. Individual plastic or glass containers may be used for storage. Be sure to label the apples because as the apples shrivel, the apples are harder to identify. After two to three weeks, the apple dries, shrivels, and the face appears to be that of a very old person. Students may glue on hair or add a hat. These apple faces are sometimes attached by Popsicle stick or dowel to doll bodies or hand puppets. Doll bodies may be made from cardboard or pipe cleaners and covered with fabric.

7. **Printing.** Many firm fruits and vegetables make ideal printing implements. Using only plastic knives, pencil tips, and toothpicks, students may carve the flat surface of a halved potato to develop a print design. Some fruits such as apples and oranges make interesting designs when cut in half. Fish prints are also very effective. And what to print? Almost anything. If you are making stationery or wrapping paper, then poster paint will work fine. If, however, you want to set aside a day when students may print tee-shirts, then be sure to have fabric paint available.

8. **Pasta Prints.** Pasta also makes an ideal material for making block prints. Students may glue different kinds of pasta arranged in a design to make the print plate.

9. **Beans, Beans, Beans.** Beans and other dried legumes make beautiful pieces for mosaic pictures. Students merely create a simple picture or design on a square of heavy cardboard. By gluing different beans over the picture, they create a textured piece of art. Warn your students not to make the design too intricate. The beans may not be small enough to describe the picture. Geometric designs and simple landscapes are most effective. Tacky white glue works the best. Store the mosaics away from a heat source.

10. **Designer Bag.** For this activity you may use paper bags, reusable canvas sacks, or poster board. The students create a design to put on a shopping bag. The design should promote the servings recommended in MyPlate or some aspect of good nutrition. With the cooperation of a grocery, the bags or posters could be posted at the front of the store or in appropriate aisles. If you use fabric paint, students could decorate their family's reusable cloth tote bags.

11. **Pasta and the Seven Wonders of the World.** Ask your students to build a model or enhanced picture of one of the Seven Wonders of the World using only pasta. This will require the students to research the Seven Wonders of the World and is an ideal team project.

A La Carte

Home Economics

1. **Schoolhouse Cafe.** Hectic schedules have caused many families to give up on the tradition of an evening meal served in the dining room, or even in a restaurant with full service. To instruct students in the etiquette of proper dining, set up a classroom restaurant with one third of the class acting as servers and the rest of the class as diners. Dim the lights and play soft music to add atmosphere. Rotate the roles of diner and servers so that everyone plays each role.

   a. **Setting the table.** One of the casualties of our eat-and-run society is that children have not been instructed on how to set the table. (Many of our students believe that the silverware should be wrapped in the napkin and placed in the water glass as they had seen in restaurants before the waiter sets their place.) Our solution is to put the servers in charge of setting the table for two before taking orders from the diners. The diners politely place an order. Paper plates and plastic silverware are adequate, but students may be encouraged to decorate their dining area.

   b. **Menus.** Direct students to create menus that include a la carte options and several courses. Ask local restaurants if they would allow you to borrow or photocopy their menus so that students have a model to follow. Encourage students to use tantalizing language to describe the food on the menus. For example: "smothered in a rich, cheese sauce" or "baked until crisp, with no added fat."

   c. **The Bill.** A third part of this activity can be to ask the diners to estimate the price of the meal, but require the server to total the actual cost of the meal and add a 7% meal tax. The diners then estimate a 15% or 20% tip depending on the service. (This activity is also part of the math activities so your students may have had some practice with these calculations before setting up the classroom restaurant.)

   d. **Don't Play With Your Food!** A class discussion of how to use a napkin, where to place used silverware, the "boarding house reach," and other aspects of dining etiquette. To add a little fun, have the students role-play both bad and good manners.

2. **It Slices! It Dices!** Introduce your students to the many tools used in preparing food. Although parents may not allow students to use power appliances such as a food processor, students may be able to use peelers and hand graters safely. Discuss the difference between slicing, dicing, and mincing. Classroom demonstrations with edible results are fun.

Teaching tip

Use a cookbook or home economics book for proper place settings. Have "races" to see who can set the table correctly in the shortest amount of time.

3. **Boiled in Oil.** A young homemaker was unaware of what should be done when told to brown a roast in oil before putting it in the oven. So, she submerged the roast in oil, and then could not understand why it never turned brown. Introduce the many terms used to cook food including: bake, boil, broil, braise, brown, roast, simmer, fry, deep-fry, and microwave.

4. **Rube Goldberg Revisited.** On page 86 is an example of one of Rube Goldberg's inventions. Either make this into an over-lay transparency or duplicate it as a handout. Then discuss the elaborate "process" he used to complete this simple task. Ask the students to create on paper their own Rube Goldberg invention to make toast or fry an egg. They may be interested to realize that many prepared foods go through a "Rube Goldberg-like" process from start to finish. Investigate how a commercial bread operation makes thousands of loaves of bread per day.

5. **Make it Lite.** Almost everyone knows that eating too much fat is not healthy. But how can we give up our favorite fat-filled recipes? In some cases there is no way to take fat from a recipe without ruining it. In these cases, the goal is to limit the amount eaten or the number of times it is served each month. However, many recipes can be made with less fat. For example, low-fat frozen yogurt and non-dairy whipped topping can be substituted for rich ice cream with a whipped cream topping. Another example is a lower fat substitute for fried chicken: the chicken is first skinned, dipped in low-fat milk, covered with a mixture of bread crumbs and parmesan cheese, and baked in the oven. Ask students to bring in their favorite recipes from home. Identify the high-fat ingredients and make substitutions having less fat. At the end of the activity, your class may assemble the new recipes into a class cookbook of low-fat favorites.

A La Carte

English Language Arts

1. **Oops! What Did I Order?** In this activity, the students must find the food word for the homonym–the word which sounds like the food. This activity works well as a center or, if you have the software, can be made into a word search where one homonym is given as a clue and the second is in the puzzle.

   Give the students the words in Column 1 and direct them to find the correct homonym. (The answers are in Column 2.)

bury	berry
bullion	bouillon
carat	carrot
serial	cereal
chilly	chili
current	currant
desert	dessert
doe	dough
flower	flour
jamb	jam
maze	maize
meet	meat
muscle	mussel
pair	pear
pi	pie
plumb	plum
row	roe
role	roll
wry	rye
stake	steak
suite	sweet
yoke	yolk

2. **Food in the File.** In this activity, take your class to the library to look through the catalog for titles of books that contain food names. Some to look for include *Do Bananas Chew Gum? A Hero Isn't Nothing but a Sandwich, The Pistachio Prescription*.

3. **Say What?** Every area of the country has local names for common foods. Here is a short list of some local names. Ask your students to first guess what these foods may be, then research and write what they really are. When they finish this list, perhaps they can generate a longer list of local names by asking relatives and friends who live in other parts of the country.

hoagie	cabinet	submarine
tube steak	hush puppy	scratch egg
toad in the hole	grinder	oily cake
pig in a blanket	bird seed	pop

4. **As Easy as One, Two, Three.** In this activity, ask the students to write complete directions for preparing a food or making a simple recipe. To make it more fun, have students work in teams. When all have finished, ask one team to literally act out the directions as another team reads them aloud. Instruct them to do *only* what the directions say.

Prepare a food:
cracking an egg into a pan
peeling an orange
baking a potato
making popcorn

A simple recipe:
chocolate milk
hot dog with the works
tuna salad sandwich
PBJ or BLT sandwich

5. **Hard Sell—Advertising.** In this activity students evaluate advertising techniques used to "make" consumers buy a certain product. Have them discuss their favorite ad or commercial. What about the advertising makes the product appealing to them? By clipping ads from magazines and newspapers you can make a class bulletin board or individual posters showing the different forms of advertising strategies. Students may want to write and perform their own commercials on videotape or live before their class. Can they recognize the major forms of propaganda at work in the ad?

   - *Bandwagon*—Everyone Eats Crunchies.
   - *Testimonial*—Elvis said, "I always brushed with Star Toothpaste."
   - *Using emotional words*—Tired of flat tasting city water? Take a 10-minute vacation to the mountains with cool, crystal clear Alpine Spring tonic.
   - *Catchy jingles and slogans*—I wish I were an Oscar Meyer Weiner and Wheaties—Breakfast of Champions.

6. **On the Tip of your Tongue.** The English language is a colorful one, filled with words and expressions that are fun to contemplate. Below is a list of foods that have figurative meaning but may be thought about

in a literal sense. To demonstrate the difference between literal and figurative language, ask the students to make two drawings showing the word in first the figurative sense and then in the literal sense.

tossed salad	banana split	devil's food cake
eggs sunny side up	angel food cake	eggplant
red flannel hash	Indian pudding	French toast

Some familiar expressions use food words:

Smart cookie	Can't cut the mustard
Lay an egg	With a grain of salt
Cream of the Crop	Pleased as punch
The Big Cheese	Bring home the bacon

Ask your students to contribute examples of their own.

7. **Appetizing Adjectives.** This may be played as a guessing game. A team thinks of a food and writes a list of adjectives that describe its taste, smell, color, and means of preparation (mashed, grated, boiled, etc.). The team provides two adjectives and invites the rest of the class to guess. If no one guesses correctly, then the team provides two more adjectives or descriptive phrases. Continue until someone guesses correctly. Use this activity as a prewriting activity for a descriptive paragraph.

8. **Parts of Speech A La Carte.** Use food words to reinforce your language arts lessons. Students may not realize that how a word is used in a sentence determines what part of speech the word will be. To reinforce this concept, ask the students to write a sentence using "carrot" as a noun and an adjective. (I put four carrots in my carrot salad.) Or ask them to tell you what part of speech the word "fish" is in the following sentence: *I will fish for five fish so I can make my famous fish chowder*.

   - **Verbs.** Ask the students to make a list of verbs related to foods: *Cook, chew, chop, slice, swallow, mash, etc*.
   - **Adverbs.** Using the verbs above, ask the students to demonstrate the verb in the manner described by the adverb. *Chop vigorously, chew slowly, slice carefully*.
   - **Prepositions.** Use actual food to show that prepositions often describe the position of nouns. *Put the cracker on the table, over your head, into your mouth*.

9. **Is Spelling Your Cup of Tea?**

   - **Word Searches.** You can reinforce spelling and nutrition information by using software to make puzzles in which clues are

given as to food group or vitamin source. The student must find the correct words. Example: There are five foods hidden in the word search which are good sources of vitamin C. There are three other foods which are poor sources. Circle all the words, but list only those which are good sources at the bottom of the page.

- **Hangman.** The students may play this traditional game on their own. Just ask that the words they choose have something to do with food or nutrition, or come from the vocabulary lists provided.
- **Name That Food.** One student gives only the vowels of a food word and one clue. For example: _e_ea_. This food is part of the bread group (*CeReaL*).

10. **Poetry.** Students may use the opportunity of writing poetry to present nutrition information in a short, yet creative way.

    - **Haiku.** In these poems students write three lines. Lines one and three may have only five syllables. Line two has seven syllables. The students may take the opportunity to describe a food elegantly:

      Ripe, red tomatoes
      Hang heavy on garden vines
      Waiting for salads

    - **Names.** Students write the name of a food one letter to the line vertically. They then write descriptive words beginning with the letter at the first of the line.

      Cabbage
      Crunchy when raw
      A leafy vegetable
      Boiled with corned beef
      Baked
      And stuffed
      Great in coleslaw
      Eaten as sauerkraut

    - **Cinquain.** Five-line poems: First line—the food name, second line—two adjectives describing it (sensory), third line—three participles (-ing words), fourth line—a descriptive phrase, fifth line—a homonym, nickname, or repeat of line one.

      Lasagna
      Hot, tasty
      Bubbling, steaming, baking
      Layers of pasta and cheese
      Italian delight!

11. **A Penny for Your Thoughts.** Below is a list of ideas for short writing assignments. These may be put in a center or assigned each day to develop fluency with writing.

    - Describe a feast of your favorite foods.
    - Describe your idea of a gross meal.
    - Describe an all-white meal.
    - What is the opposite of a tomato? Explain your choice.
    - You are a food whose shelf-life date expires this afternoon. Describe your last day.
    - You are a fruit among hundreds of others waiting to be bought. What do you do to escape being bought? OR how do you make the consumer purchase you?
    - Describe the perfect picnic you have planned.
    - Pretend you are an "uninvited guest" (mouse, roach, ant) at a special affair. What happens?
    - Create special menus. These can be silly: an all chocolate menu of fudge soup, chicken with chocolate chips, etc. These can be clever if there's a theme: Knight's Nachos with Page Peppers and Lance Lemonade.

12. **Extra! Extra!** Students may write silly news stories that mimic local, national, or international news stories only the news figures are foods. For example:

    Wild Carrot Robs Bank - Witnesses say that a large vegetable walked into the bank a little after lunchtime and insisted that the tellers put all the money into a salad spinner he was carrying. Although he was wearing a mask, one witness said that he was orange and had green hair. Police urge caution as he was armed with a small paring knife.

13. **Fables.** Fables are very short stories that are passed from one generation to the next and teach a lesson or moral. Many famous fables used food as part of the moral. Direct your students to write an original fable which teaches a lesson and ends with one of the suggested morals below. They may come up with an original moral using a food word as well. (If students are unfamiliar with the form of a fable, read a few famous fables aloud and discuss the literary form.)

    - Don't count your chickens before they hatch.
    - Don't cry over spilled milk.

- The proof of the pudding is in the eating.
- Half a loaf is better than none.
- Too many cooks spoil the broth.
- You can't have your cake and eat it, too.

14. **Research Reports**. Remind the students that they should never just copy from an encyclopedia or reference book or download a page from the Internet. Research reports should be written in the student's own words, and the source of the information should be given in a short bibliography. Possible topics for research are given here. Other ideas for reports are described in other parts of this Teacher's Guide or can be taken from the vocabulary lists.

    - Trace the history of food preservation.
    - Investigate the different diseases related to vitamin deficiency, such as scurvy, pellagra, beriberi, etc.
    - Investigate the effect of diet on common health problems such as heart disease, hypertension, osteoporosis, etc.
    - What is food poisoning and how can it be prevented?
    - Who is Louis Pasteur and why is he famous in nutrition?
    - What is the FDA and what are its duties?
    - What is the USDA and what are its duties?
    - What is the difference among monosaturated, polyunsaturated, saturated fats, and trans fats?
    - Investigate cholesterol, cholesterol levels (LDL and HDL), and food sources of cholesterol.
    - Research the Irish Potato Famine.
    - Research the current famine in East Africa.
    - Investigate the growing obesity problem in the U.S. population.

A La Carte

Math

Teaching tip
The **A La Carte: Math** section is standards-based with activities designed to use math concepts in real-life applications.

1. **Better Buy.** Very often customers find extra large sizes of a food product at the supermarket. They naturally assume that because it is a large size, then it is an economical size. This is often not the case. Very often, the unit price (cost per oz. or serving) is listed on a tag attached to the grocery shelf. However, if there is no tag, a good consumer can figure out the unit price of both the large and the smaller size. Using actual product prices or making up your own examples, give your students the opportunity to determine what is a "better buy." They should use a calculator and follow this procedure.

   Small Package: Servings = 5, Cost = $.60

   Large Package Servings = 14, Cost = $1.54

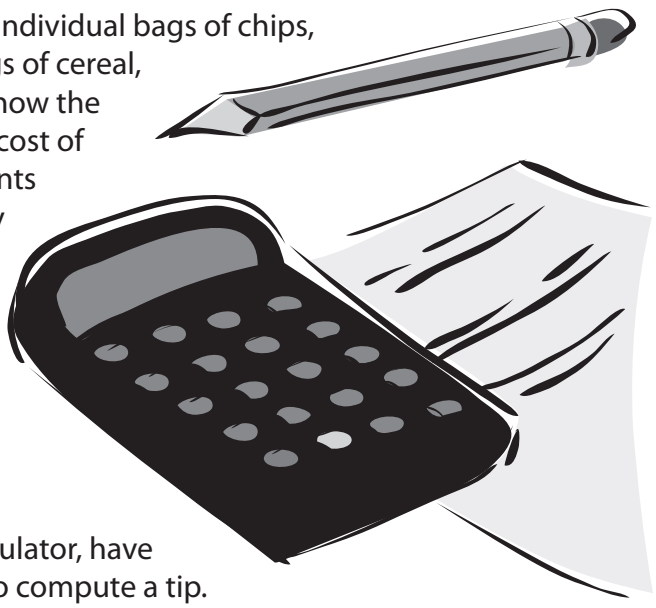
   a. Enter the cost of the smaller item and then divide it by the number of servings in the smaller package. This will give them the unit cost—the cost per serving: .60 ÷ 5 = $.12

   b. Multiply the cost per serving (for the smaller package) by the number of servings in the larger package.

      $.12 × 14 = $1.68

   c. Compare the cost you determined in part b ($1.68) to the actual cost of the larger item. ($1.54) The larger size is the better buy. If, however, the cost had been less than the price of the larger item, then the smaller size would have been the better buy.

   d. Note: The cost of individual bags of chips, individual servings of cereal, and juice boxes show the surprisingly high cost of packaging. Students will realize that by buying larger quantities and packing their own small portions, they will make dramatic savings.



2. **Tipping.** Using a calculator, have your students learn to compute a tip. Let them know that waitpersons do not receive

the same minimum wages as other people. They get a significantly lower minimum wage, but expect tips to boost their earnings. Tipping rewards a waitperson for their good service. A good tip is 15% and a generous tip is 20%. A lower tip percentage sends the message that you thought the service was poor.

How to Calculate a Tip:

a. Enter the cost of the meal.

b. Multiply by either 15% or 20%. This will give you the cost of the tip. Add that to the bill. Example: \$25 meal × 15% = \$3.75.
\$25 + \$3.75 = \$28.75

c. A shortcut would be to multiply the cost of the meal by 1.15 (or times 1.2) to get the total amount.

(25 × 1.15 = \$28.75)

d. Explain that some places, such as fast food restaurants, require no tipping. Sometimes certain eating places add the tip into the bill *before* the customer receives it, especially if the dining party is six or more. The tip is identified on the bill as a "gratuity" or "service charge." Check before you pay a bill.

e. A fun activity would be to prepare restaurant bills and ask the students to estimate the cost so that they are not overcharged.

f. Then ask them to determine a tip mentally by rounding the bill and multiplying it by 10.

g. If they want to be a generous tipper, they can double the 10% to figure a 20% tip.

h. If they want 15%, they halve what they calculated in Part B and add it to the 10%. Example (15% of \$20 = \$2 + \$1 = \$3)

i. This activity works well with a Home Economics activity: School House Cafe.

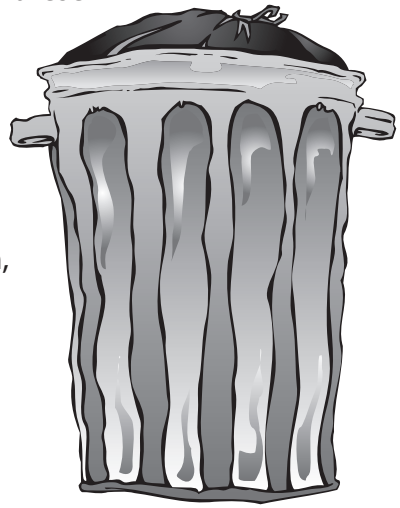
3. **Out to Lunch with Friends.** Unless someone plans to always pick up the whole tab, then being able to split the cost of meals is an important skill.

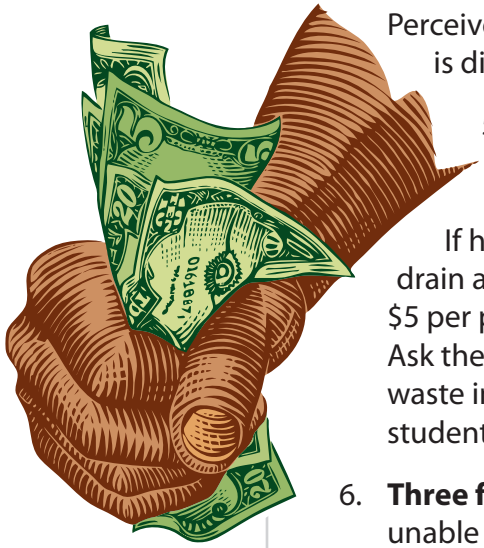
a. First use the calculators to determine an exact share three friends would owe for the meals plus tip. Start with easy numbers such as \$24 or \$36. Gradually work with more difficult numbers.

b. Next have students practice mental division and check their answers with the calculator. Again start with easier numbers and work to more difficult ones.

c. Help students realize that exact calculations are not so important. An answer that is within a dollar is generally okay among friends as long as the bill and tip is covered. Remind them, too, to see if the tip has already been added to the bill.

4. **High-priced Garbage.** Just how much of a food do we throw away because parts of it are inedible? For example, what costs more per pound: Apples? Oranges? Bananas? A consumer can't just compare the price per pound because we don't eat all of these fruits. There are peels, rinds, and cores to consider. An interesting activity is to have the students determine how much of the fruit is thrown away. For this activity you need balances and counting pieces. How many counting pieces will balance a whole banana? Now peel the banana and answer the question, how many counting pieces will balance the banana peel? Example: A person bought a banana for 30 cents. If the whole banana balanced 40 counting pieces and the peel balanced 20 pieces, then the peel (which is discarded) cost half or 15 cents. In another example, an apple cost 35 cents, but after measuring, the students find out the core represents one-fourth of the fruit. The waste cost about nine cents. (You may use the Percent Perceiver to help students visualize how much of the fruit is discarded.)





5. **Lean and Mean.** Students will also be surprised by the cost of waste in meats. Ask them to evaluate the cost of the fat that we hopefully trim or drain from meat before eating. If hamburger costs $4 per pound and contains 20% fat, then we drain and throw away 80 cents. If a more expensive cut of meat costs $5 per pound but is only 10% fat, then we throw away only 50 cents. Ask the students to use calculators to determine the cost of fat and waste in meat products. (You may use the Percent Perceiver to help students visualize how much of the meat purchased is fat.)

6. **Three for a Dollar.** Surprisingly, many of your students might be unable to figure out how much one item will cost if it is priced as part of three for a dollar. Give them some practice. First ask them to estimate and then they may use calculators to check their estimations. They will have to learn to round up the remaining decimal to the next cent. Look at store brochures for other examples. Also ask how much two items would cost if they were priced as a group of three.

7. **Part of this Healthy Breakfast.** Today many breakfast cereals targeted for children's palates are very high in sugar. A good activity is to have the students actually measure the amount of sugars and carbohydrates in a serving of cereal. A teaspoon of sugar weighs about five grams and a teaspoon of flour (less dense) weighs about three grams. If a cereal had 13 grams of sugar, 0 fiber, and 28 grams of carbohydrate, your students should measure out 2½ teaspoons of sugar. To figure the flour, they need to subtract the sugar and fiber from the total carbohydrate amount. (28 – 13 = 15) 15g of carb (starch) equals 5 teaspoons of flour. They may be impressed (under impressed?) with how little food is actually in a bowl of fun cereal. (If they enter into a calculator the amount of sugar in grams and divide it by the total number of grams per serving, they can determine the percentage of the food by weight that is made up of sugar. You may use the Percent Perceiver to help students visualize that percentage. In some cereals it is more than half!

8. **Measure for Measure.** Many measurements are used in recipes—3 teaspoons in 1 tablespoon, 16 tablespoons in 1 cup, 2 cups in a pint, 2 pints in a quart, 4 quarts in a gallon. A further division is half cup, third cup, quarter cup. Elementary school is a good time to learn and to practice using these measurements and measuring tools. A sand table or water table is an ideal place to just experiment with equivalent measurements. A little less messy would be a dishpan filled with rice, corn kernels, or lentils. Although the metric system was to be in place years ago, it has never been widely accepted in the United States. Students still must understand and use the English system.

A La Carte

Science

Teaching tip
The **A la Carte: Science/Health** section teaches the structure and function of the digestive system. Knowledge of body systems is part of both Health and Science standards.

It is not essential that students understand the digestive system before participating in *CHOW*. It does, however, add another dimension to the study of nutrition. How does food get from the mouth to each body cell? See outline map of digestive system on page 83.

1. **What a Pretty Smile You Have!** The students must understand that the first part of digestion is a mechanical process of making the food particles smaller, thereby increasing their surface area.

   Experiment: Materials include two clear plastic cups, warm water from the tap, a thermometer, a sugar cube and an equivalent amount of granulated sugar. Measure 200 ml (6 oz) of warm water into 2 separate cups and determine that the water temperature in each is the same. Designate one member of the lab team as timer. Ask the other members to do the following all at the same time: Add the sugar cube to one cup and the granulated to the second cup. Gently stir and time how long it takes for each sugar to dissolve. Discuss why one dissolved faster than did the other. (Explanation: At any instant the warm water could only dissolve the outside surface of the sugar cube. The granulated sugar allowed the water to reach many surfaces of the equivalent amount of sugar.) What would they expect to happen if they crushed the sugar cube and then added it to the warm water? Try it. (You may also use a hard candy ball and a crushed candy ball to complete this activity.)

   Results: From this experiment the students should realize that in the mouth, our teeth work mechanically to grind food into smaller and smaller pieces. Incomplete chewing not only makes food difficult to swallow, but can interfere with the digestion in the stomach. Review the functions of different teeth (incisors, canines, and molars) and compare them to different food preparation tools including knives, mashers, etc.

2. **Chemicals in the Mouth.** The chemical process of digestion also starts in the mouth. Chemical changes are not those of size, they are actual changes in the food—carbohydrates (starches) become simple sugars. In order for the chemical changes to occur, an enzyme must be present. Enzymes are catalysts (accelerators) of chemical reactions, and they are found in the mouth, stomach, and small intestines. The first enzyme (amylase) is found in saliva and begins the process of breaking down starches into simple sugars.

Experiment: Materials include small pieces of food (crackers, bread, potato, apple, soda, candy, bologna, peanut butter) and a sample each of flour, cornstarch, salt, and sugar, 3 oz. paper cups, eyedropper, and iodine (Warning! Iodine is poisonous and stains clothing and skin. Supervise carefully!) Students place pieces of different foods into the paper cups. Label the foods on a piece of paper under each cup. Using the eyedropper, drop one drop of iodine on each food sample. Observe. If the food turns black, then the food contains starch (cornstarch and potatoes are very dramatic.) Record results. Make a list on the board of those foods with high starch content. Note which food groups are represented. Clean up the work area and discard *all* the food samples that have been tested with iodine. Now give each student a new cracker and two clean cups. Direct them to put a small piece of cracker in one cup, and put the second piece of cracker in their mouth and chew slowly without swallowing. After the cracker is fully chewed, spit it out into the second cup. (A little gross, but the results are instructive.) Now test for starch. Put one drop iodine on the un-chewed cracker and one drop on the chewed cracker. Record the observations.

Results. In most cases, the amount of starch is greatly diminished in the chewed cracker proving that the starches have begun to be broken down into simple sugars right in the mouth.

3. **Down the Right Pipe.** The students have heard the expression, "It went down the wrong pipe." The wrong pipe is the *trachea*, a tube that leads to the lungs. The right pipe is the *esophagus*. This straight tube contains no enzymes and is lined with mucus so that food slips along. However, gravity does not move food to the stomach. We can eat while lying down (even upside down) but it's not advisable. (Remember the "wrong pipe.") So if it's not gravity, what is it? *Peristalsis*. The smooth muscles that line the esophagus alternately squeeze the food along.

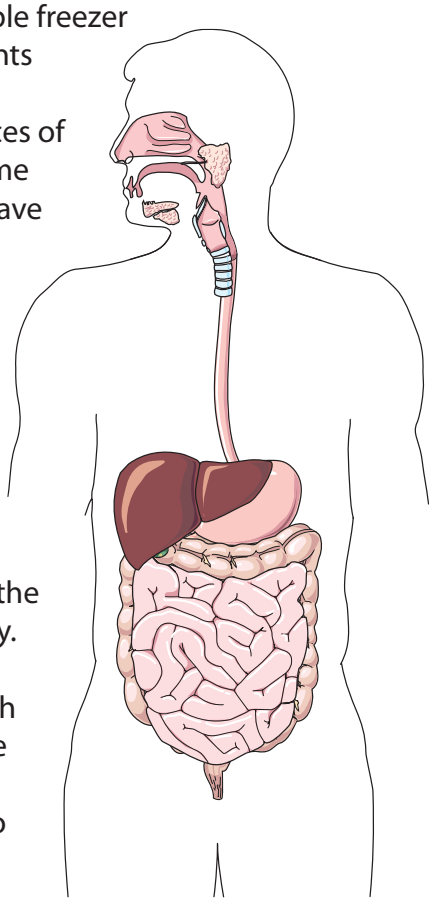
   Activity 1: It's off to the races! Students need the following materials: ping-pong balls, nylon pantyhose or stockings, and some small containers. Divide class into teams of five or six. Cut the toes off the legs of panty-hose nylons to make nylon tubes and distribute one to each team. Give each team a ping-pong ball and direct them to put it inside the nylon at one end. Ask all members to stand shoulder to shoulder with their hands side by side around the nylon tube. At the call of "go," each team must move the ping-pong ball along the inside of the nylon until it drops out the end and into the small container. The only action the team members can make is to open and close their hands around the ball in the nylon. (No sliding the ball along.) The alternating squeezing does a pretty good job of simulating peristalsis and the smooth muscles along the esophagus. Continue

Teaching tip
You may not be able to perform the following experiment because old-fashion Iodine is no longer available in pharmacies, but must be ordered from a chemical supply company. The Iodine you can buy in the pharmacy is clear and does not reveal starches.

different races including starting with the ball at the bottom of a nylon, held vertically. It will eventually emerge at the top and thus explain how we can swallow while standing on our heads.

4. **Chemical Soup.** The food enters the stomach, which is a sack that can hold about one liter or quart of chewed food. Some foods that require little processing pass quickly through the stomach. A full meal, however, may stay in the stomach for up to four hours. In the stomach the food churns about and is mixed with gastric juice, which is a combination of enzymes, hydrochloric acid, and water.

   Activity 2: Materials include sturdy sealable freezer bags, samples of food and vinegar. Students put various samples of food into a sturdy one-quart sealable plastic bag. Some pieces of food should be made quite small, and some other pieces should be left larger. Try to have the food sample represent a small meal, for example a piece of a peanut butter sandwich, grapes, cookies, and milk. Add about two tablespoons vinegar to the food to represent stomach acid. (The vinegar will quickly curdle the milk.) "Burp" the bag to remove the air. Then to simulate the action of the smooth muscles in the stomach, have the students press and mush the contents of the bag until it all has a fairly even consistency. The contents of the bag are very sour smelling, but then the food in our stomach is sour smelling, too. In the stomach, there are enzymes and acids like the vinegar that begin the breakdown of proteins into amino acids and continue the breakdown of carbohydrates into simple sugars.



5. **Around and About.** After the food leaves the stomach, it goes into the small intestines—the most important part of the whole system. This is where the final breakdown of food and the absorption of the food nutrients occur. The first 25 cm (10 inches) of the small intestines has a special name: *duodenum*. In the duodenum, special enzymes and bile are added to the chemical soup that has left the stomach. Bile is produced by the liver, stored in the gall bladder, and squirted into the duodenum to help the body break down fats, which are difficult to digest. Bile is not an enzyme; it actually acts more like a detergent to mechanically break fats into smaller pieces. The pancreas (a large gland located near the stomach) squirts pancreatic juice into the

duodenum. This juice contains enzymes to complete the digestion of proteins into amino acids, carbohydrates into simple sugars, and fats into fatty acids.

Activity 3: Materials include rolls of adding machine tape, empty cardboard toilet paper rolls, measuring tape, and scraps of velour or velvet fabric. Divide students into small groups. Task: What's the longest continuous piece of adding machine tape that your team can put inside an empty toilet paper roll? You may fold, but you may not cut the tape except to end the length of paper. Set a time limit and tell them they will have to present their roll and tape. Pull out the tape for each team and measure. Declare the winner. Discuss the technique that resulted in the longest tape. By folding the tape lengthwise so its width is less than the diameter of the paper roll and then using an accordion folding technique, a team can fold a very long piece of adding machine tape to fit inside the roll. Now hand out a piece of velour fabric to each team and tell them that the inside wall of our small intestines looks very much like it is lined with velour or velvet. Instead of threads, though, there are projections which are called *villi* (singular *villus*). Inside the villi are capillaries ready to accept the digested food nutrients of simple sugars, amino acids, fatty acids, vitamins, and minerals.

Results. Can they make the connection? Hold up a length of adding machine tape which is only as long as the toilet paper roll (about 13 cm). Next to it, hold up the longest tape from the winning team. Ask the question: "Why do you suppose the inside wall of the small intestines is lined with villi filled with capillaries rather than just a smooth wall lined with capillaries?" The answer obviously is that there is so much more surface area for the nutrients to be absorbed.

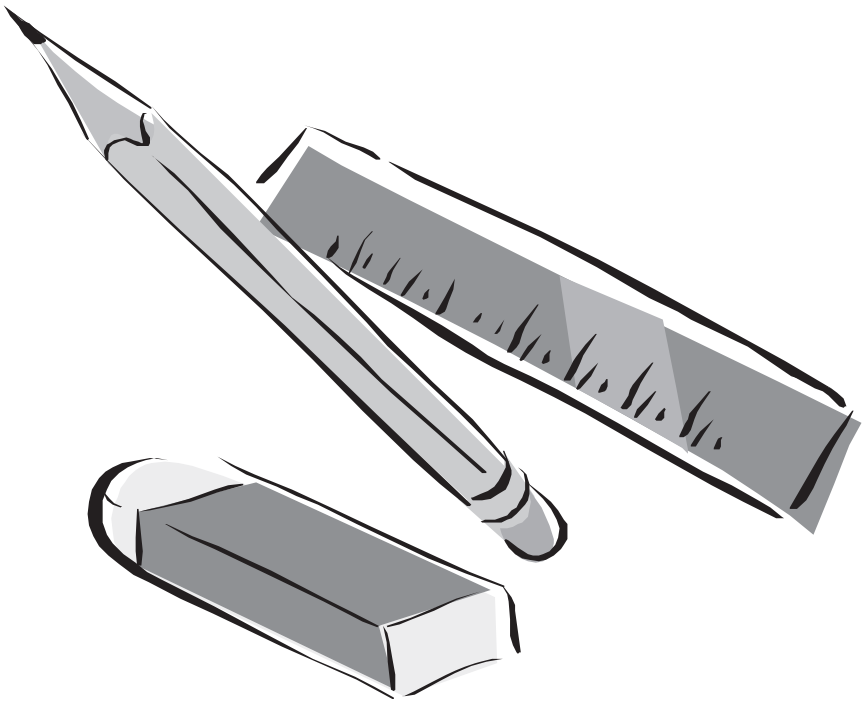
6. **Party is Over.** It's time to clean up. Actually, digestion is over. The digestive system officially ends in the small intestines while the circulatory system takes over to distribute the nutrients throughout the body and the excretory system begins to remove the wastes from the body. However, because most texts include the large intestines as part of the digestive system, we include it here.

   Activity 4: This may seem a bit gross, but it explains a lot about how our body actually works. Materials include sponge, an empty pan, a shallow pan of water, paper towel cut into small pieces. Place the pieces of paper towel into water and let sit for a while. Explain to the class that you are going to demonstrate what happens in the large intestines. The paper represents the indigestible food and the water represents the water added to the foods as it passed through the digestive system. Sponge out the water from the shallow pan into the empty pan until all that's left is the soggy paper. Form the paper into

a ball and squeeze out the remaining water. Sponge up the remaining water. Remind the students that the primary purposes of the large intestine are to reclaim the water used in digestion and to form the wastes into solids called *feces*. They will make the connection of what happens if the water reclamation is interfered with by an illness (diarrhea) or when the feces are not regularly eliminated from the body and accumulate into large solids (constipation).

7. **Big Picture.** It takes a lot of space and time for the amazing digestive system to complete its work.

   Activity 5: Students should work as a team and choose one member and measure his/her height. Materials: adding machine tape, measuring tape, and diagram of the digestive system. Students measure out a length of tape as long as six times their height. Next they measure from the top of the tape 6 cm and label *mouth*, from that point measure 25 cm and mark end of *esophagus*, and then measure 20 cm more for the *stomach*. They measure another 25 cm to mark the *duodenum*. Next, starting from the other end of the tape, measure 45 cm to mark the *large intestines*. All the tape in-between the stomach and large intestines is *small intestines*. On the floor or the playground, the students can trace with chalk a head and torso, then lay out their tapes in the torso area. Show them how the large intestines wrap around the coils of small intestines. See an outline drawing of digestive system.



A La Carte

Social Studies

1. **Mapping.** *CHOW* activities provide many mapping opportunities for your students.

   Map the Supermarket. Give the students an outline map of the aisles of a local supermarket. Have them visit the market and identify where the different food groups are located. Again a map key will play a major role. They may wish to expand their key to include not just fresh fruits, but canned, dried, or frozen fruits.

   Say Where. As a map reading activity, provide students with a prepared market map and ask them questions such as, "What directions would you have to travel to go from the dairy case to the cereal section of this store?" You may ask them to write directions as if they were a store clerk standing in the paper goods aisle who was just asked where frozen spinach could be found. The only difference is that they must give directions of the compass. For example, "You must travel south on Aisle 1 to the meat section. Turn east. Travel to Aisle 4, turn north, and walk about 50 feet. The frozen spinach is on the west side of this aisle."

   Interpreting Maps. The students may want to discuss why grocers put certain foods at certain locations. Impulse buying is a major consideration when the grocer lays out his floor plan. The students might also design the route they would follow in a supermarket so that when they filled their baskets, the breads and eggs would not be crushed nor the frozen foods melted by the time they reached the checkout.

2. **Where in the World?** In this activity, the students investigate where different foods come from. Students, like detectives, will search the produce section to find small labels on fruits or vegetables that say where in our country or where in the world these foods were grown. By looking at cans and other packages, students may also discover famous locations for certain products (e.g., the cereal capital of U.S.A.—Battle Creek, Michigan, or potatoes from Idaho). This activity is a fun group activity where students either collect the stickers, or just the names of the food and the location identified. Each group can post on a world map the countries or states and the foods which they identified. (Use the outline maps provided in *CHOW*.) See maps on page 84.

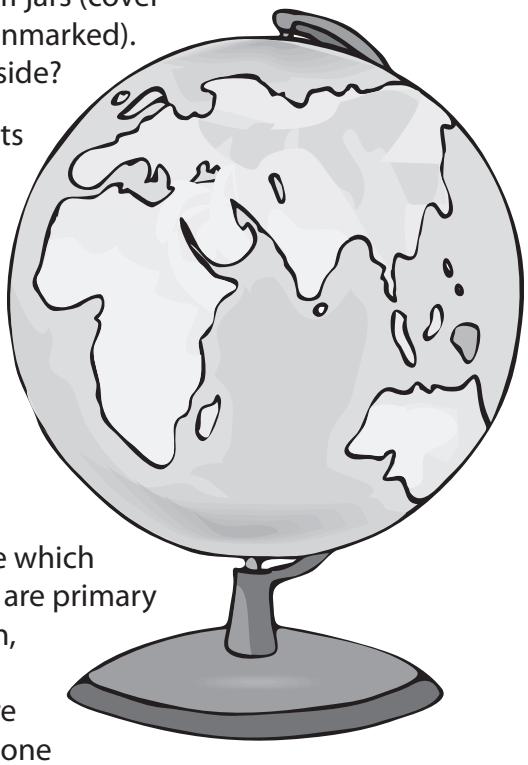
3. **It's a Long Way to Tipperary.** As a follow-up to *Where in the world?* Ask students to trace the actual route a food took from where it was grown to the supermarket shelf. (Ask them to assume that they cannot

fly the food, although much food is airlifted.) They should first find the location of origin on the world map. Then they should determine what bodies of water the food would cross if it were shipped. If it were sent overland, what states or countries would it cross? The more detailed the information (including an estimation of time, rate, and distance) the more interesting the activity. Students might even enter the information in a diary form or narrative such as "From Perth, Australia to Perth Amboy, NJ—a Kiwi's diary. See maps on page 84"

4. **Spice of Life.** Spices provide an exciting topic for both history and geography.

   Marco Polo Revisited. It was the search for a shorter route to the Spice Islands that sent Columbus on his journey. Using history texts or encyclopedia, trace the early spice routes. Note which countries controlled the spice trade, both at the source and along the route. See outline maps on page 84.

   Name that spice. Students may be familiar with cinnamon and nutmeg, but there are many more spices to investigate. Direct students to use an encyclopedia to discover 1) where the spice is grown, 2) what part of the plant is used (seed, leaf, stem), 3) how it is prepared (dried, ground, extracted), 4) how it is/was used. Ask students to bring in samples of different spices and set up sniff jars, small glass or plastic food jars covered by cheesecloth. Allow students to smell the different spices and try to remember the spice name and aroma. Next direct them to mystery sniff jars (cover outside with dark paper and leave jar unmarked). Can they identify the mystery spices inside?



5. **Staff of Life.** In this activity, ask students to investigate a food staple for a certain country. For example, choose rice. Students might use the almanac, social studies text, encyclopedia or Internet to find out 1) which countries consider rice a staple crop and 2) which countries grow the most rice. Students can make graphs from the information they gather or make informational maps with a key to show those countries which grow little, those which grow some, and those countries which are primary rice growers. Other staples include corn, wheat, rye, and potatoes. This type of activity lends itself to group work where each group gathers information about one

staple and reports to the whole class. See outline maps on page 84.

6. **Time Machine.** Students probably have not thought much about how people ate during other times in history. (What? No microwave?) An interesting activity is to have the students "travel back in time" and design a menu that might have been eaten by a person(s) during one of the events of history or by a person(s) during some moment in literature. Students will have to use either historic fact or a literary situation—and their own imagination. Encourage them to be able to support why they chose the food and to be specific about how the food was prepared. Also, be specific about the season of the year, as food spoilage/storage was a problem. (Think geography.) As a follow-up activity, discuss what foods were probably lacking in the diet of these famous people in history. Below are a few examples. Of course, you and your students can dream up many others they would enjoy working on.

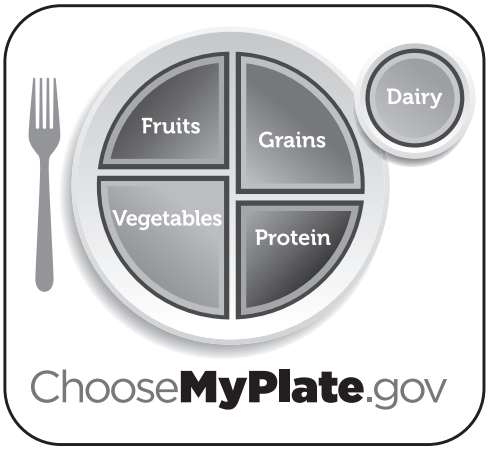
   - Cave painters of France, 12,000 B.C.E.
   - King Tut's birthday party
   - King Arthur's feast for his Knights of the Round Table
   - Nightly meal on the Santa Maria
   - Aztec's feast for Cortez
   - Early New England colonists' evening meal
   - American plains Indian dinner served in the teepee
   - Food on board a Nantucket whaler
   - Sherlock Holmes and Dr. Watson in *The Adventures of Sherlock Holmes*
   - California gold rush Forty-niner's picnic
   - Huck and Jim on the raft in *Huckleberry Finn*
   - Rations for a World War I soldier
   - A Great Depression meal—spring 1932
   - Food for Neil Armstrong and the crew of Apollo 11
   - Ask parents or grandparents what was different about meals when they were children. Describe a breakfast menu from 1945, 1965, or 1985.

A La Carte

Internet

Note to Teacher: Take a moment to familiarize yourself with the www.choosemyplate.gov web site. Also, when sending kids to the Internet on Google searches, try the search words ahead of time to be certain that there are no inappropriate ads on the pages that students will view.

1. Go to www.choosemyplate.gov.
   a. In the upper left part of the page under **MyPlate**, you'll find more detailed information about all the food groups.
   b. Click on **Healthy Eating Tips** and then **Sample Menus and Recipes** for some healthy ideas for snacks and meals.
   c. Click on **SuperTracker & Other Tools** at the top of the page. Register and set up an account with a password. This allows you to manage your own account and the information you put in is kept private.
   d. At the top of the **SuperTracker** main page, click **Food-a-Pedia** for quick access to food information. You can find the calories and food groups for a food, or compare two foods.



   e. On the **SuperTracker** main page, go to **My Plan** and then **Sample Meal Plans** to access plans to help you meet your goals for weight loss or gain.
   f. Under **Track Food & Activity**, click on **Food Tracker** or **Physical Activity Tracker** to keep records about your eating and exercise habits.
2. If you put "McDonalds + nutrition" in the search window of Google, you will find a link to the McDonald's webpage. There is a *Nutrition Info* link to a PDF file that will give you detailed nutritional information for McDonald's menu items. This works for many other fast food restaurants.
3. If you put in "Dominos Pizza + nutrition" you will find an interactive webpage with a Cal-O-Meter where you can "build" your own pizza and see what happens to the calorie count as you add more toppings.

4. If you put "world's worst food" in the search window of Google, you will find one or two webpages that will tell you high-fat foods currently sold throughout the USA containing over 1,500 calories per serving! "World's worst" also works with specific foods such as "world's worst milkshake."

A La Carte

Food Fair

Teaching tip

National English/ Language Arts Standards require using primary sources in research and National Science Standards require scientific investigation. Both also require clear presentations to authentic audiences of parents, community members, and/or peers. A La Carte: Food Fair provides an opportunity for performance assessments encompassing all of these standards' requirements.

Everyone has seen or heard about a Science Fair. The Food Fair is much the same, except the focus of the fair is food and nutrition. Food Fair may be a culminating activity to *CHOW* and the nutrition unit. Make it a special affair by inviting other classes or parents during the day or after school hours. Choose a large area with ample room for the students' display boards and materials. Students should be available to answer visitors' questions about their projects. The Food Fair provides lots of information as well as an opportunity for every student to be an "expert." Students will enjoy hearing adults say, "Gosh, I never knew that!"

Because much of the impact of the Food Fair is visual, students must present the material in a visual form. They should use maps, graphs, charts, timelines, flow charts, and pictures for most of their presentation. There should be a written component, but this might be short paragraphs describing the maps, charts, etc., or a short report (one to two pages) available to read in front of the display. Besides reinforcing graphing, mapping, and other skills, this project ensures that the students understand the material and will diminish the practice of just copying information from the encyclopedia or Internet.

Students have three options:

- a research project
- a comparison project
- a consumer testing project

Research Project

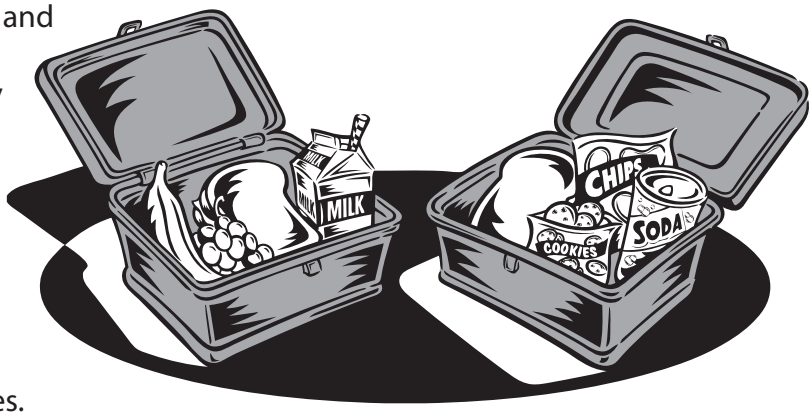
Students choose a food, research it thoroughly, and become an expert. Foods such as the potato, lobster, orange, lime, corn, rice, or tomato would work well. To show their expertise, students make an informational display about their food, which should include most of the following information.

- **Report/timeline.** Write a report or create a timeline on the history of its cultivation or development.
- **Map.** Show on a map where it's commonly grown.
- **Graph.** Create a graph of its most important nutrients.
- **Diagram.** Make a diagram of where it is found on MyPlate.
- **Products.** List the products made from the food. Use lists or labels. Include by-products such as fodder from corn.

- **Flow Chart/Report.** Prepare a flowchart or report on the preparation.
- **Preservation.** Report on what preservation is necessary. Include expected shelf life.
- **Recipes.** Compile some favorite recipes. Include at least one sample.
- **Costume.** If the food is associated with a certain ethnic group, dress in a traditional ethnic costume during the Food Fair.

Comparison Project

The object of this project is to compare two or more food items. The comparison must be presented visually with graphs and/or charts so that a person viewing the display can understand the difference between or among the foods. Short paragraphs should summarize the comparisons as well. Possible comparisons might be to compare a sample food from each of the five food groups. Another excellent comparison would be to compare the nutrients of a high-fat meal (cheeseburger, fries, shake, and apple pie) with a lower fat meal (sliced turkey sandwich with lettuce and tomato, 2% milk, and apple). A third comparison might be nutrients of a traditional recipe (lasagna with sausage and rich ricotta and mozzarella versus vegetable lasagna with skim milk ricotta and mozzarella). A fourth possibility would be to compare nutritional information about different fast food meals at local hamburger places.



- **Selection.** Choose two or more foods.
- **Determine the Nutrients.** Use the food label format (calories, fat, protein, carbohydrate, cholesterol, fiber, sodium, calcium, iron, vitamins C and A).
- **Graph.** Make several charts or graphs to compare the information visually. Be sure to use color-coding to keep track of which food is which.

- **Summary.** Summarize in a short report what the graphs show.

Consumer Testing Project

In this project, the students not only compare nutritional information about foods but they also test the foods for taste and compare prices. Processed foods are the best choice for this kind of project. Students may do a comparison of cereals, or different brands of the same item such as chocolate chip cookies, puddings, or peanut butter.

- **Selection.** Choose to compare three to five items.
- **Graph.** Make comparisons of the major nutrients from the labels and present in graph form.
- **Taste Test.** Students conduct a blind taste test with as many participants as they can contact. Be sure sanitary precautions are used during the taste tests. Use three-ounce paper cups and disposable spoons. Insist on careful data gathering and the importance of keeping the items' identification secret. If the shape or color of the item will give the identification away, then the tests should be done blindfolded. The most dramatic results occur when the tasters are forced to rate the foods, from what they liked the best through what they liked the least. The food liked the best is given the highest points (3) and the one that is liked least is given the lowest points (1). Students should graph the total points amassed or the average ranking for the comparison taste graph.
- **Price.** Students must first determine the cost per serving in order to graph a comparison. (Some companies suggest much smaller servings which are actually more costly. Students, in that case, may want to do a cost per ounce for a comparison.)
- **Best Buy.** When all the testing and comparison is done, then the student must write summary paragraphs recommending what is the best buy for the price, the most healthy (or least unhealthy) in terms of fat and sodium, and the best tasting. If there is clearly one food which is highly rated in all areas, then they may choose it to be the Competent Consumer's Choice.

A La Carte

Food Drive

A food drive requires significant planning and organization, but is a very rewarding activity not only for your community, but also for your students.

Teaching tip
The Food Drive activity requires group work and problem solving—essential parts of the National Standards collectively called Applied Learning.

Setup Directions

1. Before you begin, be certain to check with the principal of the school and if necessary, the local town/city manager. You may need a permit.
2. Call the Department of Human Services in your area to determine the location of a local food bank. A telephone call to the director may provide some specific instructions as to what they need and what they cannot use.
3. After you have determined the food required and the agency, determine how you will run the drive.
4. Because scholarship and citizenship awards often require community service, high school students might welcome the opportunity to work with you and your students in the food drive.

Procedure

1. Competition seems to make food drives more successful. Establish an award or prize that your class can afford and that will motivate other classes to want to participate and win.
    a. A prize might be non-monetary. For example: Your principal and three teachers will sing for the winning class or go to the next school dance and dance with students from the winning class.
    b. A prize might cost a minimal amount of money. For example: Your class will throw a party for the winning class with food donated by parents.
    c. A prize might be more costly. For example your class will treat the winning class to a pizza party, but be certain to serve veggies, too.
    d. If a parent owns a local business, or if your class is willing to ask a local business to sponsor the drive, then the winning class might even win a field trip.
    e. Prizes may be awarded for:
        - "Most food collected by a class by weight"
        - "Most individual packages of food"
        - "Highest percentage of student participation"

- "Widest variety of food groups represented"
- Stress that this is a class effort, but you may decide to recognize an individual who brought in the most for the drive.

2. Publicity is essential. Be sure that everyone knows when the drive will begin and end. (Two to three weeks are generally long enough.) Direct your class to make posters and informational flyers. Allow them to visit other classes to talk about the goals of the drive and the prizes. The flyers and the visits should stress what nonperishable foods are: boxed rice, pasta, cereal, dry milk, or canned fruits, vegetables, soup, stew, baked beans, juice, etc. Students may even want to hang up thermometer-like goal charts in the hall near the cafeteria so that all the students can be reminded about the drive and see how it's going.
3. Organization will minimize the hassles.
    a. Have a system of collection so that each class is reminded daily of the drive.
    b. Count (or weigh) food donations each day and maintain a class record.
    c. Assign teams of students to monitor a group of classes for the whole drive, or assign students by the day to complete the daily tasks.
    d. Although not all food banks require the food be sorted, it's generally appreciated. If your students are sorting each day, they can make the classes aware of what foods are still needed.

Culmination

1. Make the final tally by which you determine the winning class. Announce the winner over the school public address system or at a school-wide assembly.
2. Invite one or more representatives from the Food Bank to come to the class to accept the food the class has collected. This type of project provides good press relations for the school and generally you can ask the local paper to send a photographer to the school to take a picture of the class and the food the students collected.
3. Be sure to talk with your class about how proud you are of their efforts to give community service. Too often children do not have the opportunity to see a service project, much less participate in one.

Cooperative Group Work Rubric

4 **Exemplary**—You *consistently* and *actively* help your classmates to achieve their goals whether you are working in a team or with a partner. You communicate well with others, encouraging them and helping them to understand the lesson. You *willingly* share materials and responsibilities.

3 **Expected**—You *usually* help your classmates to achieve their goals whether you are working in a team or with a partner. You *generally* communicate well with others, encouraging them and helping them to understand the lesson. You share materials and responsibilities.

2 **Nearly There**—You *sometimes* help your classmates to achieve their goals and help them understand the lesson.

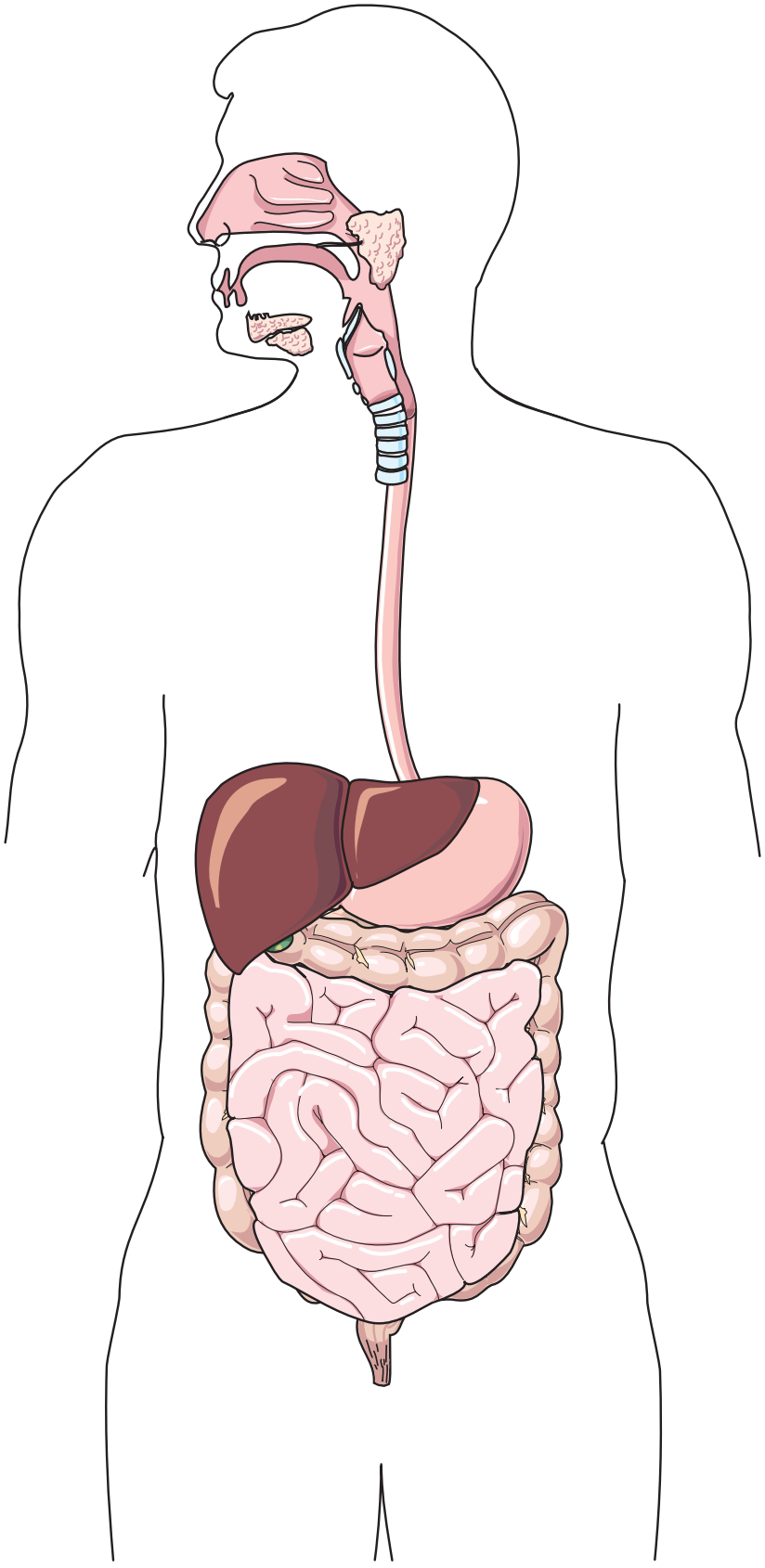
1 **Must Do Better**—You *do very little* to help your classmates to achieve their goals or understand the lesson.

If your evaluation is less than expected, try to use your cooperating skills more consistently.

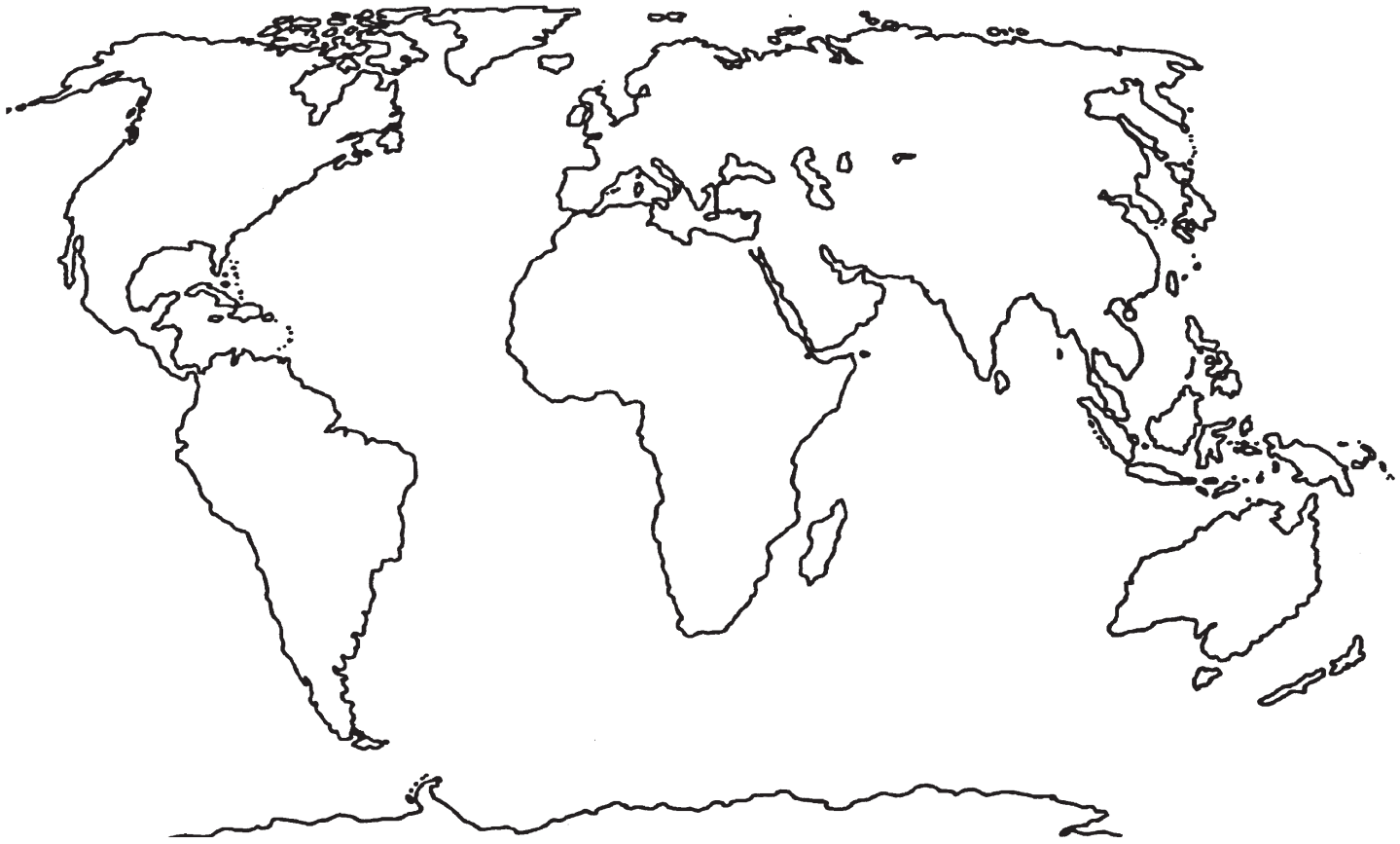
Cooperative Group Work Rubric

	4 Exceeds Expectations	3 Meets Expectations	2 Nearly There	1 Must Do Better
Contributing	I consistently contribute to the group by sharing my opinions and ideas.	I usually contribute to the group by sharing my opinions and ideas.	I sometimes contribute to the group by sharing my opinions and ideas.	I rarely contribute to the group by sharing my opinions and ideas.
Listening	I actively listen to and support other people's opinions, ideas, and efforts.	I usually listen to and support other people's opinions, ideas, and efforts.	I sometimes listen to and support other people's opinions, ideas, and efforts.	I rarely listen to and support other people's opinions, ideas, and efforts.
Teamwork	I actively encourage all members to participate and work together.	I often encourage all members to participate and work together.	I occasionally encourage all members to participate and work together.	I rarely encourage all members to participate and work together.
Problem solving	I consistently help my team work through problems by actively seeking and suggesting solutions.	I often help my team work through problems by seeking and suggesting solutions.	I sometimes help my team work through problems by seeking and suggesting solutions.	I do not try to help my team to work through problems or to any suggest solutions.
Staying on-task	I consistently stay on the task and complete the work required.	I usually stay on the task and complete the work required.	I stay on the task some of the time and complete some of the work required.	I am often off-task and hardly ever complete the work required .

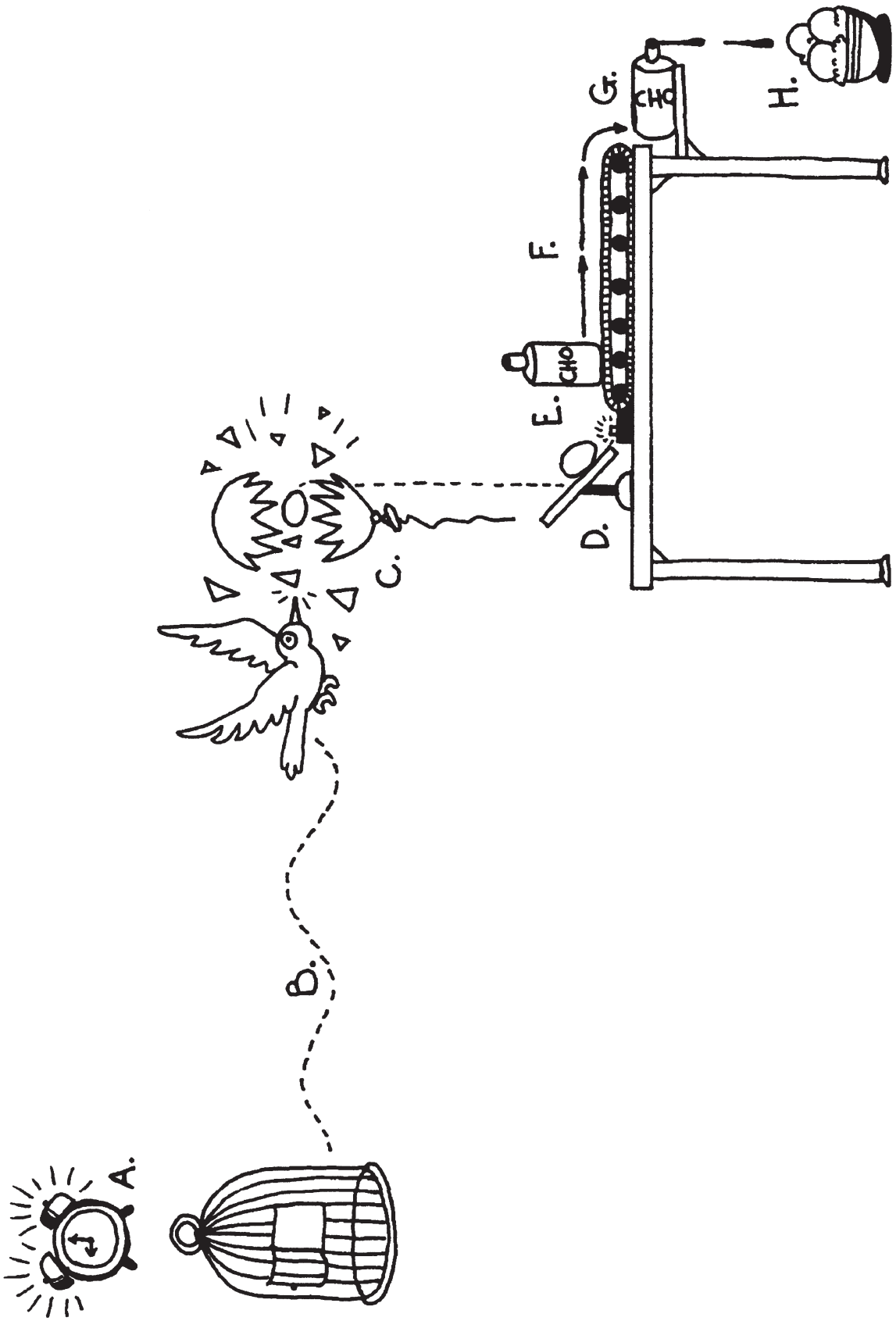
Digestive System



Outline Maps



Rube Goldberg Invention



Name: _____ Team: _____

A La Carte Activity

Student Directions: Write a description of the A La Carte Activity.

Resources Used: What resources besides the *CHOW* handouts did you use to complete this activity? Make a list.

Pictures, Graphs, or Photos You Copied: Did you use the Internet or books for any pictures, graphs, or photos? You **must make a list** of what you used.

A La Carte Rubric

4—Exceeds! I did a great job!

- I have followed directions stated above, but also have gone significantly beyond what was expected or asked.
- I have presented my assignment in an appealing and/or eye-catching way.
- I have very few, if any, errors.

3—Meets! I did a good job!

- I have followed the directions stated above.
- I have few, if any, spelling errors.
- I have presented my assignment neatly with very few, if any, errors.

2—Nearly There. Oops, I forgot something!

- I have followed all but one of the directions stated above.
- I need to correct my work and resubmit it as soon as possible.
- I may need to correct/recopy my work because it is messy and/or has too many errors.

1—Back to the drawing board.

- My work is too incomplete, too messy, and/or has too many errors to earn credit.
- I have not followed the directions stated above.
- I may need to see my teacher for a plan of action.

Nutrition Fact Cards

Make 3 copies of this page.

White bread

Nutrition Facts

Serving Size 1 slice
Equivalent Serving 1 oz

Amount Per Serving

Calories 70 Calories from Fat 10

	% Daily Value*
Total Fat 1g	**2**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**0**%
Sodium 140mg	**6**%
Total Carbohydrate 13g	**4**%
Dietary Fiber 0	**0**%
Sugars 1g	
Protein 2g	

Vitamin A 0% Vitamin C 0%
Calcium 0% Iron 6%

Whole wheat bread

Nutrition Facts

Serving Size 1 slice
Equivalent Serving 1 oz

Amount Per Serving

Calories 90 Calories from Fat 10

	% Daily Value*
Total Fat 1.5g	**2**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**0**%
Sodium 170mg	**7**%
Total Carbohydrate 17g	**4**%
Dietary Fiber 2g	**8**%
Sugars 2g	
Protein 4g	

Vitamin A 0% Vitamin C 0%
Calcium 4% Iron 4%

Pita bread

Nutrition Facts

Serving Size 1 medium pita
Equivalent Serving 2 oz

Amount Per Serving

Calories 124 Calories from Fat 10

	% Daily Value*
Total Fat .5g	**1**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**0**%
Sodium 241mg	**10**%
Total Carbohydrate 25g	**8**%
Dietary Fiber 1g	**4**%
Sugars 2g	
Protein 4g	

Vitamin A 0% Vitamin C 0%
Calcium 4% Iron 7%

Whole wheat pasta

Nutrition Facts

Serving Size ½ cup
Equivalent Serving 1 oz

Amount Per Serving

Calories 100 Calories from Fat 5

	% Daily Value*
Total Fat 5 g	**2**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**0**%
Sodium 0mg	**0**%
Total Carbohydrate 20g	**7**%
Dietary Fiber 1g	**5**%
Sugars 1g	
Protein 4g	

Vitamin A 0% Vitamin C 0%
Calcium 0% Iron 10%

Rice

Nutrition Facts

Serving Size ½ cup
Equivalent Serving 1 oz

Amount Per Serving

Calories 160 Calories from Fat 0

	% Daily Value*
Total Fat 0g	**0**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**0**%
Sodium 2mg	**0**%
Total Carbohydrate 37g	**12**%
Dietary Fiber 0g	**0**%
Sugars 0g	
Protein 3g	

Vitamin A 0% Vitamin C 0%
Calcium 0% Iron 8%

Egg noodles (enriched)

Nutrition Facts

Serving Size ½ cup
Equivalent Serving 1 oz

Amount Per Serving

Calories 73 Calories from Fat 8

	% Daily Value*
Total Fat .8g	**1**%
Saturated Fat 0.2g	**0**%
Cholesterol 16mg	**0**%
Sodium 4mg	**0**%
Total Carbohydrate 13g	**4**%
Dietary Fiber 1g	**2**%
Sugars 0.3g	
Protein 2.8g	

Vitamin A 0% Vitamin C 0%
Calcium 1% Iron 4%

Nutrition Fact Cards

Make 3 copies of this page.

Whole milk*

Nutrition Facts

Serving Size 1 cup
Equivalent Serving 1 cup

Amount Per Serving

Calories 150 Calories from Fat 70

	% Daily Value*
Total Fat 8g	**12**%
Saturated Fat 5g	**25**%
Cholesterol 35mg	**11**%
Sodium 125mg	**5**%
Total Carbohydrate 12g	**4**%
Dietary Fiber 0g	**0**%
Sugars 12g	
Protein 8g	

Vitamin A 6% Vitamin C 4%
Calcium 30% Iron 0%

Skim milk

Nutrition Facts

Serving Size 1 cup
Equivalent Serving 1 cup

Amount Per Serving

Calories 80 Calories from Fat 0

	% Daily Value*
Total Fat 0g	**0**%
Saturated Fat 0g	**0**%
Cholesterol 5mg	**1**%
Sodium 125mg	**5**%
Total Carbohydrate 13g	**4**%
Dietary Fiber 0g	**0**%
Sugars 12g	
Protein 8g	

Vitamin A 10% Vitamin C 4%
Calcium 30% Iron 0%

Low-fat milk (1%)

Nutrition Facts

Serving Size 1 cup
Equivalent Serving 1 cup

Amount Per Serving

Calories 102 Calories from Fat 21

	% Daily Value*
Total Fat 2.4g	**4**%
Saturated Fat 1.5g	**8**%
Cholesterol 12mg	**4**%
Sodium 107mg	**4**%
Total Carbohydrate 12g	**4**%
Dietary Fiber 0g	**0**%
Sugars 12g	
Protein 8g	

Vitamin A 10% Vitamin C 0%
Calcium 30% Iron 0%

Plain non-fat yogurt

Nutrition Facts

Serving Size 8 oz
Equivalent Serving 1 cup

Amount Per Serving

Calories 127 Calories from Fat 0

	% Daily Value*
Total Fat 0.41g	**1**%
Saturated Fat 0.3g	**1**%
Cholesterol 5mg	**2**%
Sodium 175mg	**7**%
Total Carbohydrate 17.43g	**6**%
Dietary Fiber 0g	**0**%
Sugars 17.43g	
Protein 13g	

Vitamin A 0% Vitamin C 3%
Calcium 45% Iron 0%

Low-fat berry yogurt*

Nutrition Facts

Serving Size 1 cup
Equivalent Serving 1 cup

Amount Per Serving

Calories 220 Calories from Fat 20

	% Daily Value*
Total Fat 2.5g	**4**%
Saturated Fat 1.5g	**7**%
Cholesterol 10mg	**4**%
Sodium 140mg	**6**%
Total Carbohydrate 40g	**13**%
Dietary Fiber 1g	**3**%
Sugars 39g	
Protein 9g	

Vitamin A 2% Vitamin C 2%
Calcium 30% Iron 0%

American cheese**

Nutrition Facts

Serving Size 2 oz
Equivalent Serving 1 cup

Amount Per Serving

Calories 188 Calories from Fat 124

	% Daily Value*
Total Fat 14g	**22**%
Saturated Fat 8g	**44**%
Cholesterol 36mg	**12**%
Sodium 546mg	**22**%
Total Carbohydrate 4g	**2**%
Dietary Fiber 0g	**0**%
Sugars 0g	
Protein 11.2g	

Vitamin A 8% Vitamin C 0%
Calcium 28% Iron 2%

Nutrition Fact Cards

Make 3 copies of this page.

Tossed salad

Nutrition Facts

Serving Size 2 cups
Equivalent Serving 1 cup

Amount Per Serving

Calories 30 Calories from Fat 0

	% Daily Value*
Total Fat 0g	**0**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**0**%
Sodium 30mg	**2**%
Total Carbohydrate 8g	**8**%
Dietary Fiber 2g	**8**%
Sugars 2g	
Protein 2g	

Vitamin A 70% Vitamin C 20%
Calcium 4% Iron 0%

Banana

Nutrition Facts

Serving Size 1 small
Equivalent Serving ½ cup

Amount Per Serving

Calories 120 Calories from Fat 10

	% Daily Value*
Total Fat 1g	**2**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**0**%
Sodium 0mg	**0**%
Total Carbohydrate 28g	**9**%
Dietary Fiber 2g	**8**%
Sugars 20g	
Protein 1g	

Vitamin A 0% Vitamin C 5%
Calcium 0% Iron 2%

Apple

Nutrition Facts

Serving Size 1 medium
Equivalent Serving 1 cup

Amount Per Serving

Calories 80 Calories from Fat 10

	% Daily Value*
Total Fat 1g	**2**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**0**%
Sodium 0mg	**0**%
Total Carbohydrate 18 g	**0**%
Dietary Fiber 3g	**12**%
Sugars 10g	
Protein 0g	

Vitamin A 0% Vitamin C 6%
Calcium 0% Iron 0%

Watermelon

Nutrition Facts

Serving Size 1 cup
Equivalent Serving 1 cup

Amount Per Serving

Calories 40 Calories from Fat 0

	% Daily Value*
Total Fat 0g	**0**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**0**%
Sodium 10mg	<**1**%
Total Carbohydrate 9g	**6**%
Dietary Fiber 15g	**6**%
Sugars 15g	
Protein 1g	

Vitamin A 8% Vitamin C 25%
Calcium 0% Iron 2%

Orange

Nutrition Facts

Serving Size 1 small
Equivalent Serving ½ cup

Amount Per Serving

Calories 50 Calories from Fat 0

	% Daily Value*
Total Fat 0g	**0**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**0**%
Sodium 0mg	**0**%
Total Carbohydrate 13g	**4**%
Dietary Fiber 2g	**8**%
Sugars 10g	
Protein 0g	

Vitamin A 0% Vitamin C 120%
Calcium 4% Iron 0%

Cantaloupe

Nutrition Facts

Serving Size 1 cup
Equivalent Serving 1 cup

Amount Per Serving

Calories 60 Calories from Fat 0

	% Daily Value*
Total Fat 0.3g	**1**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**0**%
Sodium 28mg	**1**%
Total Carbohydrate 14.4g	**5**%
Dietary Fiber 1.6g	**6**%
Sugars 12.8g	
Protein 1.5g	

Vitamin A 120% Vitamin C 106%
Calcium 2% Iron 2%

Nutrition Fact Cards

Make 3 copies of this page.

Tuna in water

Nutrition Facts

Serving Size ¼ cup
Equivalent Serving 2 oz

Amount Per Serving

Calories 70 Calories from Fat 5

	% Daily Value*
Total Fat 1g	**1**%
Saturated Fat 0g	**0**%
Cholesterol 30mg	**10**%
Sodium 310mg	**13**%
Total Carbohydrate 1g	**0**%
Dietary Fiber .5g	**2**%
Sugars 0g	**0**%
Protein 16g	

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

Fish sticks**

Nutrition Facts

Serving Size 6 sticks
Equivalent Serving 3 oz

Amount Per Serving

Calories 290 Calories from Fat 150

	% Daily Value*
Total Fat 17g	**26**%
Saturated Fat 3g	**15**%
Cholesterol 30mg	**10**%
Sodium 420mg	**18**%
Total Carbohydrate 22g	**7**%
Dietary Fiber 0g	**0**%
Sugars 0g	
Protein 12g	

Vitamin A 0% Vitamin C 0%
Calcium 0% Iron 8%

Broiled fish

Nutrition Facts

Serving Size 3 oz
Equivalent Serving 3 oz

Amount Per Serving

Calories 110 Calories from Fat 40

	% Daily Value*
Total Fat 4.5 g	**7**%
Saturated Fat 1g	**5**%
Cholesterol 60mg	**20**%
Sodium 280mg	**12**%
Total Carbohydrate 0g	**0**%
Dietary Fiber 0g	**0**%
Sugars 0g	
Protein 17g	

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

Peanuts*

Nutrition Facts

Serving Size 1 oz
Equivalent Serving 2 oz

Amount Per Serving

Calories 166 Calories from Fat 126

	% Daily Value*
Total Fat 14g	**22**%
Saturated Fat 1g	**4**%
Cholesterol 0mg	**0**%
Sodium 2mg	**0**%
Total Carbohydrate 6g	**2**%
Dietary Fiber 2.3g	**10**%
Sugars 1.2g	
Protein 6.7g	

Vitamin A 0% Vitamin C 0%
Calcium 2% Iron 4%

Eggs

Nutrition Facts

Serving Size 1 large
Equivalent Serving 1 oz

Amount Per Serving

Calories 78 Calories from Fat 48

	% Daily Value*
Total Fat 5.3g	**8**%
Saturated Fat 0.8g	**4**%
Cholesterol 212mg	**70**%
Sodium 62mg	**3**%
Total Carbohydrate 0.6g	**0**%
Dietary Fiber 0g	**0**%
Sugars 0.6g	
Protein 6.3g	

Vitamin A 6% Vitamin C 0%
Calcium 3% Iron 3%

Baked chicken

Nutrition Facts

Serving Size 3 oz
Equivalent Serving 3 oz

Amount Per Serving

Calories 170 Calories from Fat 27

	% Daily Value*
Total Fat 3g	**5**%
Saturated Fat 2g	**10**%
Cholesterol 40mg	**13**%
Sodium 520mg	**22**%
Total Carbohydrate 10g	**3**%
Dietary Fiber 0g	**0**%
Sugars 0g	
Protein 17g	

Vitamin A 12% Vitamin C 0%
Calcium 4% Iron 8%

Nutrition Fact Cards

Make 3 copies of this page.

Hamburger**

Nutrition Facts

Serving Size 3 oz
Equivalent Serving 3 oz

Amount Per Serving

Calories 273 Calories from Fat 122

	% Daily Value*
Total Fat 18g	**28**%
Saturated Fat 10g	**50**%
Cholesterol 60mg	**20**%
Sodium 110mg	**5**%
Total Carbohydrate 0g	**0**%
Dietary Fiber 0g	**0**%
Sugars 0g	
Protein 20g	

Vitamin A 0% Vitamin C 0%
Calcium 0% Iron 20%

Frankfurter (beef)**

Nutrition Facts

Serving Size 1 link
Equivalent Serving 1 oz

Amount Per Serving

Calories 150 Calories from Fat 120

	% Daily Value*
Total Fat 13g	**21**%
Saturated Fat 5g	**26**%
Cholesterol 25mg	**9**%
Sodium 450mg	**19**%
Total Carbohydrate 2g	**0**%
Dietary Fiber 0g	**0**%
Sugars 0g	
Protein 5g	

Vitamin A 0% Vitamin C 0%
Calcium 0% Iron 4%

Bacon*

Nutrition Facts

Serving Size 2 cooked slices
Equivalent Serving 1 oz

Amount Per Serving

Calories 70 Calories from Fat 50

	% Daily Value*
Total Fat 6g	**9**%
Saturated Fat 2g	**10**%
Cholesterol 15mg	**5**%
Sodium 290mg	**12**%
Total Carbohydrate 0g	**0**%
Dietary Fiber 0g	**0**%
Sugars 0g	
Protein 4g	

Vitamin A 0% Vitamin C 0%
Calcium 0% Iron 0%

Frankfurter (fat free)

Nutrition Facts

Serving Size 1 link
Equivalent Serving 1 oz

Amount Per Serving

Calories 54 Calories from Fat 7

	% Daily Value*
Total Fat 0.8g	**0**%
Saturated Fat 0.25g	**1**%
Cholesterol 20mg	**7**%
Sodium 399mg	**16**%
Total Carbohydrate 5.6g	**2**%
Dietary Fiber 0g	**0**%
Sugars 0g	
Protein 6.25g	

Vitamin A 0% Vitamin C 20%
Calcium 3% Iron 5%

Spaghetti sauce

Nutrition Facts

Serving Size ½ cup
Equivalent Serving ½ cup

Amount Per Serving

Calories 80 Calories from Fat 20

	% Daily Value*
Total Fat 2g	**3**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**0**%
Sodium 520mg	**22**%
Total Carbohydrate 13g	**4**%
Dietary Fiber 3g	**12**%
Sugars 9g	
Protein 2g	

Vitamin A 15% Vitamin C 8%
Calcium 6% Iron 6%

Peanut butter*

Nutrition Facts

Serving Size 1 tablespoon
Equivalent Serving 2 oz

Amount Per Serving

Calories 125 Calories from Fat 70

	% Daily Value*
Total Fat 8g	**12**%
Saturated Fat 1.5g	**7.5**%
Cholesterol 0mg	**0**%
Sodium 70mg	**3**%
Total Carbohydrate 3g	**1**%
Dietary Fiber 1g	**4**%
Sugars 2g	
Protein 3.5g	

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

Nutrition Fact Cards

Make 2 copies of this page.

Oatmeal (whole grain)

Nutrition Facts

Serving Size ½ cup cooked
Equivalent Serving 1 oz

Amount Per Serving

Calories 75 Calories from Fat 12

	% Daily Value*
Total Fat 1g	**2**%
Saturated Fat 0.25g	**1**%
Cholesterol 0mg	**0**%
Sodium 0mg	**0**%
Total Carbohydrate 14g	**4.5**%
Dietary Fiber 2g	**5**%
Sugars 1g	
Protein 2.5g	

Vitamin A 0% Vitamin C 0%
Calcium 0% Iron 5%

Corn flakes (fortified)

Nutrition Facts

Serving Size 1 cup
Equivalent Serving 1 oz

Amount Per Serving

Calories 100 Calories from Fat 0

	% Daily Value*
Total Fat 0g	**0**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**0**%
Sodium 200mg	**8**%
Total Carbohydrate 24g	**8**%
Dietary Fiber 1g	**4**%
Sugars 2g	
Protein 2g	

Vitamin A 15% Vitamin C 25%
Calcium 0% Iron 45%

Fun cereal (fortified)*

Nutrition Facts

Serving Size ¾ cup
Equivalent Serving 1 oz

Amount Per Serving

Calories 120 Calories from Fat 10

	% Daily Value*
Total Fat 1g	**2**%
Saturated Fat .5g	**2**%
Cholesterol 0mg	**0**%
Sodium 150mg	**6**%
Total Carbohydrate 28g	**9**%
Dietary Fiber 1g	**4**%
Sugars 15g	
Protein 1g	

Vitamin A 15% Vitamin C 25%
Calcium 10% Iron 25%

Grits

Nutrition Facts

Serving Size ½ cup
Equivalent Serving 1 oz

Amount Per Serving

Calories 142 Calories from Fat 5

	% Daily Value*
Total Fat 0.6g	**1**%
Saturated Fat 0.1g	**1**%
Cholesterol 0mg	**0**%
Sodium 1mg	**11**%
Total Carbohydrate 32g	**8**%
Dietary Fiber 2g	**8**%
Sugars 0.4g	
Protein 3g	

Vitamin A 0% Vitamin C 0%
Calcium 0% Iron 8%

Tortilla

Nutrition Facts

Serving Size one 8" tortilla
Equivalent Serving 2 oz

Amount Per Serving

Calories 146 Calories from Fat 28

	% Daily Value*
Total Fat 3.1g	**5**%
Saturated Fat 28g	**2**%
Cholesterol 0.5mg	**0**%
Sodium 249mg	**10**%
Total Carbohydrate 25.3g	**6**%
Dietary Fiber 2g	**8**%
Sugars 0g	
Protein 4.4g	

Vitamin A 0% Vitamin C 0%
Calcium 10% Iron 6%

Bagel

Nutrition Facts

Serving Size ½ large bagel
Equivalent Serving 2 oz

Amount Per Serving

Calories 176 Calories from Fat 10

	% Daily Value*
Total Fat 1g	**2**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**0**%
Sodium 295mg	**13**%
Total Carbohydrate 35g	**13**%
Dietary Fiber 1.7g	**6**%
Sugars 3g	
Protein 6.8g	

Vitamin A 10% Vitamin C 0%
Calcium 6% Iron 15%

Nutrition Fact Cards

Make 2 copies of this page.

Pancakes

Nutrition Facts

Serving Size two 4" pancakes
Equivalent Serving 2 oz

Amount Per Serving

Calories 140 Calories from Fat 20

	% Daily Value*
Total Fat 2.2g	**3**%
Saturated Fat 0.2g	**2**%
Cholesterol 14mg	**5**%
Sodium 370mg	**14**%
Total Carbohydrate 24g	**8**%
Dietary Fiber 1g	**3**%
Sugars 5g	
Protein 5g	

Vitamin A 0% Vitamin C 0%
Calcium 2.5% Iron 6.6%

Waffle

Nutrition Facts

Serving Size one 4" waffle
Equivalent Serving 1 oz

Amount Per Serving

Calories 103 Calories from Fat 29

	% Daily Value*
Total Fat 3.2g	**5**%
Saturated Fat 0.5g	**3**%
Cholesterol 5mg	**0**%
Sodium 241mg	**10**%
Total Carbohydrate 16.3g	**15**%
Dietary Fiber 1g	**3**%
Sugars 1.7g	
Protein 5g	

Vitamin A 9% Vitamin C 0%
Calcium 10% Iron 13%

Hot dog/hamburger roll

Nutrition Facts

Serving Size 1 roll
Equivalent Serving 2 oz

Amount Per Serving

Calories 110 Calories from Fat 14

	% Daily Value*
Total Fat 1.5g	**3**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**0**%
Sodium 210mg	**8**%
Total Carbohydrate 20g	**14**%
Dietary Fiber 2g	**6**%
Sugars 2g	
Protein 3g	

Vitamin A 0% Vitamin C 0%
Calcium 6% Iron 6%

Pocket pizza ***

Nutrition Facts

Serving Size 1 pocket
Equivalent Serving 2 oz Gr./1 oz Pro.

Amount Per Serving

Calories 360 Calories from Fat 160

	% Daily Value*
Total Fat 17g	**27**%
Saturated Fat 7g	**35**%
Cholesterol 30mg	**11**%
Sodium 590mg	**25**%
Total Carbohydrate 40g	**13**%
Dietary Fiber 3g	**11**%
Sugars 13g	
Protein 11g	

Vitamin A 0% Vitamin C 0%
Calcium 25% Iron 20%

Corn (frozen)

Nutrition Facts

Serving Size ½ cup
Equivalent Serving ½ cup

Amount Per Serving

Calories 80 Calories from Fat 10

	% Daily Value*
Total Fat 1g	**2**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**0**%
Sodium 10mg	**<1**%
Total Carbohydrate 19g	**6**%
Dietary Fiber 2g	**8**%
Sugars 5g	
Protein 3g	

Vitamin A 0% Vitamin C 4%
Calcium 0% Iron 0%

Romaine Lettuce

Nutrition Facts

Serving Size 1 cup
Equivalent Serving ½ cup

Amount Per Serving

Calories 20 Calories from Fat 0

	% Daily Value*
Total Fat 0g	**0**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**0**%
Sodium 40mg	**2**%
Total Carbohydrate 3g	**1**%
Dietary Fiber 1g	**4**%
Sugars 2g	
Protein 1g	

Vitamin A 20% Vitamin C 4%
Calcium 2% Iron 2%

Nutrition Fact Cards

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Tomato juice

Nutrition Facts

Serving Size ½ cup
Equivalent Serving ½ cup

Amount Per Serving

Calories 23 Calories from Fat 0

	% Daily Value*
Total Fat 0g	**0**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**0**%
Sodium 423mg	**27**%
Total Carbohydrate 5g	**3**%
Dietary Fiber 1g	**5**%
Sugars 3g	
Protein 0g	

Vitamin A 150% Vitamin C 20%
Calcium 0% Iron 4%

Baby carrots

Nutrition Facts

Serving Size 12 baby carrots
Equivalent Serving 1 cup

Amount Per Serving

Calories 40 Calories from Fat 0

	% Daily Value*
Total Fat 0g	**0**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**0**%
Sodium 50mg	**2**%
Total Carbohydrate 9g	**3**%
Dietary Fiber 3g	**12**%
Sugars 5g	
Protein 1g	

Vitamin A 330% Vitamin C 8%
Calcium 2% Iron 0%

Celery

Nutrition Facts

Serving Size ½ cup
Equivalent Serving ½ cup

Amount Per Serving

Calories 20 Calories from Fat 0

	% Daily Value*
Total Fat 0g	**0**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**0**%
Sodium 140mg	**6**%
Total Carbohydrate 4g	**1**%
Dietary Fiber 2g	**8**%
Sugars 1g	
Protein 1g	

Vitamin A 2% Vitamin C 10%
Calcium 4% Iron 2%

French fries**

Nutrition Facts

Serving Size 1 cup
Equivalent Serving 1 cup

Amount Per Serving

Calories 220 Calories from Fat 110

	% Daily Value*
Total Fat 13g	**19**%
Saturated Fat 2g	**10**%
Cholesterol 0mg	**0**%
Sodium 510mg	**21**%
Total Carbohydrate 24g	**8**%
Dietary Fiber 1g	**4**%
Sugars 0g	
Protein 2g	

Vitamin A 0% Vitamin C 6%
Calcium 0% Iron 2%

Broccoli

Nutrition Facts

Serving Size ½ cup
Equivalent Serving ½ cup

Amount Per Serving

Calories 50 Calories from Fat 5

	% Daily Value*
Total Fat .5g	**1**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**0**%
Sodium 75mg	**3**%
Total Carbohydrate 9g	**3**%
Dietary Fiber 4g	**16**%
Sugars 3g	
Protein 2g	

Vitamin A 10% Vitamin C 200%
Calcium 6% Iron 4%

Cooked spinach

Nutrition Facts

Serving Size ½ cup
Equivalent Serving ½ cup

Amount Per Serving

Calories 30 Calories from Fat 0

	% Daily Value*
Total Fat 0 g	**0**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**0**%
Sodium 115mg	**5**%
Total Carbohydrate 3g	**1**%
Dietary Fiber 2g	**8**%
Sugars 1g	
Protein 2g	

Vitamin A 120% Vitamin C 10%
Calcium 6% Iron 2%

Nutrition Fact Cards

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Canned pineapple

Nutrition Facts

Serving Size ½ cup
Equivalent Serving ½ cup

Amount Per Serving

Calories 70 Calories from Fat 0

	% Daily Value*
Total Fat 0g	**0**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**0**%
Sodium 10mg	**<1**%
Total Carbohydrate 15g	**5**%
Dietary Fiber 1g	**4**%
Sugars 15g	
Protein 0g	

Vitamin A 0% Vitamin C 25%
Calcium 0% Iron 2%

Orange juice

Nutrition Facts

Serving Size ½ cup
Equivalent Serving ½ cup

Amount Per Serving

Calories 66 Calories from Fat 0

	% Daily Value*
Total Fat 0g	**0**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**0**%
Sodium 14mg	**1**%
Total Carbohydrate 14g	**8**%
Dietary Fiber 0g	**0**%
Sugars 14g	
Protein 0g	

Vitamin A 0% Vitamin C 52%
Calcium 0% Iron 0%

Microwave popcorn*

Nutrition Facts

Serving Size 3 cups popped
Equivalent Serving 1 oz

Amount Per Serving

Calories 128 Calories from Fat 75

	% Daily Value*
Total Fat 8.5g	**12**%
Saturated Fat 1.9g	**8**%
Cholesterol 0mg	**0**%
Sodium 292mg	**16**%
Total Carbohydrate 14.2g	**6**%
Dietary Fiber 3g	**16**%
Sugars 0g	
Protein 2.5g	

Vitamin A 0% Vitamin C 0%
Calcium 1.5% Iron 2%

Apple juice

Nutrition Facts

Serving Size ½ cup
Equivalent Serving ½ cup

Amount Per Serving

Calories 77 Calories from Fat 0

	% Daily Value*
Total Fat 0g	**0**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**0**%
Sodium 0 mg	**0**%
Total Carbohydrate 14g	**4**%
Dietary Fiber 0g	**0**%
Sugars 12g	
Protein 0g	

Vitamin A 0% Vitamin C 2%
Calcium 1% Iron 1%

Cottage cheese (non-fat)

Nutrition Facts

Serving Size 1 cup
Equivalent Serving ½ cup

Amount Per Serving

Calories 140 Calories from Fat 0

	% Daily Value*
Total Fat 0g	**0**%
Saturated Fat 0g	**0**%
Cholesterol 10mg	**2**%
Sodium 810mg	**34**%
Total Carbohydrate 10g	**4**%
Dietary Fiber 0g	**0**%
Sugars 10g	
Protein 26g	

Vitamin A 12% Vitamin C 0%
Calcium 20% Iron 0%

Cheddar cheese**

Nutrition Facts

Serving Size 1½ oz
Equivalent Serving 1 cup

Amount Per Serving

Calories 185 Calories from Fat 150

	% Daily Value*
Total Fat 16.5g	**24**%
Saturated Fat 10.5g	**54**%
Cholesterol 45mg	**15**%
Sodium 315mg	**13**%
Total Carbohydrate 0g	**0**%
Dietary Fiber 0g	**0**%
Sugars 0g	
Protein 9g	

Vitamin A 9% Vitamin C 3%
Calcium 30% Iron 12%

Nutrition Fact Cards

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Cucumber

Nutrition Facts

Serving Size ½ cup
Equivalent Serving ½ cup

Amount Per Serving

Calories 18 Calories from Fat 0

	% Daily Value*
Total Fat 0g	**0**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**0**%
Sodium 0mg	**0**%
Total Carbohydrate 3g	**1**%
Dietary Fiber 1g	**2**%
Sugars 2g	
Protein 1g	

Vitamin A 4% Vitamin C 8%
Calcium 2% Iron 2%

Baked potato

Nutrition Facts

Serving Size 1 medium
Equivalent Serving 1 cup

Amount Per Serving

Calories 110 Calories from Fat 0

	% Daily Value*
Total Fat 0g	**0**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**0**%
Sodium 5mg	**<1**%
Total Carbohydrate 27g	**9**%
Dietary Fiber 4g	**16**%
Sugars 3g	
Protein 4g	

Vitamin A 0% Vitamin C 40%
Calcium 2% Iron 6%

Tomato

Nutrition Facts

Serving Size 1 medium
Equivalent Serving 1 cup

Amount Per Serving

Calories 35 Calories from Fat 0

	% Daily Value*
Total Fat 0g	**0**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**0**%
Sodium 10mg	**<1**%
Total Carbohydrate 6g	**2**%
Dietary Fiber 1g	**4**%
Sugars 1g	
Protein 1g	

Vitamin A 2% Vitamin C 40%
Calcium 0% Iron 2%

Summer squash

Nutrition Facts

Serving Size ½ cup
Equivalent Serving ½ cup

Amount Per Serving

Calories 20 Calories from Fat 0

	% Daily Value*
Total Fat 0g	**0**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**0**%
Sodium 0mg	**0**%
Total Carbohydrate 4g	**1**%
Dietary Fiber 1g	**4**%
Sugars 2g	
Protein 1g	

Vitamin A 4% Vitamin C 25%
Calcium 2% Iron 2%

Green beans

Nutrition Facts

Serving Size ½ cup
Equivalent Serving ½ cup

Amount Per Serving

Calories 20 Calories from Fat 0

	% Daily Value*
Total Fat 0g	**0**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**0**%
Sodium 0mg	**0**%
Total Carbohydrate 4g	**1**%
Dietary Fiber 3g	**12**%
Sugars 1g	
Protein 1g	

Vitamin A 2% Vitamin C 8%
Calcium 4% Iron 2%

Sweet potato

Nutrition Facts

Serving Size 1 medium
Equivalent Serving 1 cup

Amount Per Serving

Calories 140 Calories from Fat 0

	% Daily Value*
Total Fat 0g	**0**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**0**%
Sodium 7mg	**<1**%
Total Carbohydrate 21g	**7**%
Dietary Fiber 2g	**8**%
Sugars 5g	
Protein 1g	

Vitamin A 520% Vitamin C 50%
Calcium 3% Iron 4%

Nutrition Fact Cards

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Grapes (seedless)

Nutrition Facts

Serving Size 16 grapes
Equivalent Serving 1 cup

Amount Per Serving

Calories 106 Calories from Fat 2

	% Daily Value*
Total Fat 0.26g	**0**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**0**%
Sodium 0mg	**0**%
Total Carbohydrate 29g	**7**%
Dietary Fiber 1.4g	**8**%
Sugars 25g	
Protein 1.5g	

Vitamin A 0% Vitamin C 29%
Calcium 2% Iron 3%

Grapefruit

Nutrition Facts

Serving Size ½ medium
Equivalent Serving ½ cup

Amount Per Serving

Calories 50 Calories from Fat 0

	% Daily Value*
Total Fat 0g	**0**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**0**%
Sodium 35mg	**1**%
Total Carbohydrate 14g	**5**%
Dietary Fiber 1g	**4**%
Sugars 8g	
Protein 1g	

Vitamin A 6% Vitamin C 90%
Calcium 4% Iron 0%

Strawberries

Nutrition Facts

Serving Size 1 cup
Equivalent Serving 1 cup

Amount Per Serving

Calories 49 Calories from Fat 4

	% Daily Value*
Total Fat 0g	**0**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**0**%
Sodium 2mg	**0**%
Total Carbohydrate 12g	**5**%
Dietary Fiber 3g	**12**%
Sugars 7g	
Protein 1g	

Vitamin A 0% Vitamin C 149%
Calcium 2% Iron 4%

Canned peaches in juice

Nutrition Facts

Serving Size ½ cup
Equivalent Serving ½ cup

Amount Per Serving

Calories 60 Calories from Fat 0

	% Daily Value*
Total Fat 0g	**0**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**0**%
Sodium 10mg	<1%
Total Carbohydrate 15g	**5**%
Dietary Fiber 1g	**4**%
Sugars 12g	
Protein 0g	

Vitamin A 6% Vitamin C 2%
Calcium 0% Iron 2%

Turkey burger

Nutrition Facts

Serving Size 3 oz
Equivalent Serving 3 oz

Amount Per Serving

Calories 160 Calories from Fat 72

	% Daily Value*
Total Fat 8g	**12**%
Saturated Fat 2g	**10**%
Cholesterol 70mg	**23**%
Sodium 80mg	**3**%
Total Carbohydrate 0g	**0**%
Dietary Fiber 0g	**0**%
Sugars 0g	
Protein 22g	

Vitamin A 12% Vitamin C 0%
Calcium 4% Iron 8%

Plum

Nutrition Facts

Serving Size 1 large
Equivalent Serving ½ cup

Amount Per Serving

Calories 80 Calories from Fat 0

	% Daily Value*
Total Fat 0g	**0**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**0**%
Sodium 0mg	**0**%
Total Carbohydrate 21g	**7**%
Dietary Fiber 2.5g	**10**%
Sugars 12g	
Protein .5g	

Vitamin A 4% Vitamin C 10%
Calcium 0% Iron 0%

Nutrition Fact Cards

Make 2 copies of this page.

Pudding*

Nutrition Facts

Serving Size ½ cup
Equivalent Serving ½ cup

Amount Per Serving

Calories 140 Calories from Fat 35

	% Daily Value*
Total Fat 4g	**6**%
Saturated Fat 1.5g	**8**%
Cholesterol 0mg	**0**%
Sodium 160mg	**7**%
Total Carbohydrate 24g	**8**%
Dietary Fiber 0g	**0**%
Sugars 20g	
Protein 2g	

Vitamin A 2% Vitamin C 0%
Calcium 8% Iron 0%

Ice cream***

Nutrition Facts

Serving Size 1 cup
Equivalent Serving ½ cup

Amount Per Serving

Calories 360 Calories from Fat 180

	% Daily Value*
Total Fat 20g	**30**%
Saturated Fat 12g	**60**%
Cholesterol 80mg	**24**%
Sodium 80mg	**4**%
Total Carbohydrate 32g	**10**%
Dietary Fiber 0g	**0**%
Sugars 26g	
Protein 4g	

Vitamin A 16% Vitamin C 0%
Calcium 12% Iron 0%

Frozen non-fat yogurt

Nutrition Facts

Serving Size ½ cup
Equivalent Serving ½ cup

Amount Per Serving

Calories 120 Calories from Fat 0

	% Daily Value*
Total Fat 0g	**0**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**0**%
Sodium 50mg	**2**%
Total Carbohydrate 27g	**9**%
Dietary Fiber 0g	**0**%
Sugars 26g	
Protein 3g	

Vitamin A 4% Vitamin C 0%
Calcium 10% Iron 0%

Pizza with cheese***

Nutrition Facts

Serving Size 1 slice
Equivalent Serving 2 oz Gr./1 oz Pro.

Amount Per Serving

Calories 320 Calories from Fat 130

	% Daily Value*
Total Fat 14g	**22**%
Saturated Fat 5g	**25**%
Cholesterol 20mg	**7**%
Sodium 620mg	**26**%
Total Carbohydrate 34g	**11**%
Dietary Fiber 2g	**8**%
Sugars 4g	
Protein 15g	

Vitamin A 0% Vitamin C 0%
Calcium 30% Iron 10%

Beef taco**

Nutrition Facts

Serving Size 1 medium
Equivalent Serving 2 oz Gr./2 oz Pro./½ cup Ve.

Amount Per Serving

Calories 256 Calories from Fat 117

	% Daily Value*
Total Fat 13g	**20**%
Saturated Fat 7g	**35**%
Cholesterol 50mg	**17**%
Sodium 215mg	**9**%
Total Carbohydrate 6g	**14**%
Dietary Fiber 4g	**16**%
Sugars 1g	
Protein 14g	

Vitamin A 7% Vitamin C 7%
Calcium 17% Iron 14%

(Boxed) macaroni & cheese***

Nutrition Facts

Serving Size 1 cup
Equivalent Serving 2 oz Gr./2 oz Pro.

Amount Per Serving

Calories 410 Calories from Fat 170

	% Daily Value*
Total Fat 21g	**29**%
Saturated Fat 5g	**25**%
Cholesterol 15mg	**5**%
Sodium 696mg	**30**%
Total Carbohydrate 48g	**16**%
Dietary Fiber 1g	**4**%
Sugars 6g	
Protein 9g	

Vitamin A 15% Vitamin C 0%
Calcium 15% Iron 10%

Nutrition Fact Cards

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Meatballs**

Nutrition Facts

Serving Size 3 Meatballs
Equivalent Serving 3 oz

Amount Per Serving	
Calories 230	Calories from Fat 100
	% Daily Value*
Total Fat 17g	**26%**
Saturated Fat 6g	**30%**
Cholesterol 50mg	**17%**
Sodium 440mg	**18%**
Total Carbohydrate 5g	**2%**
Dietary Fiber 1g	**4%**
Sugars 1g	
Protein 14g	

Vitamin A 0% Vitamin C 0%
Calcium 2% Iron 8%

Chili with beans*

Nutrition Facts

Serving Size 1 cup
Equivalent Serving 3 oz Pro.

Amount Per Serving	
Calories 210	Calories from Fat 80
	% Daily Value*
Total Fat 9g	**14%**
Saturated Fat 3g	**15%**
Cholesterol 45mg	**15%**
Sodium 1200mg	**50%**
Total Carbohydrate 26g	**9%**
Dietary Fiber 5g	**20%**
Sugars 6g	
Protein 17g	

Vitamin A 2% Vitamin C 2%
Calcium 10% Iron 15%

Cheeseburger Helper meal

Nutrition Facts

Serving Size 1 cup
Equivalent Serving 2 oz Gr./2 oz Pro.

Amount Per Serving	
Calories 360	Calories from Fat 140
	% Daily Value*
Total Fat 13g	**18%**
Saturated Fat 12g	**30%**
Cholesterol 50mg	**16%**
Sodium 870mg	**36%**
Total Carbohydrate 30g	**11%**
Dietary Fiber 1g	**4%**
Sugars 6g	
Protein 19g	

Vitamin A 0% Vitamin C 0%
Calcium 10% Iron 15%

Beef stew**

Nutrition Facts

Serving Size 1 cup
Equivalent Serving 3 oz Pro./½ cup Ve.

Amount Per Serving	
Calories 180	Calories from Fat 70
	% Daily Value*
Total Fat 8g	**12%**
Saturated Fat 3.5g	**18%**
Cholesterol 30mg	**10%**
Sodium 920mg	**38%**
Total Carbohydrate 18g	**6%**
Dietary Fiber 2g	**8%**
Sugars 0g	
Protein 9g	

Vitamin A 20% Vitamin C 0%
Calcium 0% Iron 10%

Chicken nuggets**

Nutrition Facts

Serving Size 6 nuggets
Equivalent Serving 3 oz

Amount Per Serving	
Calories 220	Calories from Fat 117
	% Daily Value*
Total Fat 13g	**20%**
Saturated Fat 2.5g	**12%**
Cholesterol 35mg	**12%**
Sodium 540mg	**22%**
Total Carbohydrate 15g	**5%**
Dietary Fiber 2g	**4%**
Sugars 0g	
Protein 11g	

Vitamin A 0% Vitamin C 0%
Calcium 4% Iron 6%

Low-fat bologna

Nutrition Facts

Serving Size 1 slice
Equivalent Serving 1 oz

Amount Per Serving	
Calories 22	Calories from Fat 2
	% Daily Value*
Total Fat 0.2g	**0%**
Saturated Fat 0.1g	**0%**
Cholesterol 7mg	**2%**
Sodium 274mg	**11%**
Total Carbohydrate 2g	**1%**
Dietary Fiber 0g	**0%**
Sugars 0g	
Protein 3.5g	

Vitamin A 0% Vitamin C 0%
Calcium 0% Iron 1%

Nutrition Fact Cards

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Sliced turkey

Nutrition Facts

Serving Size 3 oz
Equivalent Serving 3 oz

Amount Per Serving

Calories 60 Calories from Fat 15

	% Daily Value*
Total Fat 2g	**4**%
Saturated Fat 0g	**0**%
Cholesterol 30mg	**10**%
Sodium 800mg	**34**%
Total Carbohydrate 3g	**1**%
Dietary Fiber 0g	**0**%
Sugars 0g	
Protein 12g	

Vitamin A 0% Vitamin C 0%
Calcium 0% Iron 3%

Sliced ham

Nutrition Facts

Serving Size 3 oz
Equivalent Serving 3 oz

Amount Per Serving

Calories 60 Calories from Fat 20

	% Daily Value*
Total Fat 2.5g	**4**%
Saturated Fat .5g	**4**%
Cholesterol 30mg	**10**%
Sodium 760mg	**32**%
Total Carbohydrate 0g	**0**%
Dietary Fiber 0g	**0**%
Sugars 0g	
Protein 10g	

Vitamin A 0% Vitamin C 0%
Calcium 0% Iron 4%

Rice cakes

Nutrition Facts

Serving Size 2 cakes
Equivalent Serving 1 oz

Amount Per Serving

Calories 70 Calories from Fat 0

	% Daily Value*
Total Fat 0g	**0**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**0**%
Sodium 110 mg	**5**%
Total Carbohydrate 14g	**4**%
Dietary Fiber 2g	**8**%
Sugars 0g	
Protein 2g	

Vitamin A 0% Vitamin C 0%
Calcium 0% Iron 0%

Lactose free milk 1% fat

Nutrition Facts

Serving Size 1 cup
Equivalent Serving 1 cup

Amount Per Serving

Calories 115 Calories from Fat 20

	% Daily Value*
Total Fat 2.5g	**4**%
Saturated Fat 1.5g	**8**%
Cholesterol 15mg	**4**%
Sodium 125mg	**5**%
Total Carbohydrate 13g	**4**%
Dietary Fiber 0g	**0**%
Sugars 12g	
Protein 8g	

Vitamin A 10% Vitamin C 0%
Calcium 30% Iron 0%

Turkey roast with gravy*

Nutrition Facts

Serving Size 4 oz
Equivalent Serving 4 oz

Amount Per Serving

Calories 150 Calories from Fat 60

	% Daily Value*
Total Fat 7g	**10**%
Saturated Fat 2g	**10**%
Cholesterol 55mg	**18**%
Sodium 760mg	**32**%
Total Carbohydrate 2g	**1**%
Dietary Fiber 0g	**0**%
Sugars 1g	
Protein 20g	

Vitamin A 2% Vitamin C 0%
Calcium 2% Iron 4%

Pork chop

Nutrition Facts

Serving Size 3 oz
Equivalent Serving 3 oz

Amount Per Serving

Calories 150 Calories from Fat 35

	% Daily Value*
Total Fat 3.5g	**6**%
Saturated Fat 1.5g	**8**%
Cholesterol 30mg	**10**%
Sodium 209mg	**9**%
Total Carbohydrate 1g	**0**%
Dietary Fiber 0g	%
Sugars 0g	
Protein 15g	

Vitamin A 0% Vitamin C 0%
Calcium 0% Iron 4%

Nutrition Fact Cards

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Baked beans

Nutrition Facts

Serving Size ½ cup
Equivalent Serving 2 oz Pro.

Amount Per Serving

Calories 190 Calories from Fat 20

	% Daily Value*
Total Fat 2g	**3**%
Saturated Fat .5g	**3**%
Cholesterol 0mg	**0**%
Sodium 450mg	**19**%
Total Carbohydrate 36g	**12**%
Dietary Fiber 8g	**32**%
Sugars 14g	
Protein 8g	

Vitamin A 0% Vitamin C 0%
Calcium 6% Iron 15%

Black-eyed peas (canned)

Nutrition Facts

Serving Size ½ cup
Equivalent Serving 2 oz Pro.

Amount Per Serving

Calories 120 Calories from Fat 10

	% Daily Value*
Total Fat 1g	**2**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**0**%
Sodium 420mg	**18**%
Total Carbohydrate 20g	**7**%
Dietary Fiber 5g	**20**%
Sugars 0g	
Protein 8g	

Vitamin A 0% Vitamin C 0%
Calcium 4% Iron 8%

Italian dressing*

Nutrition Facts

Serving Size 1 tablespoon
Equivalent Serving n/a

Amount Per Serving

Calories 45 Calories from Fat 35

	% Daily Value*
Total Fat 4g	**12**%
Saturated Fat 1g	**6**%
Cholesterol 0mg	**0**%
Sodium 22.5mg	**23**%
Total Carbohydrate 2g	**2**%
Dietary Fiber 0g	**0**%
Sugars 2g	
Protein 0g	

Vitamin A 0% Vitamin C 0%
Calcium 0% Iron 0%

Light mayonnaise*

Nutrition Facts

Serving Size 1 tablespoon
Equivalent Serving n/a

Amount Per Serving

Calories 35 Calories from Fat 30

	% Daily Value*
Total Fat 3.5g	**5**%
Saturated Fat 3g	**15**%
Cholesterol 5mg	**2**%
Sodium 125mg	**5**%
Total Carbohydrate 1g	**0**%
Dietary Fiber 0g	**0**%
Sugars 0g	
Protein 0g	

Vitamin A 0% Vitamin C 0%
Calcium 0% Iron 0%

Mayonnaise**

Nutrition Facts

Serving Size 1 tablespoon
Equivalent Serving n/a

Amount Per Serving

Calories 100 Calories from Fat 99

	% Daily Value*
Total Fat 11g	**17**%
Saturated Fat 1.5g	**8**%
Cholesterol 5mg	**2**%
Sodium 80mg	**3**%
Total Carbohydrate 0g	**0**%
Dietary Fiber 0g	**0**%
Sugars 0g	
Protein 0g	

Vitamin A 0% Vitamin C 0%
Calcium 0% Iron 0%

Soymilk

Nutrition Facts

Serving Size 1 cup
Equivalent Serving 1cup

Amount Per Serving

Calories 100 Calories from Fat 36

	% Daily Value*
Total Fat 4g	**6**%
Saturated Fat 0.5g	**3**%
Cholesterol 0mg	**0**%
Sodium 120mg	**5**%
Total Carbohydrate 8g	**3**%
Dietary Fiber 1g	**5**%
Sugars 6g	
Protein 7g	

Vitamin A 10% Vitamin C 0%
Calcium 30% Iron 6%

Nutrition Fact Cards

Make 2 copies of this page.

Light margarine*

Nutrition Facts

Serving Size 1 tablespoon
Equivalent Serving n/a

Amount Per Serving

Calories 50 Calories from Fat 50

	% Daily Value*
Total Fat 6g	**9**%
Saturated Fat 2.5g	**13**%
Cholesterol 5mg	**2**%
Sodium 110mg	**5**%
Total Carbohydrate 0g	**0**%
Dietary Fiber 0g	**0**%
Sugars 0g	
Protein 0g	

Vitamin A 0% Vitamin C 0%
Calcium 0% Iron 0%

Butter**

Nutrition Facts

Serving Size 1 tablespoon
Equivalent Serving n/a

Amount Per Serving

Calories 100 Calories from Fat 100

	% Daily Value*
Total Fat 11g	**17**%
Saturated Fat 7g	**35**%
Cholesterol 30mg	**10**%
Sodium 105mg	**4**%
Total Carbohydrate 0 g	**0**%
Dietary Fiber 0g	**0**%
Sugars 0g	
Protein 0g	

Vitamin A 10% Vitamin C 0%
Calcium 0% Iron 0%

Tortilla chips*

Nutrition Facts

Serving Size 9 chips
Equivalent Serving 1 oz

Amount Per Serving

Calories 130 Calories from Fat 50

	% Daily Value*
Total Fat 6g	**8**%
Saturated Fat 1g	**6**%
Cholesterol 0mg	**0**%
Sodium 110mg	**5**%
Total Carbohydrate 19g	**6**%
Dietary Fiber 1g	**4**%
Sugars 0g	
Protein 2g	

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

Graham crackers

Nutrition Facts

Serving Size 4 squares
Equivalent Serving 2 oz

Amount Per Serving

Calories 130 Calories from Fat 27

	% Daily Value*
Total Fat 3g	**5**%
Saturated Fat 0.5g	**3**%
Cholesterol 0mg	**0**%
Sodium 170mg	**8**%
Total Carbohydrate 24g	**8**%
Dietary Fiber 1g	**4**%
Sugars 8g	
Protein 2g	

Vitamin A 0% Vitamin C 0%
Calcium 0% Iron 4%

Chocolate chip cookies**

Nutrition Facts

Serving Size 2 cookies
Equivalent Serving 2 oz

Amount Per Serving

Calories 160 Calories from Fat 70

	% Daily Value*
Total Fat 8g	**12**%
Saturated Fat 3g	**7**%
Cholesterol 10mg	**2**%
Sodium 70mg	**3**%
Total Carbohydrate 21g	**7**%
Dietary Fiber 0g	**0**%
Sugars 12g	
Protein 2g	

Vitamin A 0% Vitamin C 0%
Calcium 0% Iron 6%

Granola bar*

Nutrition Facts

Serving Size 1 bar
Equivalent Serving 2 oz

Amount Per Serving

Calories 125 Calories from Fat 25

	% Daily Value*
Total Fat 3g	**5**%
Saturated Fat 1g	**5**%
Cholesterol 0mg	**0**%
Sodium 65mg	**3**%
Total Carbohydrate 20g	**7**%
Dietary Fiber 2g	**8**%
Sugars 12g	
Protein 2g	

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

Nutrition Fact Cards

Make 2 copies of this page.

Cake with frosting**

Nutrition Facts

Serving Size 2 oz slice
Equivalent Serving 1 oz Gr.

Amount Per Serving

Calories 250 Calories from Fat 100

	% Daily Value*
Total Fat 11g	**17**%
Saturated Fat 2.5g	**12**%
Cholesterol 25mg	**8**%
Sodium 120mg	**5**%
Total Carbohydrate 35g	**12**%
Dietary Fiber 1g	**4**%
Sugars 25g	
Protein 2g	

Vitamin A 0% Vitamin C 0%
Calcium 0% Iron 0%

String Cheese – mozzarella*

Nutrition Facts

Serving Size 1 stick
Equivalent Serving ½ cup

Amount Per Serving

Calories 80 Calories from Fat 50

	% Daily Value*
Total Fat 6g	**9**%
Saturated Fat 3g	**15**%
Cholesterol 15mg	**5**%
Sodium 190mg	**8**%
Total Carbohydrate 1g	**0**%
Dietary Fiber 0g	**0**%
Sugars 0g	
Protein 7g	

Vitamin A 4% Vitamin C 0%
Calcium 0% Iron 0%

Candy bar**

Nutrition Facts

Serving Size one 5" bar
Equivalent Serving 1 oz Gr.

Amount Per Serving

Calories 280 Calories from Fat 130

	% Daily Value*
Total Fat 14g	**22**%
Saturated Fat 5g	**25**%
Cholesterol 5mg	**2**%
Sodium 115mg	**5**%
Total Carbohydrate 37g	**12**%
Dietary Fiber 1g	**4**%
Sugars 27g	
Protein 3g	

Vitamin A 0% Vitamin C 0%
Calcium 4% Iron 2%

Doughnut**

Nutrition Facts

Serving Size 1 doughnut
Equivalent Serving 2 oz Gr.

Amount Per Serving

Calories 200 Calories from Fat 100

	% Daily Value*
Total Fat 11 g	**17**%
Saturated Fat 5g	**25**%
Cholesterol 10mg	**3**%
Sodium 270mg	**11**%
Total Carbohydrate 23g	**8**%
Dietary Fiber 0g	**0**%
Sugars 11g	
Protein 2g	

Vitamin A 0% Vitamin C 0%
Calcium 0% Iron 6%

Cheese ravioli*

Nutrition Facts

Serving Size 1 cup
Equivalent Serving 2 oz Gr./1 oz Pro.

Amount Per Serving

Calories 230 Calories from Fat 50

	% Daily Value*
Total Fat 6g	**9**%
Saturated Fat 2g	**10**%
Cholesterol 10mg	**3**%
Sodium 1120mg	**47**%
Total Carbohydrate 38g	**13**%
Dietary Fiber 2g	**8**%
Sugars 8g	
Protein 7g	

Vitamin A 35% Vitamin C 4%
Calcium 6% Iron 10%

Potato chips**

Nutrition Facts

Serving Size ½ cup
Equivalent Serving 21 oz

Amount Per Serving

Calories 150 Calories from Fat 90

	% Daily Value*
Total Fat 10 g	**15**%
Saturated Fat 3g	**16**%
Cholesterol 0mg	**0**%
Sodium 180mg	**8**%
Total Carbohydrate 15g	**5**%
Dietary Fiber 1g	**4**%
Sugars 0g	
Protein 2g	

Vitamin A 0% Vitamin C 10%
Calcium 0% Iron 2%

Nutrition Fact Cards

Make 2 copies of this page.

Soda*

Nutrition Facts

Serving Size 8 oz
Equivalent Serving n/a

Amount Per Serving	
Calories 108 Calories from Fat 0	
	% Daily Value*
Total Fat 0g	**0**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**0**%
Sodium 0mg	**0**%
Total Carbohydrate 27g	**10**%
Dietary Fiber 0g	**0**%
Sugars 27g	
Protein 0g	
Vitamin A 0%	Vitamin C 0%
Calcium 0%	Iron 0%

Raisins

Nutrition Facts

Serving Size ¼ cup
Equivalent Serving ½ cup

Amount Per Serving	
Calories 130 Calories from Fat 0	
	% Daily Value*
Total Fat 0g	**0**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**0**%
Sodium 10mg	**<1**%
Total Carbohydrate 25g	**9**%
Dietary Fiber 2g	**10**%
Sugars 20g	
Protein 1g	
Vitamin A 0%	Vitamin C 0%
Calcium 2%	Iron 6%

Crackers

Nutrition Facts

Serving Size 5 crackers
Equivalent Serving 1 oz

Amount Per Serving	
Calories 80 Calories from Fat 35	
	% Daily Value*
Total Fat 4g	**6**%
Saturated Fat 0.5g	**3**%
Cholesterol 0mg	**0**%
Sodium 135mg	**6**%
Total Carbohydrate 10g	**3**%
Dietary Fiber 0g	**0**%
Sugars 1g	
Protein 1g	
Vitamin A 0%	Vitamin C 0%
Calcium 2%	Iron 4%

Nutrition Facts

Serving Size
Equivalent Serving

Amount Per Serving		
Calories Calories from Fat		
		% Daily Value*
Total Fat	g	%
Saturated Fat	g	%
Cholesterol	mg	%
Sodium	mg	%
Total Carbohydrate	g	%
Dietary Fiber	g	%
Sugars	g	
Protein	g	
Vitamin A	% Vitamin C	%
Calcium	% Iron	%

Nutrition Facts

Serving Size
Equivalent Serving

Amount Per Serving		
Calories Calories from Fat		
		% Daily Value*
Total Fat	g	%
Saturated Fat	g	%
Cholesterol	mg	%
Sodium	mg	%
Total Carbohydrate	g	%
Dietary Fiber	g	%
Sugars	g	
Protein	g	
Vitamin A	% Vitamin C	%
Calcium	% Iron	%

Nutrition Facts

Serving Size
Equivalent Serving

Amount Per Serving		
Calories Calories from Fat		
		% Daily Value*
Total Fat	g	%
Saturated Fat	g	%
Cholesterol	mg	%
Sodium	mg	%
Total Carbohydrate	g	%
Dietary Fiber	g	%
Sugars	g	
Protein	g	
Vitamin A	% Vitamin C	%
Calcium	% Iron	%

Nutrition Fact Cards

Make 3 copies of this page.

Brown rice

Nutrition Facts

Serving Size ½ cup
Equivalent Serving 1 oz

Amount Per Serving	
Calories 109	Calories from Fat 8
	% Daily Value*
Total Fat 0.8g	**1**%
Saturated Fat 0.2g	**1**%
Cholesterol 0mg	**0**%
Sodium 2mg	**0**%
Total Carbohydrate 24g	**8**%
Dietary Fiber 2g	**7**%
Sugars 0g	
Protein 2.2g	

Vitamin A 0%	Vitamin C 0%
Calcium 1%	Iron 3%

Walnuts*

Nutrition Facts

Serving Size 8 walnuts
Equivalent Serving 2 oz Pro.

Amount Per Serving	
Calories 183	Calories from Fat 164
	% Daily Value*
Total Fat 18.3g	**28**%
Saturated Fat 1.7g	**9**%
Cholesterol 0mg	**0**%
Sodium 1mg	**0**%
Total Carbohydrate 3.8g	**1**%
Dietary Fiber 1.9g	**1**%
Sugars 0g	
Protein 4.3g	

Vitamin A 0%	Vitamin C 1%
Calcium 3%	Iron 5%

Butternut squash

Nutrition Facts

Serving Size 1 cup
Equivalent Serving 1 cup

Amount Per Serving	
Calories 82	Calories from Fat 2
	% Daily Value*
Total Fat 0.2g	**0**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**0**%
Sodium 1mg	**0**%
Total Carbohydrate 21.5g	**7**%
Dietary Fiber 2.6g	**10**%
Sugars 0g	
Protein 2g	

Vitamin A 457%	Vitamin C 52%
Calcium 8%	Iron 7%

Kidney beans

Nutrition Facts

Serving Size ½ cup
Equivalent Serving 2 oz Pro.

Amount Per Serving	
Calories 110	Calories from Fat 4
	% Daily Value*
Total Fat 0.5g	**1**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**9**%
Sodium 215mg	**6.5**%
Total Carbohydrate 20g	**22**%
Dietary Fiber 5.5g	**15**%
Sugars 7g	
Protein 0g	

Vitamin A 0%	Vitamin C 2%
Calcium 10%	Iron 13%

Whole wheat crackers

Nutrition Facts

Serving Size 6 crackers
Equivalent Serving 1 oz

Amount Per Serving	
Calories 120	Calories from Fat 35
	% Daily Value*
Total Fat 4g	**6**%
Saturated Fat 0.5g	**3**%
Cholesterol 0mg	**0**%
Sodium 50mg	**2**%
Total Carbohydrate 20g	**7**%
Dietary Fiber 3g	**12**%
Sugars 0g	
Protein 3g	

Vitamin A 0%	Vitamin C 0%
Calcium 0%	Iron 8%

Red peppers

Nutrition Facts

Serving Size ½ cup
Equivalent Serving ½ cup

Amount Per Serving	
Calories 23	Calories from Fat 2
	% Daily Value*
Total Fat 0.25g	**0**%
Saturated Fat 0g	**0**%
Cholesterol 0mg	**0**%
Sodium 3mg	**0**%
Total Carbohydrate 4.5g	**3**%
Dietary Fiber 1.5g	**13**%
Sugars 3.1g	
Protein 0.75g	

Vitamin A 46%	Vitamin C 158%
Calcium 1%	Iron 2%

Name: _____ Team: _____

Pretest/Posttest

Put the correct answers in the answer box to the right. Sometimes there can be *more than one* answer.

1. Starches, sugars, and fiber are all part of what group of nutrients?	A. Amino Acids B. Carbohydrates C. Proteins D. Fats	
2. Write the letters of two reasons why we need protein.	A. for quick energy B. for building new body cells C. for stored energy D. for repair damaged cells	
3. Write the letter of the *primary* reason we need carbohydrates.	A. for quick energy B. for building new body cells C. for stored energy D. for repair damaged cells	
4. Which food group is the *best* source of natural sugars?	A. Grain Group B. Protein Group C. Fruit Group D. Vegetable Group	
5. Which group is the *primary* source of essential amino acids and iron?	A. Grain Group B. Protein Group C. Fruit Group D. Vegetable Group	
6. Write the letters of *all* food groups having good sources of fiber.	A. Grain Group B. Protein Group C. Fruit Group D. Vegetable Group	
7. What is an easy way to identify many "bad" fats?	A. They are liquid at room temperature. B. They melt in water. C. They have a distinctive smell like fries. D. They are solid at room temperature	
8. Write the letters of two of the following fats that are considered "bad" fats.	A. Polyunsaturated fats B. Omega-3 fatty acids C. Transfats D. Saturated fats	
9. Which Vitamin is known to help your body heal and fight infection?	A. Vitamin A B. Vitamin B C. Vitamin C D. Vitamin D	

10. Which Vitamin is known to help your body absorb calcium?	A. Vitamin A B. Vitamin B	C. Vitamin C D. Vitamin D	
11. Which Vitamin promotes healthy skin and improves your night vision?	A. Vitamin A B. Vitamin B	C. Vitamin C D. Vitamin D	
12. Which mineral makes hemoglobin in your blood?	A. Iron B. Sodium	C. Calcium D. Potassium	
13. Which mineral builds strong bones and teeth?	A. Iron B. Sodium	C. Calcium D. Potassium	
14. Which mineral must be limited because it causes high blood pressure and maybe strokes?	A. Iron B. Sodium	C. Calcium D. Potassium	
15. Carrots and cantaloupe are great sources of which vitamin?	A. Vitamin A B. Vitamin B	C. Vitamin C D. Vitamin D	
16. Cottage cheese and yogurt are a great source of which mineral?	A. Iron B. Sodium	C. Calcium D. Potassium	
17. Strawberries, grapefruit and broccoli are great sources of which vitamin?	A. Vitamin A B. Vitamin B	C. Vitamin C D. Vitamin D	
18. Chips, soups, pickles, and French fries, are sources of which mineral?	A. Iron B. Sodium	C. Calcium D. Potassium	
19. How much food from the Grain group should you eat each day?	A. 1 cup B. 4 cups	C. 6 ounces D. 3½ cups	
20. How much food from the Dairy group should you eat each day?	A. 1 cup B. 3 cups	C. 3 ounces D. 1½ cups	
21. How much food from the Protein group should you eat each day?	A. 1¼ cups B. 4 cups	C. 2 pounds D. 5½ ounces	
22. How much food from the Fruit group should you eat each day?	A. 2 cups B. 2½ cups	C. 12 ounces D. 3 cups	

23. How much food from the Vegetable group should you eat each day?	A. 2 cups B. 2½ cups	C. 12 ounces D. 3 cups	
24. Ingredients on a Nutrition Facts Label are always listed in what order?	A. Alphabetically C. By weight	B. By Nutrition value D. By Food Group	
25. Discretionary calories come from foods that are	A. 100% of daily value B. High fat or high sugar C. Extremely salty D. Eaten after exercise		

Fill in the blanks for #26–34. These are all part of the MyPlate guidelines

26. Enjoy your food, but _____ _____.

27. Avoid _____ portions.

28. Make _____ your plate fruits and _____.

29. Make at least half your grains _____ _____.

30. Switch to _____ or _____ milk.

31. Compare _____ in foods like soup and frozen foods, and choose foods with lower numbers.

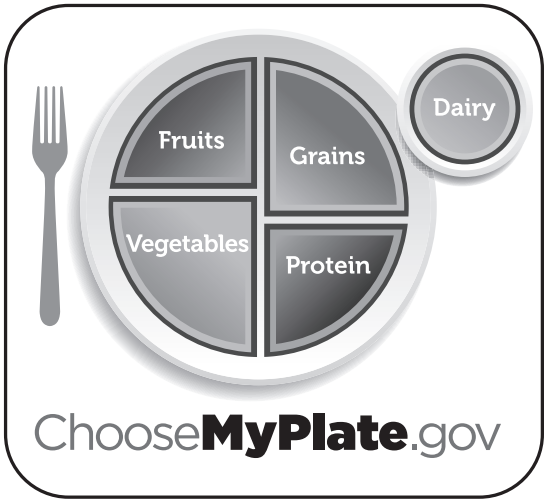
32. Drink _____ instead of sugary drinks.

33. Cut back in foods high in solid _____, added _____ and _____ .

34. Exercise _____ to _____ minutes a day, every day.

Food! Food! Food!

You're constantly being bombarded with thoughts of food! In magazines, there are full-color photos showing delicious roasts covered in gravy, towering chocolate cakes, and gorgeous salads topped with oodles of salad dressing. On TV, there are the amazing commercials showing mouth-watering burgers, fries, and pizzas. And, of course, don't forget the various cartoon characters telling you all about the most "fun" cereal you'll ever eat! When your stomach is empty, it also growls and rumbles loudly reminding you to think about *food*. So what will you feed your hungry stomach?



You have opportunities every day to choose. Unfortunately, the people who create the magazines and TV commercials are not experts on healthy diets. They are paid to market a product in such a way that you will buy it, regardless of how healthy it is for you. *You* need to know what's good to eat for yourself.

In Part One of this unit, you will learn all about basic nutrition and why we need specific nutrients to be healthy. To help you make the best food choices, you will learn about *MyPlate*. This is the new program launched in 2011 by the United States Dept. of Agriculture that provides guidelines that will help you find your way through the advertisements to choose the best foods for you. *MyPlate* hopes to help you and other Americans avoid diabetes, heart attacks, strokes, obesity, and other life threatening diseases.

In Part Two of the unit, you will take part in *CHOW—A Simulation of Nutrition and Food Budgeting*. In this three-day simulation, you will take the roles of Planner, Shopper, and Diner. You will use MyPlate to help you plan menus, buy food at a classroom store, and evaluate the meals. You will maintain records about what you ate and how much it cost—something that you will eventually need to do for yourself and your family.

There are a variety of activities and tasks every day. Some are individual, and some you will do with your team. In all cases, your teacher will evaluate you on a four-level rubric. Although a three-star rating is very good, you and your team should strive to earn a four-star rating. What you learn in the next three weeks is important! It is something you will use for the rest of your life. In some cases, what you learn now may even save your life.

The first part of the *CHOW* is **Appetizer.** In this part you will be working in teams of three to learn as much as you can about nutrition. Each day you will assume one of three roles: **Leader**, **Reader/ Recorder**, or **Manager**. The next day, you will switch to a different role, and continue to switch roles daily throughout the unit.

Role Responsibilities:

Leader

- Read the focus questions.
- Direct discussions and keep the team on task.
- Organize your team's folder and give it to the teacher.

Reader/Recorder

- Read the essays.
- Record any group activity answers, including group graphic organizers.

Manager

- Collect and return the materials for the activities.
- Get the handouts from the teacher and give them to your teammates.

Discuss and decide who will be which role starting today. Write your names on the chart below. Rotate roles *only* when your teacher tells you to do so.

Name	Day 1	Day 2	Day 3	Day 4	Day 5	Day 6	Day 7	Day 8	Day 9	Day 10
	L	RR	M	L	RR	M	L	RR	M	L
	RR	M	L	RR	M	L	RR	M	L	RR
	M	L	RR	M	L	RR	M	L	RR	M

If the Leader is absent, the Manager will take his/her place for the day.

If the Reader/Recorder is absent, the Manager will take his/her place for the day.

If the Manager is absent, the Leader will take his/her place for the day.

Name: _____ Team: _____

Questionnaire

Directions: Read each question and think about how it applies to you and your eating habits today. You will retake this questionnaire after completing *CHOW*. Be honest!

1. How many meals do you eat each day? _____
2. What is your favorite breakfast? _____
3. How many days each week do you eat breakfast? _____
4. How many glasses of milk do you drink each day? _____
5. How many days per week do you eat hot lunch at school? _____
6. How often do you eat snacks between meals? a) never b) 1/day c) 2/day d) 3+/day
7. What kinds of snacks do you eat? _____
8. What is your favorite meat? _____
9. What is your favorite vegetable? _____
10. What is your favorite fruit? _____
11. If you had a choice, which food would you select to eat more often than you now eat it?

    Circle your answer: fruit … vegetable … meat … dairy product … other _____
12. How often do you exercise each week? _____
13. How often have you "dieted" to gain or lose weight? a) 0 times b) 1–2 times c) many times
14. How many times a week do you prepare meals for yourself or your family? _____

Read and think about the following statements about yourself and then decide if you…

Strongly **A**gree **A**gree (have) **N**o **O**pinion **D**isagree **S**trongly **D**isagree

Circle your answers:

15. I know the MyPlate guidelines *very* well.	SA	A	NO	D	SD
16. I can *fully* understand the information on a nutrition food label.	SA	A	NO	D	SD
17. I can plan 3 healthy meals a day that follow the new guidelines.	SA	A	NO	D	SD
18. I can accurately estimate correct serving sizes.	SA	A	NO	D	SD
19. I can accurately maintain food budget records.	SA	A	NO	D	SD
20. I believe exercise allows me to eat whatever I want.	SA	A	NO	D	SD
21. I think about what I've eaten that day before planning my next meal.	SA	A	NO	D	SD
22. To be healthy I can't ever eat high fat or high sugar foods.	SA	A	NO	D	SD
23. Two foods that have the same calories are equally nutritious.	SA	A	NO	D	SD

Exercise Is Not Optional

Roles.

CHOW teams participate in the Exercise Stations together, completing the same activity and then moving to the next station. Each team member fulfills one role through all Exercise Stations for one day, and then rotates to a different role for the next day.

Leader or ***Planner***

- organizes the set up of the stations at beginning of Exercise session
- is the *timer* who tells the person when to start and stop

Recorder or ***Shopper*** records the results

Manager or ***Diner***

- counts the repetitions and reports to the Recorder
- puts away the stations at the end of the Exercise session

Shared Roles

When the Leader is exercising, then the Manager must time and the Recorder must count and record. When the Recorder is exercising, the Manager must count and record. When the Manager is exercising, the Recorder must count and record.

Heart Rates

It's important to record your heart rate at a resting rate *before* starting the stations and then *after* you complete your last station.

Finding Your Pulse Rate to Count Your Heart Beats

1. Using your index finger, locate your pulse in your wrist or in the carotid artery in your neck.
2. Count off every pulse you feel pushing against your finger.
3. Count for 10 seconds and multiply by six (or count for 15 seconds and multiply by four) to compute your pulse rate for one minute.

Sample Exercise Stations Record:

Name: Lynda Team: Carrot Tops

	Date 1/6	Date 1/7	Date 1/8	Date 1/9	Date 1/10	Date	Date	Date	Date	Date
Resting Heart Rate	75	72	80	74	82					
Exercise										
Station 1: Hacky Sacks	28	26	29	30	32					
Station 2: Ball Toss	10	16	11	14	14					

Exercise Stations

Station 1:

Hacky Sacks. Kick a hacky sack as many times as you can in one minute.

Station 2:

Ball Toss. Throw a soft rubber ball up high and catch it as many times as you can in one minute. Count only those that you catch.

Station 3:

Step Aerobics. Step up, bring second foot up, and then step down as many times as you can in one minute.

Station 4:

Jump Rope. Jump as many times as you can in one minute. As time goes on, you should jump faster.

Station 5:

Hula Hoops. Swing the hoops around your waist as many times as you can in one minute.

Station 6:

Ping-Pong Toss. Paddle a ping-pong ball upward as many times as you can in one minute.

Station 7:

Chest Expander. Hold an exercise band or bungee cord across your chest and stretch outward and back as many times as you can in one minute.

Station 8:

Jumping Jacks. Jump as many times as you can in one minute, clapping your hands over your heads as your legs go out, returning your hands to their sides as your legs come together. As time goes on, you should jump faster.

After you complete your last station, *immediately* take your pulse.

Name: _____ Team: _____

Exercise Stations Record

	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date	Date
Resting Heart Rate												
Exercise												
Station 1: Hacky Sacks												
Station 2: Ball Toss												
Station 3: Step Aerobics												
Station 4: Jump Rope												
Station 5: Hula Hoops												
Station 6: Ping-Pong Toss												
Station 7: Chest Expander												
Station 8: Jumping Jacks												
Final Heart Rate												

Name: _____ Team: _____

Personal Exercise Log

Date	Exercise Activities	Level: L Low M Med H High	Minutes	Daily Total

The Building Blocks: Proteins

Alive and Well—Nutrients.

What are the six major requirements you need to keep your body running?

There are minimum requirements needed to keep you alive and well. Besides **water**, there are five major nutrients: **proteins, carbohydrates, fats, vitamins, and minerals**. All six serve an important purpose in the body. In *CHOW*, you will learn all about these nutrients and what foods to eat to get them every day. Let's start with proteins.

Proteins.

What must happen to proteins before they can be used in the body?

When you think of proteins, think about plastic building blocks. What if you opened a new box of blocks and all the blocks were stuck together? You could not build anything until you broke them apart. In the digestive system, proteins are like those building blocks—stuck together. They must be broken down into small building blocks called **amino acids** before the body can use them. But what shall we build?

What are the *four* ways that disassembled proteins are used in the body?

- Our body can use the amino acids to **build new body cells** and **repair damaged cells**. Young people especially need protein because they are growing every day.
- The body can reassemble the amino acids into **antibodies** that fight infection and disease. Without antibodies, a simple scratch or everyday cold would be fatal.
- Finally protein amino acids can be made into **enzymes**. You need enzymes every time you digest food, move your body, or take a breath.

Two Kinds of Proteins.

What must a protein have to be considered a *complete* protein?

Some foods are considered **complete proteins**. They contain the nine essential amino acids that we need to live and grow. Examples are lean meats, poultry, fish, eggs, milk, and cheese.

Why are some foods considered *incomplete* proteins?

Some foods are considered **incomplete proteins**. These contain only some, but not all nine essential amino acids. Examples are soybeans, rice, wheat germ, corn, nuts, and potatoes. But, you can eat two incomplete proteins together and have all the amino acids. You are probably aware of many combinations such as beans

What must you do to get all the amino acids you need if you choose incomplete protein foods?

with rice or peanut butter on whole wheat bread. You can also add a small amount of animal protein (meat, eggs, milk or cheese) to any of the incomplete proteins to create a complete protein. protein. Macaroni and cheese and oatmeal with milk are examples. This explains why people who choose not to eat meat (vegetarians) can live healthy lives

Protein, Food Groups, and Servings

What two food groups contain the most protein?

The two food groups that offer the most protein per serving are the **Dairy group** and the **Protein group**. MyPlate guidelines recommends that for a 2,000-calorie diet, you should drink three cups of milk (or its equivalent) and eat five-and-a-half ounces of meat. You can also eat other foods from the same food group as equivalent choices.

What are three equivalents to one cup of milk?

Measuring one cup of milk to make one serving is quite straightforward, but the equivalents are a little trickier. Two ounces of American cheese, one-and-a-half ounces of cheddar cheese, and two cups of cottage cheese are all equivalent to one cup of milk. However, one cup of ice cream with over 600 calories equals only one-fourth cup of milk.

A serving of cooked meat or fish is three ounces. What common item is similar in size?

Counting meat servings is a little easier. A piece of meat or fish that's the size of a deck of cards is about three ounces. Sliced meats are often sold by the ounce and sandwiches are often made with two ounces of sliced deli meat.

What is the equivalent of one cup cooked dried beans in ounces?

Dry beans are measured in ounces, but only after they are cooked. One-fourth cup of cooked beans equals one ounce. One ounce of nuts equals two ounces of protein, and one tablespoon of peanut butter equals one ounce of protein.

What is the equivalent of protein in ounces for two tablespoons of peanut butter?

What are two reasons for avoiding fatty meats or cheeses?

But the primary difference among choices within the Protein group or the Dairy group is the amount of fat they contain. Lean meats, poultry, fish, and skim milk have complete-proteins and are low-fat foods. Fatty meats, cheese, and ice cream also have complete proteins, but they're high-fat foods. Nutritionists agree that you should choose lower fat foods in both the Protein and Dairy groups and avoid eating oversized proportions.

Graphic Organizers for Proteins

Today you and your team will learn a lot about proteins. From the essay **The Building Blocks: Proteins,** you will discover that proteins are the primary building blocks we need to grow and maintain our bodies.

Directions: Read the essay first and answer the focus questions as you read. You and your team members then should share information about proteins and create four graphic organizers. Use paper that is big enough for your graphic organizers, work neatly and spell words correctly.

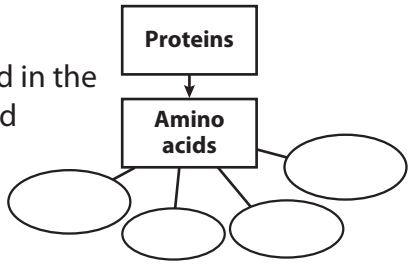
Each task suggests a graphic organizer format, but you may create your own. Remember to use only key words or phrases—not whole sentences. *Write the words first* and then draw the circle or square around it.

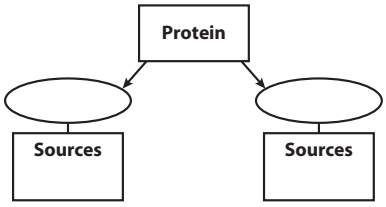
Directions: Write the words "Always write first!" in both circles. In the blank space, first write the same words and then draw a circle around them.

Discussion: In the first circle, you may have had room to write the words, but they are crowded. In the second circle, you probably couldn't fit all the words. When you wrote the words first and then drew the circle, you had plenty of room.

Graphic Task 1A.

Proteins are disassembled into amino acids and reassembled to be used in the body. Create a graphic organizer that shows the four ways disassembled proteins are used in the body.



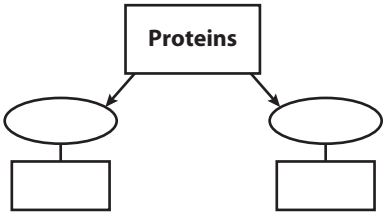


Graphic Task 1B.

There are two kinds of proteins. Create a graphic organizer that shows the difference between the two kinds and the food sources for each.

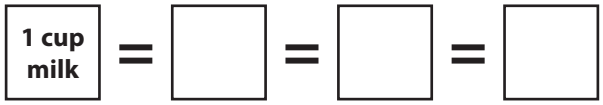
Graphic Task 1C.

There are two food groups that are the primary sources of proteins. Create a graphic organizer to show the food groups and the recommended servings per day for each.



Graphic Task 1D.

Equivalent means "equal to." Create a graphic organizer to show three equivalents of one cup of milk.



Name: _____ Team: _____

Quick Quiz: Proteins

1. What must happen to proteins before they can be used in the body?

2. List three of the four ways that disassembled proteins are used in the body.

3. What must a protein have to be considered a *complete* protein?

4. How can you get all the protein you need if you choose to eat incomplete protein foods?

5. What two food groups contain the most protein?

6. What amount of meat or its equivalent should you eat each day?

7. A serving of cooked meat or fish is three ounces. What common item is similar in size?

8. What kinds of meat or milk products should you limit?

Fill in the blanks:

9. Switch to _____ or _____ milk.

10. Avoid _____ portions.

Quick Energy: Carbohydrates

Why do we need to eat carbohydrates?

Carbohydrates

When you think of carbs, think of fuel! **Vroooomm!**. Carbohydrates provide quick energy, the necessary fuel to keep your body going and growing. When your supply of carbohydrates gets low, your body sends you signals—Your stomach growls, and you become more tired and jittery.

What are the three kinds of carbohydrates?

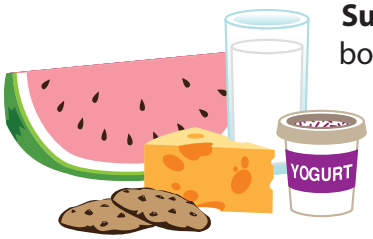
Where do most carbohydrates come from?

Three Kinds of Carbohydrates

There are three kinds of carbohydrates: 1) **sugar**, 2) **starch**, and 3) **fiber**. Carbohydrates are found in milk products, but they are chiefly supplied by food grown from plants. Parts of plants we eat include leaves, stems, roots, seeds, and fruits. Sometimes we eat plant parts raw, sometimes we cook them, and sometimes we grind them into flour. What part of the plant and how we process it determines what type of carbohydrate we will eat.

What is the food group containing the greatest sources of natural sugars?

What did you notice about the names of different sugars?



Sugar is a ready-to-use carbohydrate. Our bodies digest and absorb sugar easily and so it is considered the quickest energy carbohydrate. Milk products naturally contain a sugar called lactose. But the greatest sources of natural sugars are fruits containing fructose. Some sweet foods, like cookies, have added sugar (sucrose) and many processed foods have added sugar in the form of high fructose corn syrup. Nutritionists agree that you should consider these "added sugar foods" as "treats" and limit how often you eat them. For lunch, choose a piece of fruit instead of a cookie for dessert.

What are two kinds of "added sugars?"

What happens to a starch when it's digested?

List six whole foods that are important sources of starch.

Starch is made up of many sugar units linked together. This means that the body must first digest or break down the starch into a sugar (glucose) that the body can use. Starches occur naturally in whole foods such as potatoes, beets, corn, pumpkins, and winter squash. Other important sources of starch are grains such as wheat, oats, and rice. If you refine grains by removing the outer covering and grinding them into flour, the starch is easier to digest. White pasta and white bread are examples of easily digested carbohydrates. Being easy to digest is not necessarily a healthy option. Processing any grain removes important vitamins and fiber, both needed by the body.

What are two reasons why eating refined grains is a poor idea?

What does it mean that fiber is *indigestible*?

List three sources of foods high in fiber.

Fiber is an indigestible carbohydrate because it can't be broken down into sugar. This doesn't mean it's not important. Diets high in fiber decrease the risk of coronary artery disease and prevent digestive problems such as constipation. Rich fiber foods such as whole grains, brown rice, and dried beans are much better choices than refined carbohydrates. Choosing whole fruits is better than choosing fruit juices because fruit skins provide lots of fiber.

Carbs, Food Groups, and Servings

What amount of grain should you eat each day?

What amount of fruit should you eat each day?

What amount of vegetables should you eat each day?

As you have read, the primary foods that provide carbohydrates are from the **grain, dairy, fruit, and vegetable groups**. MyPlate recommends six ounces of whole grains (brown rice, whole wheat pasta, etc.) that you can readily measure. Make half of your grains whole grains.You should also eat two cups of fruit, and at least two-and-a-half cups of vegetables. They also suggest that you eat a variety of vegetables during the course of a week—some that are dark green or orange (broccoli or carrots), some that are leafy (spinach, lettuce), and some that are starchy (potatoes and peas). Make half your plate vegetables and fruits.

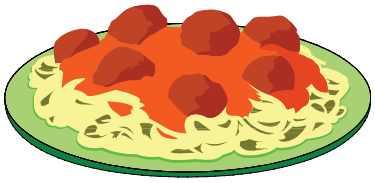
Too Many Carbs

What are the prime sources of added sugar?

Why can eating pasta and bread be a problem?

What are two things you can do to avoid gaining weight?

Many Americans currently have a weight problem because it's so easy to eat many more carbohydrates than the amount of energy their bodies need. Sodas, energy drinks, and juices are a big part of the problem because they are prime sources of added sugars. People also unknowingly eat huge portions of pasta, bread, and sugared cereals because they are unaware of what makes up a reasonable portion size. Snacking on cookies, cakes, chips, crackers, and even granola bars add both sugars and fats. Therefore, measuring serving sizes of carbohydrates and eating high-carbohydrate snacks only once in a while is a healthy way to avoid weight gain. Enjoy your food, but eat less.

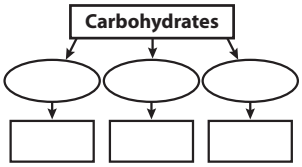


Graphic Organizers for Carbohydrates

Today you and your team will learn a lot about carbohydrates. From the essay **Quick Energy: Carbohydrates**, you will discover that there are three kinds of carbohydrates and that carbohydrates provide the energy our bodies need.

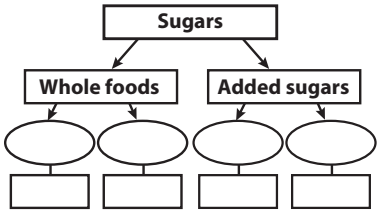
Directions: Read the essay first and answer the focus questions as you read. You and your team members then should share information about carbohydrates and create five graphic organizers. Use paper that is big enough for your graphic organizers, work neatly, and spell words correctly.

Each task *suggests* a graphic organizer format, but you may create your own. Remember to use only key words or phrases—not whole sentences. **Remember** to *write the words first*, then draw the circle!



Graphic Task 2A.

There are three kinds of carbohydrates. Create a graphic organizer that shows the three kinds and the major food sources for each.



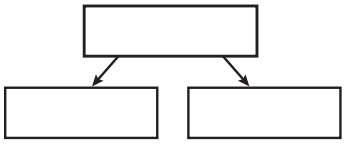
Graphic Task 2B.

There are two sugars that occur naturally in foods. There are two other sugars that are added to foods and should be limited in your diet. Create a graphic organizer that shows the two kinds and the sources for each.

Graphic Task 2C.

Make a graphic organizer to show the better choices you could make for the items in column one.

A choice	A *better* choice
• Juice • White rice • White pasta • Processed foods • Cake for dessert	



Graphic Task 2D.

Make a graphic organizer to tell the 2 major health benefits from eating fiber rich foods.

Graphic Task 2E.

Make a graphic organizer to explain why many Americans are having a weight problem.

Name: _____ Team: _____

Quick Quiz: Carbohydrates

1. Why do we need to eat carbohydrates?

2. What are the three kinds of carbohydrates?

3. List two whole foods that are important sources of natural sugars:

4. List two whole foods that are important sources of starch:

5. List two sources of foods high in fiber:

6. What amount of grains should you eat each day?

7. What amount of vegetables should you eat each day?

8. What amount of fruit should you eat each day?

Fill in the blanks:

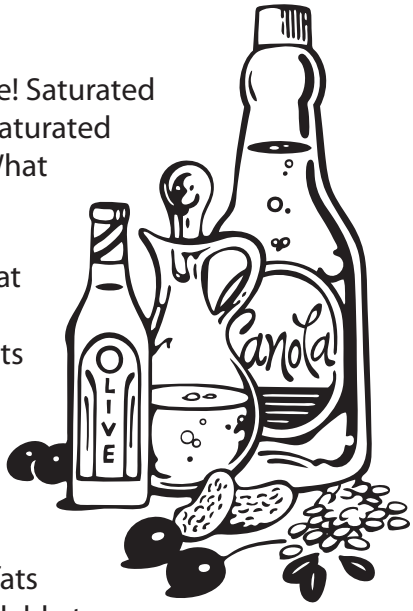
9. Make half your plate _____ and _____.

10. Make at least half your grains _____ _____.

Stored Energy: Fats

Fats

Fats are in the news. Low-fat! Fat-free! Saturated fats! Polyunsaturated fats! Monounsaturated fats! Cholesterol and no trans fats! What does it all mean?



First of all, eating foods containing fat is not necessarily unhealthy. In fact, eating a limited amount of "good" fats is actually essential to good health.

To be used by the body, fats must be changed into what?

Fats are energy suppliers, but not quick energy. The body needs time to digest fats into fatty acids—a usable energy. Because you store fats throughout your body, they are available to keep you alive when your supply of carbohydrates is used up, and there's no food. This is very important to humans around the world in times of famine.

How do fats help you in the time of starvation?

Fats are also necessary for the absorption of vitamins A, D, E, and K—all vital to good health. They provide the building blocks of membranes throughout the body and are important to maintaining healthy skin and hair.

List three ways fats are important to good health.

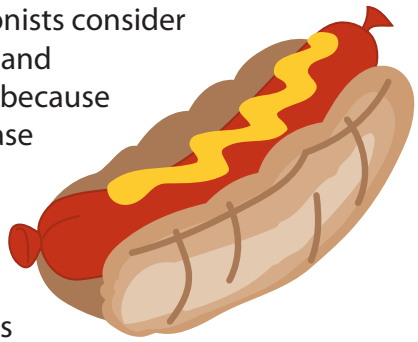
Since your body can store fats, you do not need to eat large amounts of fats daily. But eating too many foods high in "bad" fat raises blood cholesterol and causes heart disease. So what's "good" and what's "bad?"

Why don't you need to eat large amounts of fat every day?

"Bad" Fats

What are three "bad" fats?

You must be aware of what nutritionists consider "bad" fats. *Saturated fats, trans fats*, and *cholesterol* are all considered "bad" because they increase the risk of heart disease and death. Fatty meats like hot dogs, fried chicken, bacon, and high-fat foods like butter and ice cream contain saturated fats and cholesterol. Finding hidden fats can be difficult, but remember that bad fats are generally *solid* at room temperature.



Why are they considered "bad?"

How could you tell just by looking at butter and bacon fat that they are not "good" fats?

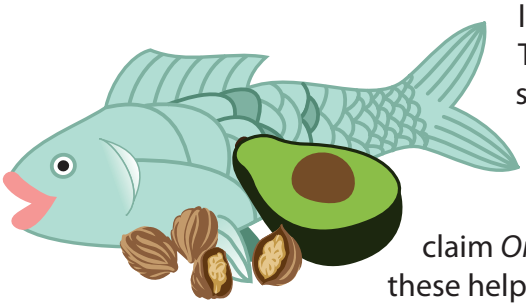
List two sources of foods high in trans fats.

Prepared foods such as french fries and store-bought cookies contain trans fats. Labels now must clearly report trans fats, but they used to be hidden under the name of "partially hydrogenated vegetable oil."

Why are some fats considered "good?"

"Good" Fats

Instead you should choose most of your fats from "good" fats—those that provide essential fatty acids and actually reduce the risk of heart disease. Most of these "good" fats are *polyunsaturated* and *monounsaturated* oils that are liquid at room temperature. They are found in foods such as fish, nuts, olives, avocados, vegetable oils, and flaxseeds. You should look for foods whose labels claim *Omega-3 fatty acids* because these help prevent heart disease.



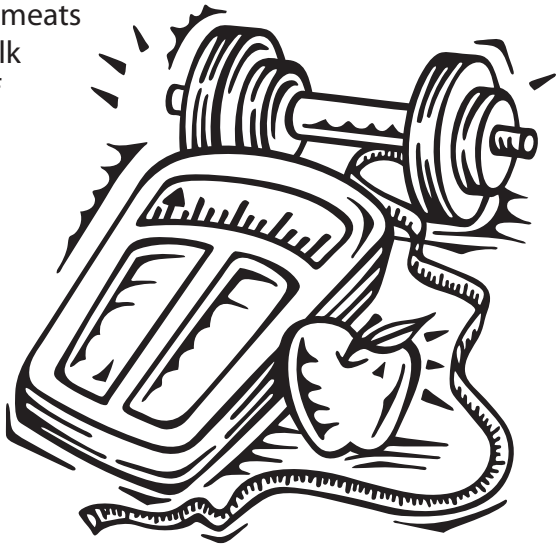
What specific fatty acid should you look for?

Fats, Food Groups, and Servings

What three food groups do *not* contain many foods high in fat?

Fats are found primarily in the milk and meat groups. Unfortunately most of the fats found there contain saturated fats and cholesterol. MyPlate recommends that when choosing servings from these groups, you try to avoid the "bad" fats by cutting back on foods high in solid fats. Instead choose lean meats and low-fat or fat-free milk products. The servings of good fats are limited to five–eight teaspoons of polyunsaturated and monounsaturated oils per day depending on how much exercise you do. This means that although olive oil is good for you, you shouldn't drown your salad in dressing. Avoid oversized portions.

What kind of choices can you make to avoid eating too many "bad" fats?



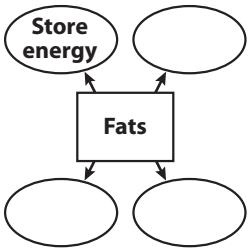
How many teaspoons of good fats should you try to eat each day?

Graphic Organizers for Fats

Today you and your team will learn a lot about fats. From the essay **Stored Energy: Fats**, you will discover that there are good fats and bad fats and that fats play an important role in keeping us healthy.

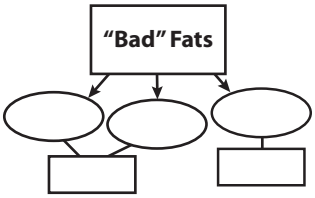
Directions: Read the essay first and answer the focus questions as you read. You and your team members then should share information about fats and create four graphic organizers. Use paper that is big enough for your graphic organizers, work neatly, and spell words correctly.

Each task *suggests* a graphic organizer format, but you may create your own. Remember to use only key words or phrases—not whole sentences. **Remember** to *write the words first*, then draw the circle!



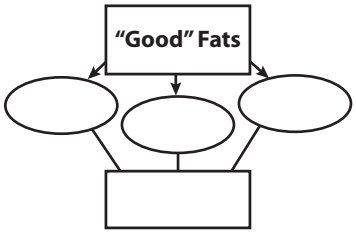
Graphic Task 3A.

Besides storing energy for the body to use when carbohydrates are gone, fats are important to the body for three more reasons.



Graphic Task 3B.

There are three fats that nutritionists consider to be "bad" fats. Create a graphic organizer that shows the three kinds and the sources for each.

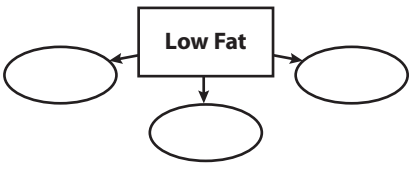


Graphic Task 3C.

There are three fats that nutritionists consider to be "good" fats. Create a graphic organizer that shows the three kinds and their sources.

Graphic Task 3D.

Fats are most often found in the protein and dairy groups. But you can choose from three other food groups that generally have lower fat food choices. Create a graphic organizer that shows the three other food groups.



Name: _____ Team: _____

Fat Detectives

Fats are essential to your diet, but too many servings of fat aren't good for you. MyPlate recommends that you limit the servings of fat. Sometimes foods contain hidden fats, so it's important for you to be a fat detective.

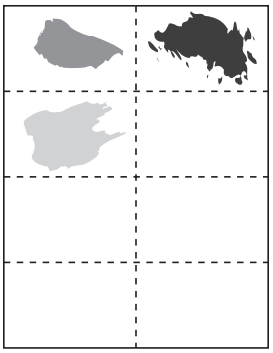
Two foods high in fats are butter and margarine. When you rub either butter or margarine on brown paper and then scrape it off, you'll see that a translucent greasy spot remains. This spot is the fat absorbed by the brown paper. The telltale translucent spot on brown paper is a good indicator of fat in many foods. In a short experiment, you will test various foods and look to find translucent spots that indicate fat.

Materials

- Brown paper sack or shopping bag, napkins, spatula or knife, ruler, pencil
- Eight different foods: select four from this group—butter, peanut butter, bread, hamburger, orange, frosting, mayonnaise—and four other foods of your choice (for example—celery, potato chips, cheese, chocolate candy, apple)

Procedure

1. Cut open a brown paper bag. Spread it out on the table in front of you.
2. Fold the bag to section off eight equal squares on the brown paper.
3. Take one of the foods and rub it into the middle of one of the squares. Label the square with the food's name.
4. Continue this procedure with the remaining foods.
5. After 10 minutes, go back to each square and scrape off the excess food.
6. Allow the paper to dry for one to two hours.
7. Record your results on the Results Chart.



Results Chart

Name of Food	Very Translucent	Slightly Translucent	Not Translucent	Fat content High: HF, Some: S, Low: L

From the chart above:

If you had to limit your fat intake, what two foods would you avoid? _____

If you had to limit your fat intake, what two foods would you eat more often? _____

Master

Name: _____ Team: _____

Quick Quiz: Fats

1. To be used by the body, fats must be broken down into what?

2. How do fats help you in a time of starvation?

3. List at least two more ways that fats are important to good health.

4. What are three "bad" fats?

5. Why are they considered "bad?"

6. List four foods that are high in saturated fats and cholesterol.

7. List two sources of foods high in trans fats.

8. What amount of "good" fats should you eat each day?

Fill in the blanks:

9. Bad fats are generally _____ at room temperature.

10. Good fats are generally _____ at room temperature.

Vitamins, Minerals, and Water

How do we normally get the vitamins we need?

What are the 2 major groups of Vitamins?

Why must you eat water-soluble vitamins every day?

Make a list of the ways that vitamin C helps our body.

What are some foods that are good sources of vitamin C?

Vitamins

Vitamins are tiny nutrients that are essential to the body. In almost every case, these cannot be manufactured by the body and so must be obtained in the food we eat or in vitamin pills. All vitamins are divided into two major groups: Water-soluble and Fat-soluble.

Water-Soluble Vitamins

Water-soluble vitamins are easily absorbed into your blood and tissues. But water-soluble vitamins cannot be stored in your body, and unfortunately they pass readily from your bodies through your urine. Therefore, you must eat foods that contain these vitamins every day.

An important water-soluble vitamin is **vitamin C**. It helps your blood vessels stay strong and elastic and helps your body use iron. It also helps your body heal cuts and broken bones and helps you fight infection. Citrus fruits, tomatoes, strawberries, broccoli, and other dark green leafy vegetables are good natural food sources of vitamin C.

Fat-soluble Vitamins

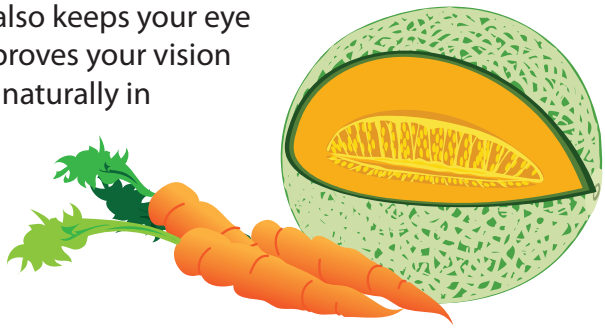
Why don't you have to eat fat-soluble vitamins every day?

Fat-soluble vitamins are stored in the body in fat tissue and in your liver. Because they can be stored, you do not have to eat foods that provide fat-soluble vitamins every day. In fact, eating too many vitamin pills with fat-soluble vitamins can be toxic (poisonous) to your body.

What are four ways that Vitamin A helps our body?

What are some foods that are good sources of vitamin A?

An important fat-soluble vitamin is **vitamin A**. It helps keep your outside skin and the tissues that line your digestive tract healthy. Vitamin A also keeps your eye tissue healthy, and it improves your vision at night. It can be found naturally in foods such as liver or dark yellow-orange vegetables and fruits such as carrots, sweet potatoes, and cantaloupe.



What is so special about vitamin D?

Why do we need vitamin D?

Another very important fat-soluble vitamin is **vitamin D**. This is a special vitamin because it is the only vitamin that your body can produce. When exposed to sunlight, your skin makes vitamin D. However, vitamin D is also added to milk and milk products. Nutritionists have always known the vitamin D helps the body absorb calcium (an important mineral) from the food we eat. However, recently some scientific studies have suggested that vitamin D can also help your body fight heart disease, diabetes, and even cancer.

Minerals

If our bodies contain minerals, why do we need to eat foods or take pills containing minerals?

Minerals are found in the body, but need to be replaced and maintained through diet or pills. There are many minerals needed by the body, but the three most important are calcium, iron, and sodium.

List three reasons why we need calcium.

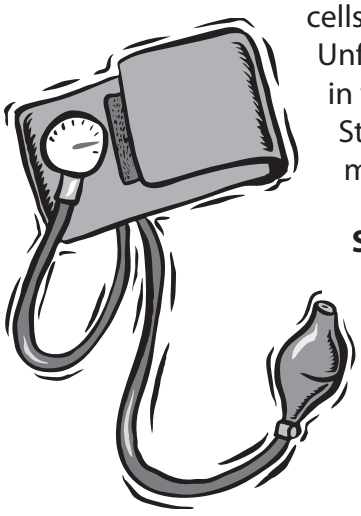
What foods are good sources of calcium?

Calcium works with protein to form strong bones and teeth. It helps your blood to clot, your muscles to move, and your heart to beat. Calcium is found in milk, milk products, dark leafy green vegetables, and some fish where bones are eaten, such as anchovies, sardines, and salmon. People, especially older women, often take calcium pills in addition to what they eat in their diet to protect them from thinning bones.

Why do we need iron in our diet?

What are good food sources of iron?

Iron is important to your hemoglobin, which is the part of red blood cells that carries oxygen throughout your blood system. Without enough iron you would feel tired all the time, and your cells' defense system would be weak. Unfortunately, iron deficiencies, especially in women, are very common in the United States. Foods containing iron are red meat and soybeans.



Why do we need sodium?

What is the daily limit of sodium per day?

Sodium, which is primarily found in salt, is important for maintaining a healthy heartbeat. However, because too much sodium causes high blood pressure, nutritionists recommend limiting the total daily amount of sodium to 2,400 mg sodium. The salt

How much salt is the daily limit?

If you had to limit your sodium intake, what foods might you eat?

we use is made up of about 40 percent sodium. Therefore, you should limit your salt to one teaspoon or less per day. This includes not only the salt you put on your food, but also the salt that is already in the food we eat. Common sources of sodium are table salt and processed foods, such as canned soups and boxed macaroni and cheese. Some foods may not taste salty, but may contain a lot of sodium. The Nutrition Facts labels always list sodium content, but remember fruits, most vegetables, and fresh meats are all low sodium foods. Compare sodium amounts in foods like soup, bread, and frozen meals, and choose foods with lower numbers.

Water

Why is water so important to the human body?

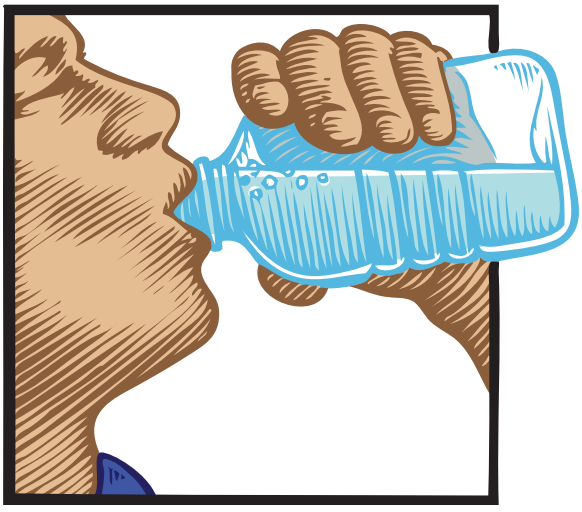
Because most of your body is made up of water, water is probably the single most important nutrient. A healthy person can survive only five days without water. Fortunately, water is found in all foods and is commonly available in the United States.

What happens to the body as it loses water?

As a person becomes more and more dehydrated (losing water), their blood becomes thicker, their blood volume decreases, and their heart is forced to work much harder. In a short time, they will show serious signs of distress and may lose consciousness.

What usually causes dehydration?

A person might lack water if he/she was lost in a desert. However, illnesses that cause vomiting and diarrhea are the most typical causes of dehydration. Every day, especially when you are sick, be sure to drink plenty of water.



Graphic Organizers for Vitamins, Minerals, and Water

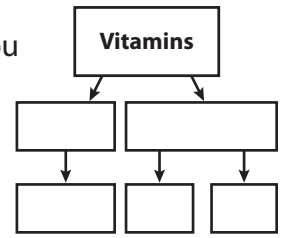
Today you and your team will learn a lot about vitamins, minerals, and water. From the essay, you will discover that there are specific vitamins and minerals necessary for good health. You will also learn that the most important nutrient of all is water.

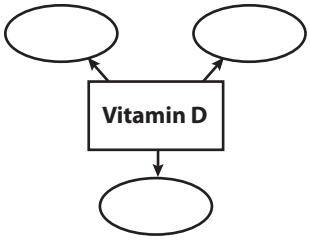
Directions: Read the essay first and answer the focus questions as you read. You and your team members then should share information about vitamins and minerals and create four graphic organizers. Use paper that is big enough for your graphic organizers, work neatly and spell words correctly.

Each task *suggests* a graphic organizer format, but you may create your own. Remember to use only key words or phrases—not whole sentences. **Remember** to *write the words first*, then draw the circle!

Graphic Task 4A.

There are two kinds of vitamins. Make a graphic organizer to show the kinds you learned about in the essay.



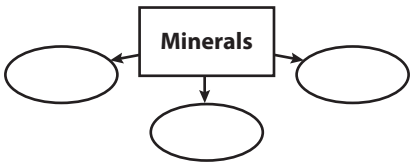


Graphic Task 4B.

Vitamin D is different. Make a simple graphic organizer to show three important facts about vitamin D.

Graphic Task 4C.

There are three important minerals. Make a simple graphic organizer to show them.



Name: _____ Team: _____

Graphic Task 4D. Complete the chart.

Major Nutrients of Your Body		
Nutrient	**Nutrient's Main Duties**	**Nutrient's Food Source**
Proteins	Build and repair body tissues, make antibodies to fight disease, supply enzymes.	Lean meats, poultry, fish, eggs, milk, and cheese.
Carbohydrates	Provide quick energy.	Vegetables, grains, fruit.
Fats	Provide stored energy, store and carry certain fat-soluble vitamins.	Shortening, oils, butter, fish, nuts, avocado.
Vitamin A		
Vitamin D		
Vitamin C		
Calcium		
Iron		
Water	Necessary for all bodily functions.	All foods and liquids.

Wanted Poster

Directions: Make a wanted poster for a favorite nutrient.

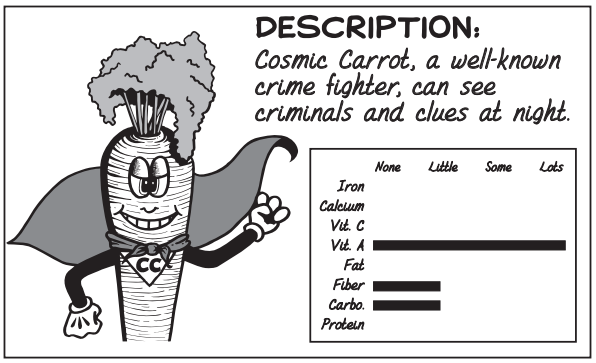
Materials

- Major Nutrients Your Body Needs—*one*
- Construction paper (12" x 18")—*one*
- Felt pens and/or crayons—*several*
- Long ruler—*one*

Procedure

1. Study the **Major Nutrients Your Body Needs** chart. Write down information about one nutrient.
2. Using the format of a traditional wanted poster, design a poster about that one nutrient. The wanted poster picture may be cartoon-like with a funny face, or may be more realistic.
3. Identify your nutrient and tell why it is wanted. This is where you tell if your nutrient is known by a different name, what it does for the body, and where it might be found.
   - Give your nutrient a "catchy" name. If it has an alias (like vitamin C or Riboflavin), tell its other name also.
   - Tell why your nutrient is wanted. Explain the health benefits.
   - Tell where your nutrient was last seen. This would be one or more good food sources for your nutrient.
   - For example, you might write, "Wanted Vitamin C, alias Ascorbic Acid. Wanted for healthy blood vessels and healing cuts fast! Last seen in the company of oranges or the strawberry gang."
4. Offer a reward. For example, the reward for capturing "Captain Carbo" might be increased energy.
5. Illustrate your wanted poster with colorful, eye-catching printing and drawings. Be clever! For example, iron is needed to make hemoglobin in blood, so you might draw iron like Count Dracula, but you would call it Count Iron.
6. When you finish your poster, ask your teacher where you might hang it in the room.

Comic Hero Card



Directions: Make a collector card for a favorite nutrient.

Materials

- Major Nutrients Your Body Needs—*one*
- Construction paper (12" x 18") with a horizontal line dividing it into two parts—*one*
- Felt pens and/or crayons—*several*
- Long ruler—*one*

Procedure

1. Choose a food from the foods listed as part of **Appetizer** or choose a food group and create a super hero based on the food (e.g., Cosmic Carrot or Atomic Meat Man). On the front of the card show the hero food in its super mode. You may draw a cartoon or make a collage using cut out pictures.
2. Under its name write a short description of what makes this food or food group a superhero. Here is where you describe its special power based on the main nutrient found in the food.
   - For example, Cosmic Carrot is best known for vitamin A. List all that vitamin A does for the body.
   - For example, Atomic Meat-Man is best known for protein and iron. List why these nutrients are good for the body.
3. On the back of the card, show "special powers" in graph form. The graph shows that the super hero is "strong" in some nutrients and weak in others.
   - List the nutrients in a column: protein, carbohydrate, fiber, fat, vitamin A, vitamin C, calcium, and iron.
   - Make a horizontal line graph with four points. A food will have None, Little, Some, or Lots of a nutrient.
   - For example: Cosmic Carrot has no protein, some carbohydrates, some fiber, lots of vitamin A, no vitamin C, no calcium, and no iron.
   - For example: Atomic Meat Man has lots of protein, no carbohydrate, no fiber, some fat, little vitamin A, no vitamin C, some calcium, and some iron.
4. Try to be clever, but also accurate. When you finish your poster, ask your teacher where you might hang it in the room.

Learning tip
If you are not sure of the nutrients for a particular food, ask your teacher for help or look at the food choice labels.

Name: _____ Team: _____

Quick Quiz: Vitamins, Minerals, and Water

1. Why is vitamin C good for your body?

2. Why is vitamin A good for your body?

3. What are some good food sources of vitamin C?

4. What are some good food sources of vitamin A?

5. What is so special about vitamin D?

6. Why is calcium important to the body, and what food group is the best source of calcium?

7. Why is iron important to the body?

8. Why must we limit sodium, and what is the recommended daily limit of sodium?

Fill in the blanks:

9. Compare _____ amounts in foods like soup, bread, and frozen foods, and choose the food with the _____ numbers.
10. Drink _____ instead of sugary drinks.

Name: _____ Team: _____

Appetizer Test One

Put the correct answers in the answer box to the right. Sometimes there can be *more than one* answer.

1. What must proteins be broken down into before the body can use them?	A. fatty acids B. starches C. amino acids D. sugars	
2. Write the letters of *all* the reasons we need protein.	A. for quick energy B. for building antibodies to fight infection C. for building new body cells D. for repairing of damaged cells	
3. How can a person get the proteins they need when they are vegetarians?	A. Eat only whole grains B. Eat twice as much of the incomplete proteins C. Eat high fiber foods D. Eat combination foods like red beans and rice	
4. Which of the following is the healthiest protein choice?	A. Chicken wings B. Cheddar cheese C. Lean beef hamburger D. Whole grain brown rice	
5. Which one of the following is not a kind of carbohydrate?	A. fiber B. starches C. amino acids D. sugars	
6. Write the letter of the primary reason we need carbohydrates.	A. for quick energy B. for making enzymes and antibodies C. for stored energy D. for repair of damaged cells	
7. What must starches be broken down into before the body can use them?	A. fiber B. fatty acids C. amino acids D. sugars	

8. Which food group is the best source of natural sugars?	A. Grain Group B. Protein Group	C. Fruit Group D. Vegetable Group	
9. Write the letters of *all* good sources of fiber.	A. Grain Group B. Dairy Group	C. Fruit Group D. Vegetable Group	
10. Which two food groups have the most low fat choices?	A. Fruit Group B. Vegetable Group	C. Protein Group D. Dairy Group	
11. "Bad" fats are generally…	A. Liquid at room temperature B. Found in olive oil C. Solid at room temperature D. Found in refined grains.		
12. Write the letters of *all* the fats that are considered "good" fats.	A. transfats B. polyunsaturated fats C. monounsaturated fats D. cholesterol		
13. Why do we need fats?	A. for quick energy B. for strong bones C. for stored energy D. for making enzymes and antibodies		
14. Which of these statements is true about "bad" fats?	A. Nuts contain mostly bad fats B. Bad fats are solid at room temperature C. Bad fats are liquid at room temperature D. Olive oil contains mostly bad fats		

Scores:

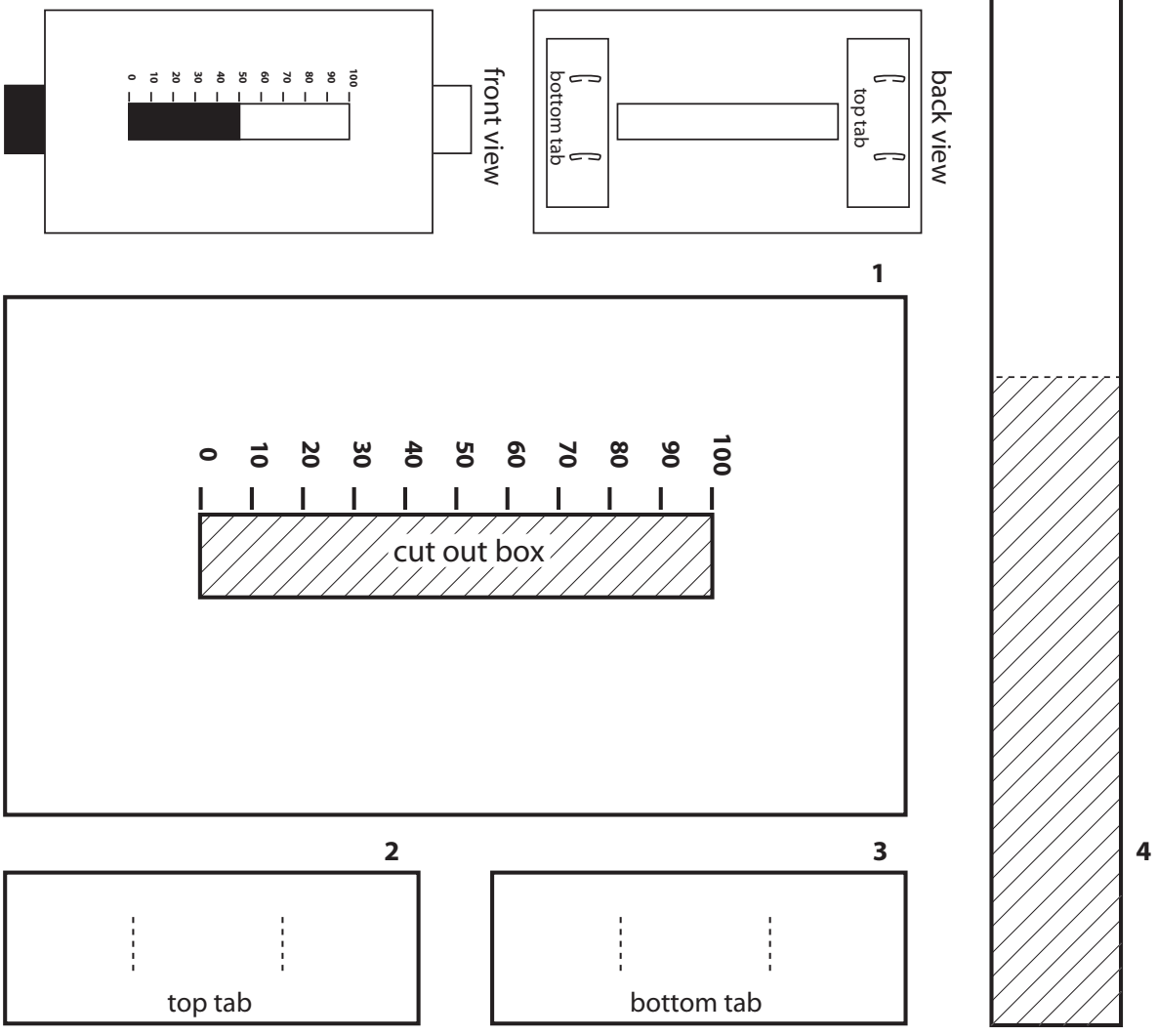
- Four stars = 13–14 correct
- Three stars = 11–12 correct
- Two stars = 9–10 correct
- One star = < 9 correct

Percent Perceiver Pattern

Directions: Make your own Percent Perceiver by following these steps:

1. Cut out pieces 1, 2, 3, and 4.
2. Color the striped portion of piece 4 a dark color. This is the bottom half of the slide gauge.
3. Cut out and discard the striped box from piece 1. The numbers are on the front of piece 1.
4. Place the tabs (pieces 2 and 3) on the back of piece 1 as shown in the picture. Staple the tabs to piece 1 about 1/4" out from the dotted lines.
5. Slide piece 4 under the two tabs with the colored side facing the cut out box. Be sure that it can slide up and down.
6. Bow up the two tabs and glue only their outside edges to the back of piece 1. You may double staple instead of using glue.

Finished sample



Name: _____ Team: _____

Quick Quiz: Percent Perceiving

1. What percent is filled in? 3% 7% 30% 70%

2. What percent is filled in? 6% 4% 60% 40%

3. Fill in 20% of this graph: (Work neatly.)

4. Fill in 85% of this graph: (Work neatly.)

5. Fill in 0% of this graph: (Work neatly.)

6. Fill in 100% of this graph: (Work neatly.)

7. If your graph showed you had eaten enough to provide 25% of vitamin A, how much more in percent do you need to eat to equal the minimum amount of daily value for vitamin A?

8. If your graph showed you had eaten enough to provide 65% of vitamin C, how much more in percent do you need to eat to equal the minimum amount of daily value for vitamin C?

Nutrition Facts Labels

Multi-Grain Wheat Crackers

Nutrition Facts

Serving Size 2 crackers (14g)
Servings Per Container About 21

Amount Per Serving	
Calories 60	Calories from Fat 10
	% Daily Value*
Total Fat 1.5g	**2%**
Saturated Fat 0g	**0%**
Trans Fat 0g	
Polyunsaturated Fat 1.0g	
Monounsaturated Fat 0g	
Cholesterol 0mg	**0%**
Sodium 110mg	**5%**
Potassium 20mg	**1%**
Total Carbohydrate 11g	**4%**
Dietary Fiber <1g	**2%**
Sugars 0g	
Protein 1g	
Vitamin A 0% •	Vitamin C 0%
Calcium 0% •	Iron 4%

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

	Calories	2,000	2,5000
Total Fat	Less than	65g	80g
Sat Fat	Less than	20g	25g
Cholest	Less than	300mg	300mg
Sodium	Less than	2,400mg	2,400mg
Potassium		3,500mg	3,500mg
Total Carbohydrate		300g	375g
Dietary Fiber		25g	30g

INGREDIENTS: UNBLEACHED ENRICHED FLOUR (WHEAT FLOUR, NIACIN, REDUCED IRON, THIAMINE, MONONITRATE [VITAMIN B1], RIBOFLAVIN [VITAMIN B2], FOLIC ACID), CRACKED WHEAT, SOYBEAN OIL, BAKING SODA, SALT, WHEY (FROM MILK), MALTED BARLEY FLOUR, YEAST.

Pick up any can or box and *look*!—You'll find a Nutrition Facts label. It's hard to imagine there was a time when they weren't there. Over the years, the label has changed only a little. Now it includes more information about fiber and fats. To the left is a complete Nutrition Label with all the information you need to become more competent meal planners and food shoppers!

- **Nutrition Facts**. This title is in bold print to show that the information on this label meets the government-mandated standards. The typestyle and the heavy black lines of the label are all standardized.
- **Serving Size.** This tells you the size portion the nutrition label describes. The portion sizes are shown in cups as well as grams. Sometimes, the package is eight ounces, but the label describes a four-ounce serving. Look at next line—Servings Per Container.
- **Servings Per Container.** This information helps you realize when you may be about to be a victim of *portion distortion!* You may eat an eight ounce bag of chips and think it is one serving, but it's actually eight servings! This information also allows you to determine the cost per serving to help you be a smarter consumer. Divide the total cost by the number of servings in the container to find out the price per serving: total ÷ servings = cost per serving ($4.00 ÷ 5 = $.80 per serving).

Amount Per Serving.

The rest of the label tells how much of each nutrient you gain from each serving. It's reported in grams and in percent.

- **Calories.** The Nutrition Facts label gives the overall calories per serving. Watch out: 100 calories for two different foods does not mean that both are the same nutritionally.
- **Calories from Fat.** The Nutrition Facts label requires companies to report the calories from fat separate from the total calories. This is a real eye opener! Some favorites like Chicken Nuggets have over 60% of their calories from fat. Sometimes a "diet" food will have a very high percentage of fat, such as Light Margarine, which has 100% of its calories from fat.

- **% Daily Value***. The Daily Value is based on a daily calorie diet of 2,000 calories. The percent of Daily Value tells you both minimum and maximum amounts for certain nutrients.

  - **Minimum.** The percent of Daily Value tells the minimum amount of carbohydrate, fiber, vitamin A, vitamin C, calcium, and iron we should eat every day to have a healthy diet. By the end of the day, we should try to eat a variety of foods whose daily values add up to at least 100% for those six nutrients.

  - **Maximum.** The percent of Daily Value also tells the maximum amount of fat, saturated fat, trans fats, cholesterol, and sodium allowed in one day. Watch out! Excessive amounts of these nutrients in our diets can be harmful, so you should *stop* before you reach 100% of these nutrients. Note that there is no Daily Value for sugars or protein although the amount of these per serving is reported in grams.

  - If space allows, a label may include information on how a percent of Daily Value is determined. Many labels read: **Percent of Daily Values are based on a 2,000 calorie diet. Your daily values may be higher or lower depending on your calorie needs.*

  - School-age children like you need between 1,800 and 2,200 calories per day. For *CHOW* we use the 2,000 calorie figures found on the labels.

- **Ingredients.** By law, the ingredients in a packaged food must be listed in order *by weight*. For example the ingredients on a can of condensed tomato soup are: *tomato puree (water, tomato paste), high fructose corn syrup, wheat flour, salt, spice extract, vitamin C (ascorbic acid), citric acid*. By weight, there is more tomato puree than anything else. However, the second ingredient is high fructose corn syrup—a hidden sugar! It's a fact: more than half of the calories of packaged tomato soup are from sugar.

Other Guidelines. The Nutrition Facts label guidelines also regulate the use of vocabulary such as "reduced," "low-fat," or "light" and limit the health claims a food advertiser can make.

Using Nutrition Facts Labels in *CHOW*. During your activities in *CHOW* you will use a simplified Nutrition Facts Label based on the mandated label format. It contains the same information on the serving size, calories and key nutrients. But CHOW labels also contain equivalent serving values to help you track what you eat in the simulation. Look at the *CHOW* Nutrition Facts Labels on the right.

Nutrition Facts Labels can help you follow the nutrition guidelines and eat a healthier diet. Avoid foods high in saturated fats and cholesterol and foods with high-sugar content. To help you track Discretionary Calories, look above the *CHOW* label for the asterisk(s) * next to the food name.

String Cheese – mozzarella*

Nutrition Facts

Serving Size 1 stick
Equivalent Serving ½ cup

Amount Per Serving	
Calories 80	Calories from Fat 50
	% Daily Value*
Total Fat 6g	**9%**
Saturated Fat 3g	**15%**
Cholesterol 15mg	**5%**
Sodium 190mg	**8%**
Total Carbohydrate 1g	**0%**
Dietary Fiber 0g	**0%**
Sugars 0g	
Protein 7g	

Vitamin A 4%	Vitamin C 0%
Calcium 0%	Iron 0%

Use the following *MyPlate* guidelines and the *Nutrition Facts* labels to help you make wise choices.

Build a healthy plate…

Foods to Increase:

- Make half your plate fruits and vegetables
- Make at least half your grains whole grains
- Switch to fat-free or low-fat (1%) milk

Cut back on foods high in solid fats, added sugars and salt.

Foods to Reduce:

- Compare sodium in foods like soup, bread, and frozen meals—and choose the foods with lower numbers.
- Drink water instead of sugary drinks

Balancing Calories—*Eat the right amount of calories for you.*

- Enjoy your food, but eat less
- Avoid oversized portions

Be physically active.

You *Can* Have It All.

However, as the old saying goes…

Everything in moderation. Enjoy your sausage, eggs, and home fries for breakfast, *but* eat lighter for the rest of the day. Enjoy chips and cookies with lunch, *but* have a lighter breakfast. Enjoy apple pie with ice cream for a dessert at dinner, but plan to eat less sweets and fats in the meals before. And, don't forget to exercise to keep your calorie intake in balance.

Use What You Have Learned. Practice reading and understanding the Nutrition Facts labels at home and/or explain them to your parents. Use them to make the best choices for a healthy diet for the rest of your life.

Name: ______________________________________ Team: ______________

Nutrition Facts Homework

Directions: Look around in your kitchen for four different food labels. Find a packaged food for each of the following: 1) high-fat content (>11g), 2) low-fat content (<3g), 3) high sodium content (>500 mg), and 4) high protein content (>14 g) Fill in the name of the food and information from its label.

Nutrition Facts

Serving Size
Equivalent Serving

Amount Per Serving	
Calories Calories from Fat	
	% Daily Value*
Total Fat	%
Saturated Fat	%
Cholesterol	%
Sodium mg	%
Total Carbohydrate g	%
Dietary Fiber	%
Sugars	
Protein g	

Vitamin A • Vitamin C
Calcium • Iron

Nutrition Facts

Serving Size
Equivalent Serving

Amount Per Serving	
Calories Calories from Fat	
	% Daily Value*
Total Fat	%
Saturated Fat	%
Cholesterol	%
Sodium mg	%
Total Carbohydrate g	%
Dietary Fiber	%
Sugars	
Protein g	

Vitamin A • Vitamin C
Calcium • Iron

Nutrition Facts

Serving Size
Equivalent Serving

Amount Per Serving	
Calories Calories from Fat	
	% Daily Value*
Total Fat	%
Saturated Fat	%
Cholesterol	%
Sodium mg	%
Total Carbohydrate g	%
Dietary Fiber	%
Sugars	
Protein g	

Vitamin A • Vitamin C
Calcium • Iron

Nutrition Facts

Serving Size
Equivalent Serving

Amount Per Serving	
Calories Calories from Fat	
	% Daily Value*
Total Fat	%
Saturated Fat	%
Cholesterol	%
Sodium mg	%
Total Carbohydrate g	%
Dietary Fiber	%
Sugars	
Protein g	

Vitamin A • Vitamin C
Calcium • Iron

Name: _____ Team: _____

Quick Quiz: Reading A Nutrition Fact Label

Use the following two Nutrition Facts cards to answer the questions below. The baked potato is a white potato. Both potatoes were prepared in the same way.

Baked potato

Nutrition Facts

Serving Size 1 medium
Equivalent Serving 1 cup

Amount Per Serving	
Calories 110	Calories from Fat 0
	% Daily Value*
Total Fat 0g	**0%**
Saturated Fat 0g	**0%**
Cholesterol 0g	**0%**
Sodium 5mg	**<1%**
Total Carbohydrate 27g	**9%**
Dietary Fiber 4g	**16%**
Sugars 3g	
Protein 4g	

Vitamin A 0% • Vitamin C 40%
Calcium 2% • Iron 6%

Sweet potato

Nutrition Facts

Serving Size 1 medium
Equivalent Serving 1 cup

Amount Per Serving	
Calories 140	Calories from Fat 0
	% Daily Value*
Total Fat 0g	**0%**
Saturated Fat 0g	**0%**
Cholesterol 0g	**0%**
Sodium 7mg	**<1%**
Total Carbohydrate 21g	**7%**
Dietary Fiber 2g	**8%**
Sugars 5g	
Protein 1g	

Vitamin A 520% • Vitamin C 50%
Calcium 3% • Iron 4%

1. How many calories in each potato serving?

   White _____ Sweet _____

2. How much sodium in each potato serving?

   White _____ Sweet _____

3. How much fat is there in each potato serving?

   White _____ Sweet _____

4. What is the total fiber in each potato serving?

   White _____ Sweet _____

5. How many grams of protein are in each potato serving?

   White _____ Sweet _____

6. How much vitamin C is there in each potato serving?

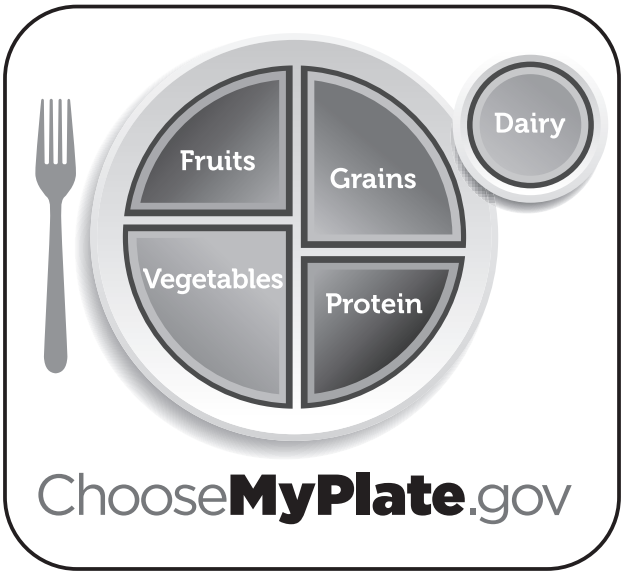
   White _____ Sweet _____

7. How much vitamin A is there in each potato serving?

   White _____ Sweet _____

8. Which potato would you recommend? Explain why on the back of the paper.

MyPlate and Servings



Who created MyPlate?

What are the five food groups shown on the plate?

What is the biggest section on the plate?

Why are some sections bigger than others?

For CHOW, what calorie count will you be using?

Attention all healthy Americans over the age of two! In 2011, the USDA (United States Department of Agriculture) created MyPlate—a list of dietary guidelines just for you! Every five years the USDA will continue to update MyPlate to include the latest nutrition information and research findings. So what's different about MyPlate? The MyPlate logo reminds you of what you should eat and recommends what portion of each food group should make up a meal. Look at the logo. Notice one-half of the plate is made up of fruits and vegetables, and the vegetable section is a bit larger than the fruit. Note the other half of the plate has grains and proteins, with the proteins being the smallest portion of the plate. Note dairy is shown as the bottom of a glass to remind you to drink your dairy portion as skim or low-fat milk. So… if you have to put together a healthy meal, just think of the MyPlate logo and you're good to go. You can go online to ChooseMyPlate.gov to find out the perfect recommendations for you. However, for the purpose of *CHOW* we are using a 2,000 calorie diet for an average student between the ages of eight and twelve who is active 30–60 minutes a day. In the simulation, you will be that average student.

MyPlate recommends that you eat certain amounts of food from each food group. You will need to translate these amounts into serving sizes.

What common object is the size of ½ cup?

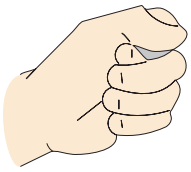
For measurement's sake, how much can you hold in one hand?

How much does one full-size baseball represent?

Approximately, how much can you hold in two hands?

What does *equivalent* mean? (You can use a dictionary.)

Let's convert the following recommendations into servings. When you don't have measuring cups and scales around, keep in mind the following:



- ½ cup is about the size of ½ baseball or what you can hold in the palm of one hand.
- 1 cup is about the size of a full baseball or what you can hold in two handfuls.
- 1 medium fruit or veggie is about the size of a tennis ball or your fist.

Grains (6 ounces). The USDA recommends that at least half your servings of grains be whole grains rather than refined grains (brown rice vs. white rice, whole wheat vs. white bread, etc.) That way you get more fiber. Each of the following is equal to 1 equivalent ounce serving of the six ounces you should eat each day:

How many ounces of grain should you eat in one day?

List the three equivalent sizes for servings of one ounce of grain.

- 1 slice bread
- 1 cup dry cereal
- ½ cup cooked rice, pasta, or oatmeal

Vegetables (2½ cups). There are different kinds of vegetables and different ways to prepare them. Each of the following represents 1 equivalent half-cup servings of the 2 ½ cups of vegetables you should eat each day:

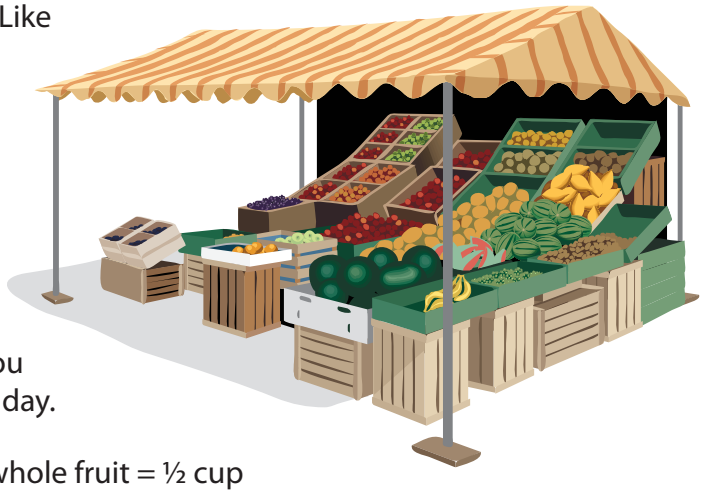
How many cups of vegetables should you eat each day?

What is 1 cup of leafy vegetables equal to in cooked vegetables?

- 1 cup leafy veggies = ½ cup
- ½ cup cooked or raw veggies = ½ cup
- Whole veggies = 1 medium

The recommendations also include kinds of vegetables. MyPlate recommends that you eat a variety of dark green, orange, and starchy vegetables each week.

Fruits (2 cups). Like vegetables, we eat fruits both raw and cooked. Each of the following represents 1 equivalent half-cup of the 2 cups of fruit you should eat each day.



How many half-cups are in 2½ cups?

- 1 medium whole fruit = ½ cup
- ½ cup cooked fruit = ½ cup
- ½ cup berries = ½ cup
- ¼ cup raisins and other dried fruit = ½ cup
- 1 cup fruit juice = 1 cup

Why do you suppose that the plate lists ¼ cup raisins as the same as ½ cup grapes?

Dairy (3 cups). The milk group represents all dairy products that are high in calcium including cheeses, yogurt, and pudding made with milk. However, dairy products that have little or no calcium are not part of the milk group. These would include cream cheese, butter, and whipped cream. Because they are considered high-fat, they all must be counted as discretionary calories. The USDA recommends choosing low-fat milk products and not eating too much cheese.

What foods, although made from milk, are not parts of the milk group?

Each of the following is equal to equivalent cups of milk that you should eat each day.

- 1 cup liquid milk or yogurt = 1 cup milk
- 2 oz processed cheese = 1 cup milk
- 1 ½ oz of hard cheese = 1 cup milk (about the size of 6 dice)
- 1 cup ice cream = ¼ cup milk
- ½ cup frozen yogurt or pudding = ½ cup milk

If you ate 1½ oz of hard cheese, how much required milk did you eat?

Why is eating ice cream for all your milk requirements a poor idea?

Keep in mind…1 cup of skim milk has only 80 calories and *no* fat. However, 1 cup of ice cream has much less calcium, anda whopping 320 calories—over half from fat! Ice cream can be a treat, but should not be the primary way you fill your milk group food requirements.

Proteins (5½ ounces). The protein group) includes meat, poultry, fish, shellfish, eggs, nuts, seeds, and dried beans. Meats are often measured in ounces (oz), but most people don't walk around with scales. Each of the following is equal to 1 oz equivalent of meat of the 5½ oz you should eat each day.

How many slices of deli meat equals one oz. of meat?

- 2 thin slices Deli meat = 1 oz

How much egg is equal to 2 ounces of meat?

- 1 egg = 1 oz
- ¼ cooked dried beans = 1 oz

If you ate 1 cup of cooked dried beans in chili, how many ounces of meat would that equal?

- 1 tablespoon of peanut butter = 1 oz
- ½ oz (12 almonds, 7 walnuts) = 1 oz
- 2 tablespoons hummus = 1 oz
- 1piece of meat (a deck of cards) = 3 oz

Although we are not tracking oils in *CHOW*, what foods might you consider adding to your menus to get "good" oils?

Oils. The USDA recommends that you eat 6 teaspoons of oil a day. This may happen when you eat nuts because there are 2 teaspoons of good oil in seven walnuts.

If you eat salmon or put olive oil on your salad, you will get "good" oils. However, for *CHOW*, we are not tracking oils.

What does "discretionary" mean?

Discretionary Calories. "Discretionary" means something you can choose. Foods that contain discretionary calories refer to foods you do not *need* to eat, but *can choose* to eat. They have little or no nutrient value or they have added sugars or high fats. MyPlate addresses the little or no nutrient by reminding you to drink water rather than sugary drinks. MyPlate also strongly recommends that

you cut back on foods high in solid fats, added sugars, and salt. Many fast foods and commercial bakery goods are filled with all three. Added fat and sugar are just empty calories. One-half cup skim milk has more nutrition and only one-fourth of the calories as one-half cup of ice cream. A baked potato is a much healthier choice than french fries.

MyPlate recommends that someone your age may eat about 300 discretionary calories within the 2,000 daily calories (1,700 for nutritious foods + 300 for fun!) This means that no food is forbidden—just don't overdo it!

To help you keep track of discretionary calories in Chow, look at the Nutrition Fact cards. Some have asterisks (***) next to their names. These asterisks do not occur on regular Nutrition Fact cards, but are included on the *CHOW* cards to alert you to added sugar and/or high-fat foods. Watch out! In *CHOW* you may not choose foods with a total of more than six asterisks in one day!

In *CHOW*, how many asterisks can you accumulate each day?

Exercise. The USDA wants all Americans to exercise. Just as we plan what we eat, we should plan to exercise at least 30–60 minutes a day. Maintaining a healthy weight depends on maintaining a proper balance between what we eat and how much we exercise. People who exercise can't eat huge amounts of food, but they can eat 200–300 calories more per day than people who sit on the couch watching TV or playing video games.

What effect does exercise have on the amount of calories you can eat?

Name: _____ Team: _____

Translating Servings Into Measurements

Directions: Work independently and then discuss with your team how the servings below translate into measurements on MyPlate.

#	Servings	GR (1 oz)	VE (½ cup)	FR (½ cup)	DA (1 cup)	PR (1 oz)	DC ***
1	1 grapefruit			2			
2	1 cup milk + 1 cookie	½ oz			1		1
3	1 cup brown rice						
4	1 cup sweetened cereal w/ ½ cup milk						
5	2 cups pasta w/ tomato sauce						
6	2 pieces of toast w/ 1 tablespoon (tbs) butter						
7	1 cup of fruit juice						
8	1 cup of cooked green beans						
9	1 medium tomato						
10	1 cup fat free yogurt w/ ½ cup berries in syrup						
11	salad w/ 2 cup lettuce and 1 cup chopped veggies						
12	¼ cup raisins and 8 walnuts						
13	toasted cheese sandwich made w/ 2 oz slices cheese						
14	2 eggs + 2 slices bacon						
15	½ cup ice cream w/ chocolate syrup						
16	2 sticks of celery stuffed w/ 1 tablespoon peanut butter						
17	3 oz hamburger on a large bun w/ 1 tablespoon tomato ketchup						
18	baked potato stuffed w/ ½ cup broccoli and sour cream						
19	cheese ravioli						
20	bacon, lettuce, and tomato sandwich w/ 1 tbs mayo						

Name: _____ Team: _____

Quick Quiz: MyPlate and Servings

1. What food group would contain ice cream, cheese, and yogurt?

2. What food group would contain cereal, bread, rice, and pasta?

3. What food group would contain fish, eggs, nuts, and dried beans?

4. What three food groups should most of our calories come from? *(Hint: Think about the MyPlate logo.)*

5. Explain what we mean by discretionary calories:

6. Fill in the food group next to the daily amount:

   5½ oz. _____

   2½ cups _____

7. Fill in the food group next to the daily amount:

   2 cups _____

   3 cups _____

8. Fill in the food group next to the daily amount:

   6 oz. _____

   5–8 tsp. (bonus) _____

9. Directions: Label the food groups in the logo.

Name: _____ Team: _____

Appetizer Test Two

Put the correct answers in the answer box to the right. Sometimes there can be *more than one* answer.

1. Which vitamin is known to help your body heal and fight infection?	A. vitamin A B. vitamin B	C. vitamin C D. vitamin D	
2. Which vitamin is known to help your body absorb calcium?	A. vitamin A B. vitamin B	C. vitamin C D. vitamin D	
3. Which vitamin is made in the body when sunlight shines on your skin?	A. vitamin A B. vitamin B	C. vitamin C D. vitamin D	
4. Which vitamin promotes healthy skin and improves your night vision?	A. vitamin A B. vitamin B	C. vitamin C D. vitamin D	
5. Which mineral makes hemoglobin in your blood?	A. iron B. sodium	C. calcium D. potassium	
6. Which mineral builds strong bones and teeth?	A. iron B. sodium	C. calcium D. potassium	
7. Which mineral must be limited because it causes high blood pressure and maybe strokes?	A. iron B. sodium	C. calcium D. potassium	
8. Sweet potatoes and carrots are great sources of which vitamin?	A. vitamin A B. vitamin B	C. vitamin C D. vitamin D	
9. Milk and most dairy products are a great source of which mineral?	A. iron B. sodium	C. calcium D. potassium	
10. Oranges, grapefruit, and broccoli are great sources of which vitamin?	A. vitamin A B. vitamin B	C. vitamin C D. vitamin D	
11. What food group would contain fish, eggs, nuts, and dried beans?	A. grains B. vegetables	C. protein D. dairy	
12. Which 2 sections of the plate are the largest?	A. grains B. vegetables	C. protein D. dairy	

13. Ingredients on a Nutrition Facts Label are always listed in what order?	A. alphabetically B. by nutrition value	C. by weight D. by food group	
14. How much food from the grain group should you eat each day?	A. 1 cup B. 4 cups	C. 6 ounces D. 3½ cups	
15. How much food from the dairy group should you eat each day?	A. 1 cup B. 3 cups	C. 3 ounces D. 1½ cups	
16. How much food from the Protein group should you eat each day?	A. 1 ounce B. 2½ ounces	C. 5½ ounces D. 8 ounces	
17. How much food from the Vegetable Group should you eat each day?	A. 1 cup B. 2½ cups	C. 5½ cups D. 8 cups	
18. If your Nutrition Facts cards said that you had eaten 40% of the recommended daily amount of a food, how much more do you need?	A. 20% B. 40%	C. 60% D. 80%	
19. Which of the following foods contain the most discretionary calories?	A. high fat/high sugar foods B. low fat/low sugar foods C. high salt foods D. enriched foods		
20. What is the main nutrient your body needs? In fact, without it, you might die within days.	Write your answer here:		

Scores:

- Four stars = 18–20 correct
- Three stars = 15–17 correct
- Two stars = 12–14 correct
- One star = < 12 correct

Food Fate Cards

Food Fate Card

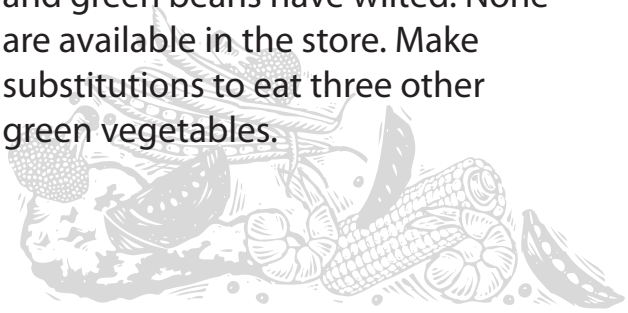
You know whole grains are a better choice than refined grains. MyPlate recommends at least ½ of your grains be whole. However, today, 4 out of 6 ounces (⅔) of grain must be whole.

Food Fate Card

You have decided to become a vegetarian for at least one day. This does not mean you ignore proteins, but serve other non-meat foods from the Protein group.

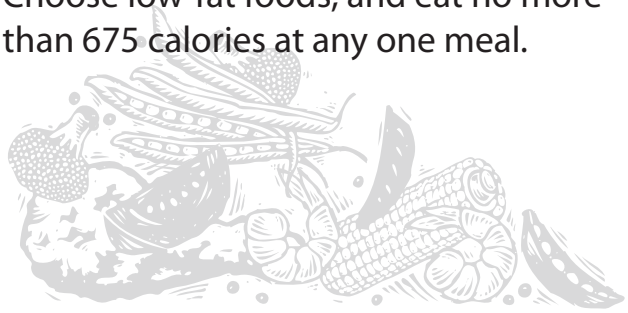
Food Fate Card

The weather has become very hot in California. All the lettuce, celery, and green beans have wilted. None are available in the store. Make substitutions to eat three other green vegetables.



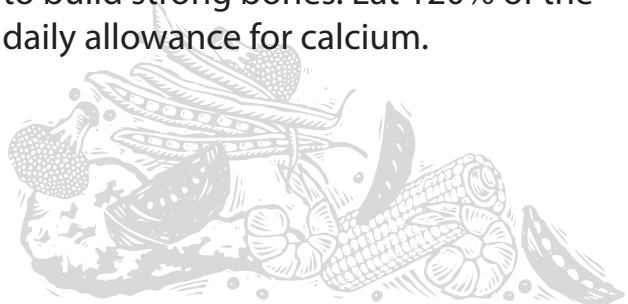
Food Fate Card

You are a diabetic. Avoid all foods with high-sugar and high-fat contents. Choose low-fat foods, and eat no more than 675 calories at any one meal.



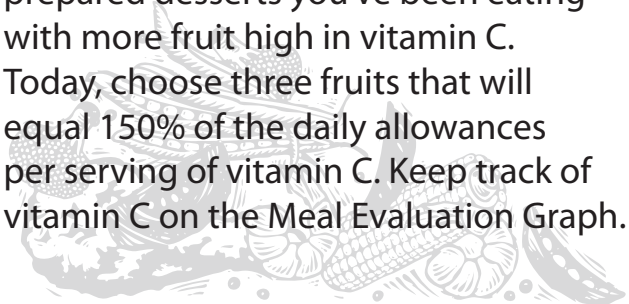
Food Fate Card

You are having a growth spurt and want to make sure you have enough calcium to build strong bones. Eat 120% of the daily allowance for calcium.



Food Fate Card

Your dentist sees that you have swollen gums. He tells you to substitute those prepared desserts you've been eating with more fruit high in vitamin C. Today, choose three fruits that will equal 150% of the daily allowances per serving of vitamin C. Keep track of vitamin C on the Meal Evaluation Graph.



Food Fate Card

A soccer ball hits your ankle hard, breaking it. Your foot/leg will be in a cast for six weeks. Using sunscreen, relax in the sun. This will give you more vitamin D. Choose foods high in calcium so that you eat more than 100% of the daily value of calcium. Keep track of the calcium daily value on the Meal Evaluation Graph.

Food Fate Card

You know sodium can cause hypertension. You also know that processed food and ready-to-eat cereals are high in sodium. Eat no more than 80% of the daily value for sodium. Keep track of sodium on the Meal Evaluation Graph.

Food Fate Card

"I couldn't have gained that much weight!" Your doctor puts you on a low-fat diet. Avoid high-fat foods today and eat no more than 80% of the daily value for fat. Keep track of fat on the Meal Evaluation Graph.

Food Fate Card

You have developed a food allergy to wheat products. You must avoid all foods made from wheat, but you should eat other whole grains.

Food Fate Card

Your doctor is worried that your cholesterol numbers are a little high. High cholesterol is associated with increase risk of heart disease. The doctor wants you to restrict your cholesterol to no more than 80% of the daily allowance for cholesterol.

Food Fate Card

Your body has been fighting a cold for two weeks. You know that vitamin C helps your body fight infection. Eat foods high in vitamin C at all your meals and keep track of the percent of vitamin C on the Meal Evaluation Graph to be certain you eat 120% or more of the daily value.

Food Fate Card

The Outdoors Club is organizing a Night Hike to look for night creatures. You want your night vision to be at its best. Eat two foods high in vitamin A for both lunch and dinner, and keep track of vitamin A on the Meal Evaluation Graph.

Food Fate Card

The doctor has found out that you have not cut down on eating foods high in saturated fats. He scares you when he shows you reports of people who also ate foods high in saturated fats. (They ended up with heart disease.) Now you will listen to him! You cannot eat more than 70% of the daily value for saturated fat. Record the percentage of saturated fat consumed on the Meal Evaluation Graph.

Food Fate Card

Your doctor says that your blood pressure is a little high and too much sodium can be detrimental to your health. Keep your sodium intake less than 80% of the daily value for sodium and keep track of the amount of sodium on your Meal Evaluation Graph.

Food Fate Card

Meat is too expensive. You have decided to rebel against the cost and eat a vegetarian diet. However, you realize that you still need protein in your diet. Remember to eat two or more foods that combine incomplete proteins to get all the essential amino acids. Record the total grams of protein consumed for the day on the space to the left of the calories.

Food Fate Card

"What will I do?" No fresh milk is available for purchase because of a strike by dairy farmers. Make substitutions in the dairy group for the three servings of milk.

Food Fate Card

You lack pep and your doctor suspects that you may be anemic because your diet is low in iron. She will do a blood test and probably prescribe iron supplements. For the time being, be sure to eat 100% of the daily value for iron. Keep track of the percent of iron on the Daily Meal Evaluation Graph.

Cash Consequence Cards

To be read by teacher.

Cash Consequence Card

1. A snowstorm has made it difficult for ranches and farms to send fresh meat and poultry to the stores. Double the price of beef, pork, turkey and chicken.

Cash Consequence Card

2. Outside the store, a baseball team was collecting money for new uniforms. One of these collectors was your friend. You worried that he would call you "cheap" and so you donated more than you could afford. Be sure to go to the season's opening game to see the new uniforms. Subtract $2.00 from your budget for the day.

Cash Consequence Card

3. You were waiting for your groceries to be checked by the scanner when you spotted a celebrity magazine. You started reading a great article and didn't have time to finish. You decided to buy the magazine. Deduct $2.99 from your budget.

Cash Consequence Card

4. Your library books are overdue! You must return them immediately and pay your fine. Deduct 75 cents from your budget.

Cash Consequence Card

5. An early freeze has destroyed much of citrus crop in Florida. Triple the price of oranges, grapefruits, and the juice made from these fruits.

Cash Consequence Card

6. A drought has hit California and most of the leafy green vegetables that come from that area withered on the ground. Double the cost of any leafy green vegetables (cabbage, lettuce, spinach, kale, chard, etc).

Cash Consequence Card

7. A storm pelted the area with hail the size of golf balls. It has ruined much of the grain crop in the Midwest. Breads and cereals have doubled in price for the day.

Cash Consequence Card

8. A plague of locust has eaten all the crops on farms that grow vegetables. Double the cost of all vegetables.

Cash Consequence Card

9. Strong thunderstorms in the area have knocked out the electricity. Storeowners rented generators to keep the dairy products cool. They passed the extra cost on to you. All dairy products are 10 cents more for the day.

CHOW: A Simulation of Nutrition and Food Budgeting

Welcome to CHOW, the simulation! In this simulation you will have a chance to demonstrate all that you've learned about nutrition by taking real life roles of a Planner, a Shopper and Diner. You will use the USDA MyPlate guidelines and Nutrition Facts labels to plan nutritious meals on a limited budget. Your teacher will award points for each day's work, and your team's goal is to earn as many points as you can to attain a four-star rating.

Simulation Rules

Team members must follow these rules carefully in order to earn the most points.

1. Work as a team by allowing each team member to contribute to the group decisions.
2. Keep your role for all three meals, but rotate roles when your start a new day.
3. Plan one meal at a time, shop for it, and evaluate it before going on to the next meal.
4. Every day, the **Cash Consequence Card** (chosen by the teacher), the **Food Fate Card** (chosen by the Diner) and the Exercise Die (rolled by the Diner), set the conditions for all three meals that day.
5. The Planner must plan meals that the Diner will eat.
6. All members of the team may go to the classroom store, but *only* the Shopper can touch the food cards.
    a. The Shopper must present the **Menu and Budget** to the Grocer (teacher) before entering the store.
    b. Only two teams may be in the store at one time.
    c. A team may spend no more than three minutes in the store per meal. Make your decisions carefully because once you leave the store, you cannot reenter until the next meal, except to return the food cards.
7. Complete all forms in *pencil* for each meal *before* beginning the next meal.
8. Check that all forms are complete and accurate, and hand in the Team Folder at the end of the day.
9. Complete the Team **MyPlate Guidelines Evaluation**.

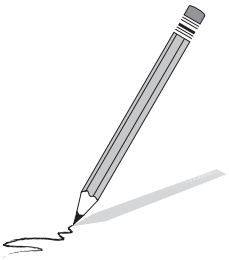
Tips for the Planner.

Main Responsibility: Plan meals that are nutritionally sound, affordable, accommodate the Food Fate Card, and satisfy the Diner's food preferences.

Learning tip
If the Diner is absent, the Planner fills the Diner's role as well as her/his own but uses the Diner's Food Preference Sheet.

If the Shopper is absent, the Planner fills the Shopper's role as well as her/his own.

1. Fill in the information on the top of the **Menu and Budget** and the **Daily Meal Evaluation Sheets**.
2. Check the team budget to see how much money is available for each meal to be certain that you do not overspend on one meal or one day. Do not overspend—your team will lose points.
3. Plan the menus for *one* meal at a time.
   - Use the MyPlate guidelines to plan balanced meals.
   - Select foods from the Diner's **Food Preference Inventory**.
   - Fill in the *Menu* portion of the **Menu and Budget** for each meal at your desk before the team goes to the store, but be prepared to suggest substitutions if a food is not available.



4. Give the **Menu and Budget** to the Shopper and accompany him/her to the store.
5. Return the **Food Choice Cards** to the store after the Diner has taken the information he/she needs from the cards.

Tips for the Shopper.

Learning tip
Any menu substitutions must follow the MyPlate guidelines. The cost of each item is on the Food Price List.

Main Responsibility: Keep track of all expenses and check your figures carefully.

1. Manage your team when shopping at the store.
   - Only you, the Shopper, may take **Food Choice Cards** from the store.
   - Make an appropriate food substitution if a menu choice is not available.
   - Give the **Food Choice Cards** to the Diner.

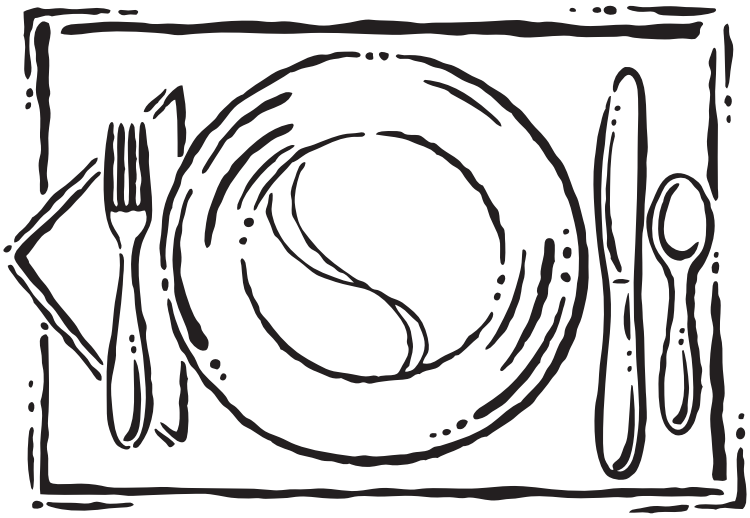
2. Complete the **Menu and Budget** sheet.
   - Subtract the **Cash Consequence Card** from the beginning balance or apply it to foods that you buy all day.
   - Enter menu substitutions on the *Menu* portion.
   - Fill in the *Cost/item*, *Number/item* columns, and compute the *Total* column.
   - At the end of the day, subtract the *Total* from the *Beginning Balance*. This gives a *New Balance* for the next day.

Tips for the Diner.

Learning tip
If the Planner is absent, the Diner fills the Planner's role as well as her/his own.

Main Responsibility: Keep track of calorie value, fat value, and nutritional values required by the **Food Fate Card** and the **MyPlate** guidelines.

1. At the start of the day, go to the teacher and roll the Exercise die. The number you roll will determine if you will get an increase in your daily calorie allowance. Then select one **Food Fate Card**, read it aloud, and discuss it with your team before writing a summary on the bottom your **Daily Meal Evaluation** sheet.
2. Complete the **Daily Meal Evaluation** after each meal.
   - First copy all the nutrition information you need from the cards. Then you will work on the adding, graphs, and plate.
   - If your fate says you exercised, note the additional available calories at the bottom of the Daily Meal Evaluation.
   - Color in the shapes to show the ½ cup or ounces or equivalents.
   - Use the information on the back of the **Food Choice Cards** to complete the chart.
   - Fill in the **Fat** information next to the calories and put an * next to foods with discretionary calories.
   - Fill in the two graphs.
   - Return the cards to the Planner.
3. After the third meal, total the calories of all three meals.



Name: _____ Team: _____

Price List and Food Preference List

Protein

.75 Bacon*
.40 Baked Beans
.40 Kidney beans (dark red)
75 Chicken (Baked)
1.00 Chicken Nuggets***
.40 Black Eyed Peas
.30 Egg
.40 Bologna (low fat)
.80 Fish (Broiled)
1.00 Fish Sticks**
.60 Frank (Beef)**
.60 Frank (Fat Free)
.60 Ham (Sliced)
.85 Hamburger**
.75 Meatballs**
.25 Peanut Butter*
.25 Peanuts*
1.00 Pork Chop
.75 Tuna
.60 Turkey (Sliced)
.85 Turkey Burger
1.20 Turkey Roast/Gravy*
.50 Walnuts*

Vegetables

.40 Broccoli
.40 Carrot
.25 Celery
.40 Cooked Spinach
.40 Corn
.40 Cucumber
1.00 French Fries**
.40 Green Beans
.40 Lettuce
.50 Spaghetti Sauce
.40 Summer Squash
.40 Squash (Butternut)
.40 Peppers (Red)
.60 Potato (Baked White)
.60 Potato (Sweet)
1.00 Potato Chips**
.60 Tomato
.60 Tomato Juice
.60 Tossed Salad

Grains

.40 Bagel Half
1.00 Cake w/ frosting**
.75 Candy Bar**
.50 Cookies**
.50 Corn Flakes
.25 Crackers
.75 Chips (Tortilla) *
.80 Doughnut**
.50 Egg Noodles
.75 Fun Cereal*
.20 Graham Crackers
.75 Granola Bar*
.30 Grits
.25 Hamburger/Hot Dog Roll
.30 Oatmeal
.50 Pancake
.50 Pasta (whole wheat)
60 Popcorn*
.50 Rice (Brown)
.50 Rice (white)
.50 Rice Cakes
.40 Pita Bread
.30 Tortilla (Flour)
.50 Waffle
.20 Wheat Bread
.20 White Bread

Fruits

.50 Apple
.75 Apple Juice
.50 Banana
.50 Cantaloupe
.50 Grapefruit (½)
.40 Grapes
.60 Orange
.60 Orange Juice
.50 Peaches (Canned)
.50 Pineapple (Canned)
.50 Plum
.40 Raisins
.60 Strawberries
.60 Watermelon

Dairy

.60 American Cheese**
.60 Cheddar Cheese**
.45 Cottage Cheese
.25 Cheese Sticks
1.00 Non-Fat Frozen Yogurt
1.25 Ice Cream**
.85 Plain Yogurt
.85 Berry Low-fat Yogurt*
.75 Pudding
.50 Skim Milk
.60 Low-Fat Milk (1%)
.50 Whole Milk*
.50 Lactose-Free Milk
.50 Soymilk

Combination Foods

1.25 Beef Stew**
(3 oz Pro., ½ cup Ve.)
1.25 Cheeseburger Helper
Meal** (2 oz Gr., 2 oz Pro.)
1.00 Beef Taco **
(2 oz Gr., 2 oz Pro.)
.75 Chili with Beans
(3 oz Pro.)
2.00 Mac & Cheese***
(2 oz Gr., 2 oz Pro.)
1.30 Pizza w/ Cheese***
(2 oz Gr., 1 oz Pro.)
1.00 Pocket Pizza***
(2 oz Gr., 1 oz Pro.)
.75 Cheese Ravioli *
(2 oz Gr., 1 oz Pro.)

More Discretionary Foods

.15 Butter**
.15 Light Margarine *
.20 Salad Dressing*
.25 Mayonnaise**
.25 Light
Mayonnaise*
.75 Soda*

CHOW Procedure

Step 1: Only once, at the beginning of the day, the Diner chooses a **Food Fate Card** and rolls a die for his/her team and the teacher reads the **Cash Consequences Card** for all the teams.

Step 2: The **Diner** writes a summary of the **Food Fate Card** and writes the additional calories he/she can add from rolling the die. The **Shopper** fills in the **Cash Consequences Card** and determines the beginning balance.

Step 3: The **Shopper** checks the budget on the **Menu and Budget** sheet and tells the **Planner** how much he/she can spend for the day. The Shopper notes the Cash Consequence and adjusts the beginning balance or food costs.

Step 4: On the **Menu and Budget** sheet**,** the **Planner** writes a well-balanced meal, remembering MyPlate, the Diner's preferences, and the conditions set by the **Food Fate Card**.

Step 5: The **Shopper** shops for food in the store. (He/she makes substitutions if some foods are sold out.)

Step 6: On the **Daily Meal Evaluation** sheet, the **Diner** counts the calories and the percentage of fat, and keeps records required by the **Food Fate Card**, including the **Daily Meal Evaluation** graphs.

Step 7: The **Shopper** balances the budget after the meal and lets the **Planner** know how much money has been spent.

Step 8: All team members repeat Steps 4 through 7 for the next two meals.

Step 9: Team members check all forms for neatness, accuracy, and completeness. Teams then hand in their folder.

Menu and Budget Practice

Team:	
Planner:	
Shopper:	

Balance	$42.15
Cash Consequence	– 2.00
Beginning Balance	$40.15

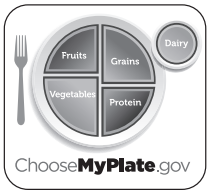
Breakfast Menu	Substitution	Cost Per Item	Number	Subtotal*
2 whole wheat bread		.20	2	.40
1 egg		.30	1	.30
cantaloupe	orange	.60	1	.60
1% milk		.50		.50
		Total Breakfast Cost		1.80

$38.35

Lunch Menu				
Macaroni and cheese		2.00	1	2.00
green beans		.40	1/2 c	.40
pudding		.75	1	.75
celery sticks		.25	1	.25
tomato juice		.60	1	.60
peaches		.50	1	.50
		Total Lunch Cost		4.50

$33.85

Dinner Menu				
		Total Dinner Cost		
		Total Daily Cost		

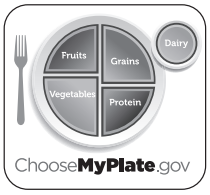


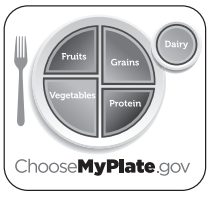
Menu and Budget

Team:	
Planner:	
Shopper:	

Balance	
Cash Consequence	
Beginning Balance	

Breakfast Menu	Substitution	Cost Per Item	Number	Subtotal*
			Total Breakfast Cost	
Lunch Menu				
			Total Lunch Cost	
Dinner Menu				
			Total Dinner Cost	
			Total Daily Cost	





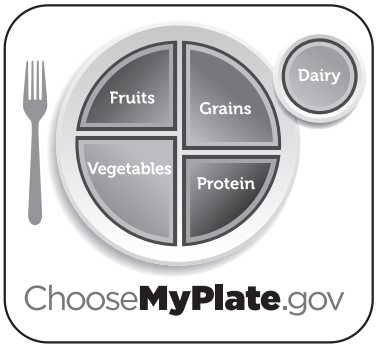
Team: _____ Date: _____ Planner: _____

Daily Meal Evaluation Practice

VitA	Breakfast Menu	Cal.	Fat
	whole wheat bread	140	
12	1 egg	70	7
	orange	50	
10	1% milk*	102	9.4
22	***Total Breakfast Calories***	390	15
	Lunch Menu	**Cal.**	**Fat**
4	macaroni and cheese***	340	26
2	green beans	20	
2	pudding*	140	6
2	celery sticks	20	
15	tomato juice	35	
6	peaches	60	
31	***Total Lunch Calories***	615	31
	Dinner Menu	**Cal.**	**Fat**
	Total Dinner Calories		
	Total Daily Calories and Fat		
	Extra Available Calories		

Fats Percentage	
120	
110	
100	
90	
80	
70	
60	
50	
40	
30	
20	
10	
0	

Other Percentage	
120	
110	
100	
90	
80	
70	
60	
50	
40	
30	
20	
10	
0	



Grains

Vegetables

Fruits

Dairy

Protein

Food Fate

Meet at least 80% of vitamin A daily value.

__ At least one orange vegetable per day

__ No more than six asterisks in one day

* * * * * *

Team: _____ Date: _____ Planner: _____

Daily Meal Evaluation

Breakfast Menu	Cal.	Fat
Total Breakfast Calories		
Lunch Menu	**Cal.**	**Fat**
Total Lunch Calories		
Dinner Menu	**Cal.**	**Fat**
Total Dinner Calories		
Total Daily Calories and Fat		
Extra Available Calories		

Fats Percentage	
120	
110	
100	
90	
80	
70	
60	
50	
40	
30	
20	
10	
0	

Other Percentage	
120	
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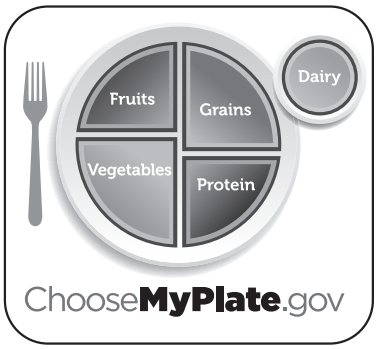

Grains ☐☐☐☐☐☐

Vegetables ☐☐☐☐☐

Fruits ☐☐☐☐

Dairy ☐☐☐☐☐☐

Protein △△△△△△

Food Fate

__ At least one orange vegetable per day

__ No more than six asterisks in one day

* * * * * *

Team: _____ Date: _____

CHOW Daily Team Score Sheet

P	___/10 points	Planed varied, healthy, and balanced menus that complied with the Diner's **Food Preference Inventory**.
P	___/10 points	Stayed within the calorie limits recommended by MyPlate and stayed within the limits of discretionary calories.
P	___/5 points	Completed the **Exercise Log** for your activities yesterday.
___/30 points		**Planner's name:** _____
S	___/10 points	Completed your **Menu and Budget** form neatly, with correct math computations, and correct spelling.
S	___/5 points	Budgeted your team's money, not overspending.
S	___/5 points	Completed the **Exercise Log** for your activities yesterday.
___/20 points		**Shopper's name:** _____
D	___/10 points	Completed your **Daily Meal Evaluation** form neatly, with correct math computations, and correct spelling.
D	___/10 points	Recorded the **Food Fate Card** and followed directions to neatly and accurately graph a nutrient.
D	___/5 points	Completed the **Exercise Log** for your activities yesterday.
___/25 points		**Diner's name:** _____
S, P, D	___/10 points	Cooperated with one another as a team.
Total team points: ___/85 points		

Score Table			
	★ ★ ★ ★	76–85 points	90% individual points
	★ ★ ★	68–75 points	80% individual points
	★ ★	60–67 points	70% individual points
	★	< 60 points	< 70%

Team: _____ Date: _____

MyPlate Guidelines Evaluation

4—awesome **3—very good** **2—pretty good** **1 —not so good**

	Practice	*Day 1*	*Day2*	*Day 3*
Build a Healthy Plate				
• Make half your plate fruits and vegetables				
• Switch to skim or 1% milk				
• Make at least half your grains whole.				
• Vary your protein food choices.				
Cut back on foods high in solid fats, added sugars, and salt.				
• Drink water instead of sugary drinks.				
• Compare sodium in foods like soup, bread, and frozen meals —and choose the foods with lower numbers.				
Eat fewer foods that are high in solid fats.				
• Choose fruits for dessert instead of high fat cakes , cookies and ice cream				
• Select lean cuts of meat				
• Use oils instead of shortening and butter				
Eat the right amount of calories for you.				
• Enjoy your food, but eat less				
• Avoid over sized portions				
Be physically active your way.0				
• Exercise 30–60 minutes a day, every day				

CHOW Vocabulary

Basic Vocabulary.

Words found throughout CHOW.

Amino Acids
Balanced
Calcium
Calorie
Carbohydrate
Complete Proteins
Complex Carbohydrates
Cup (8 oz)
Daily Value
Diet
Digestion
Discretionary Calories
Exercise
Fats
Fat-Soluble
Fatty Acids
FDA and USDA
Fiber
Fruit Group
Grain Group
Gram
Incomplete Proteins
Iron
Legumes
Measurement
Meat And Bean Group
Milk Group
Milligram
Mineral
Monosaturated Fats
MyPlate
Nutrients
Nutrition Facts Label
Oils Group
Ounce
Percent
Polyunsaturated Fats
Potassium
Serving
Sodium
Starch
Sugar
Trans fats
Vegetable Group
Vitamin A
Vitamin C
Vitamin D
Whole Grains
Unsaturated Fats
Water-Soluble Vitamins

Springboard Vocabulary.

These words can be used for research ideas or be part of discussions regarding food preparation, food advertising, and nutrition-related disease.

Food Preparation and Preservation.

Baking
Braising
Broiling
Canning
Drying
Freezing
Frying
Irradiating
Microwaving
Pickling
Refrigerating
Roasting
Storing In Root Cellar
Salt or Smoke Curing
Steaming

Food Advertising.

Bandwagon
Consumer
Enriched
Enzymes
Fortified
Free Range
Junk Food
Lean
Lite
Organic
Processed Foods
Produce
Reduced
Staple
Testimonial
Vegetarian

Nutrition-Related Diseases.

Anemia
Anorexia
Anaphylactic Shock
Beriberi
Bulimia
Cancer
Diabetes
Diabetic Coma
Food Allergies
Food Poisoning
Hives
High Cholesterol
Hypertension
Insulin Shock
Lactose Intolerance
Malnutrition
Migraine Headaches
Obesity
Osteoporosis
Pellagra
Pesticide Contamination
Rickets
Salmonella
Scurvy
Trichinosis

CHOW

Congratulations!

Student Name

You **consistently exceeded** the standard and earned 4-star ratings!

Teacher Signature

Date

CHOW

Congratulations!

Student Name

You **consistently met** the standard and earned 3-star ratings!

Teacher Signature

Date

Teacher Feedback Form

At Interact, we constantly strive to make our units the best they can be. We always appreciate feedback from you—our customer—to facilitate this process. With your input, we can continue to provide high-quality, interactive, and meaningful instructional materials to enhance your curriculum and engage your students. Please take a few moments to complete this feedback form and drop it in the mail. Address it to:

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or fax it to us at **(800) 944-5432**
or e-mail it to us at **access@teachinteract.com**

We enjoy receiving photos or videotapes of our units in action!
Please use the release form on the following page.

Your Name: _____

Address: _____

_____

E-mail: _____

Interact Unit: _____

Comments: _____

_____

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Release Form for Photographic Images

To Teachers:

To help illustrate to others the experiential activities involved and to promote the use of simulations, we like to get photographs and videos of classes participating in the simulation. Please send photos of students actively engaged so we can publish them in our promotional material. Be aware that we can only use images of students for whom a release form has been submitted.

To Parents:

I give permission for photographs or videos of my child to appear in catalogs of educational materials published by Interact.

Name of Student: _____ (print)

Age of Student: _____ (print)

Parent or Guardian: _____ (print)

Signature: _____ Date: _____

Address:

_____

_____

_____

_____

Phone: _____

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