Grade 3
An Integrated Nutrition Curriculum

Developed by the North Carolina Nutrition Education and Training Program
January 2007

State of North Carolina • Michael F. Easley, Governor
Department of Health and Human Services
Carmen Hooker Odom, Secretary
Division of Public Health • Nutrition Services Branch
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www.ncdhhs.gov • www.nutritionnc.com

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Welcome to Food for Thought, a K-5 curriculum that allows you to teach the nutrition objectives of the Healthful Living Standard Course of Study while integrating the concepts of healthy eating and physical activity into Math and English Language Arts. The matrix summarizes the objectives addressed in each lesson. The lessons flow best when presented in the order listed.

Effective nutrition education can motivate and enable students to adopt healthful dietary patterns and healthy lifestyles. Food for Thought will allow you to deliver effective nutrition education. There are many benefits for students who are well nourished and physically active. These include:

• Improved attendance
• Improved energy level
• Improved participation
• Improved behavior
• Improved test scores
• Improved academic success
• Reduced fatigue
• Reduced irritability
• Reduced apathy
• Reduced anxiety
• Reduced infections
• Reduced absences

Each lesson in Food for Thought includes the following sections:

• Objectives: Healthful Living, Math and English Language Arts objectives
• Teacher Resources: background information to help prepare the lesson is included
• Materials Needed: additional items have been kept to a minimum
• Handouts: all student handouts are included with this packet
• Focus: an activity designed to get students focused on the topic to be covered in the lesson
• Teacher Input: material to be presented by the teacher
• Practice and Assessment: handouts and activities to be completed by students

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# Food for Thought

## Healthful Living/ Math/ English Language Arts Objectives

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Teacher Resources

Grade 3

Nutrition Facts Label
Beverage Choices: Which Do You Drink?
Carbohydrates
Vitamins
Calcium: Build Strong Bones
Water
Cut the Fat: Mooove to 1% or Less
Calories
Fats
Protein
Names for Sugar in Foods
Food Labels: Nutrient Content Claims
Fiber
What Foods are in the Grain Group?
What Foods are in the Fruit Group?
What Foods are in the Meat Group?
What Foods are in the Milk Group?
Is It a Portion or a Serving?
Trends in Portion Sizes
Serving Sizes are in Your Hand
What's in a Serving Size?
THE RIGHT TOOL TO BALANCE YOUR DIET

You probably already use the Nutrition Facts label in some way—maybe to check calories, fat or sodium content. But, the more familiar you are with the information, the more you’ll want to use it daily to ensure you’re eating a healthy, balanced diet.

Use the label when you shop, as you plan your meals, and as you cook each day. The label makes it easy to determine the amounts of nutrients you’re getting and to compare one product to another:

Strive for a diet that emphasizes fruits, vegetables, whole grains, and fat-free or low-fat milk and milk products. Include lean meats, poultry, fish, beans, and nuts. Choose foods that are low in saturated fats, trans fats, cholesterol, salt, and added sugar.

Regular physical activity is important for your overall health and fitness. It also helps you control body weight by balancing the calories you take in from food with the calories you expend each day. For more information, visit www.healthierus.gov/dietaryguidelines.

HERE’S WHERE TO FIND MORE INFORMATION ON HEALTHY LIVING:

U.S. Department of Health and Human Services
Dietary Guidelines for Americans
www.healthierus.gov/dietaryguidelines

Dietary Approaches to Stop Hypertension (DASH)
www.nhlbi.nih.gov/health/public/heart/hbp/dash

U.S. Food and Drug Administration
Nutrition Facts Label
www.cfsan.fda.gov/~dms/foodlab.html

U.S. Centers for Disease Control and Prevention
Nutrition and Physical Activity
www.cdc.gov/nccdphp/dnpa

U.S. Department of Agriculture
Nutrition Information
www.nutrition.gov

Food Pyramid
www.mypyramid.gov

FDA is responsible for promoting and protecting the public’s health by ensuring that the nation’s food supply is safe, sanitary, wholesome, and honestly labeled.

August, 2006
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U.S. Food and Drug Administration
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www.cfsan.fda.gov/~dms/foodlab.html

U.S. Centers for Disease Control and Prevention
Nutrition and Physical Activity
www.cdc.gov/nccdphp/dnpa

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USE THE NUTRITION FACTS LABEL TO EAT HEALTHIER

Check the serving size and number of servings.

• The Nutrition Facts Label information is based on ONE serving, but many packages contain more. Look at the serving size and how many servings you are actually consuming. If you double the servings you eat, you double the calories and nutrients, including the % DVs.
• When you compare calories and nutrients between brands, check to see if the serving size is the same.

Calories count, so pay attention to the amount.

• This is where you’ll find the number of calories per serving and the calories from fat in each serving.
• Fat-free doesn’t mean calorie-free. Lower fat items may have as many calories as full-fat versions.
• If the label lists that 1 serving equals 3 cookies and 100 calories, and you eat 6 cookies, you’ve eaten 2 servings, or twice the number of calories and fat.

Look for foods that are rich in these nutrients.

• Use the label not only to limit fat and sodium, but also to increase nutrients that promote good health and may protect you from disease.
• Some Americans don’t get enough vitamins A and C, potassium, calcium, and iron, so choose the brand with the higher % DV for these nutrients.
• Get the most nutrition for your calories—compare the calories to the nutrients you would be getting to make a healthier food choice.

Know your fats and reduce sodium for your health.

• To help reduce your risk of heart disease, use the label to select foods that are lowest in saturated fat, trans fat and cholesterol.
• Trans fat doesn’t have a % DV, but consume as little as possible because it increases your risk of heart disease.
• The % DV for total fat includes all different kinds of fats.
• To help lower blood cholesterol, replace saturated and trans fats with monounsaturated and polyunsaturated fats found in fish, nuts, and liquid vegetable oils.
• Limit sodium to help reduce your risk of high blood pressure.

Reach for healthy, wholesome carbohydrates.

• Fiber and sugars are types of carbohydrates. Healthy sources, like fruits, vegetables, beans, and whole grains, can reduce the risk of heart disease and improve digestive functioning.
• Whole grain foods can’t always be identified by color or name, such as multi-grain or wheat. Look for the “whole” grain listed first in the ingredient list, such as whole wheat, brown rice, or whole oats.
• There isn’t a % DV for sugar, but you can compare the sugar content in grams among products.
• Limit foods with added sugars (sucrose, glucose, fructose, corn or maple syrup), which add calories but not other nutrients, such as vitamins and minerals. Make sure that added sugars are not one of the first few items in the ingredients list.

For protein, choose foods that are lower in fat.

• Most Americans get plenty of protein, but not always from the healthiest sources.
• When choosing a food for its protein content, such as meat, poultry, dry beans, milk and milk products, make choices that are lean, low-fat, or fat free.

The % Daily Value is a key to a balanced diet.

The % DV is a general guide to help you link nutrients in a serving of food to their contribution to your total daily diet. It can help you determine if a food is high or low in a nutrient—5% or less is low, 20% or more is high. You can use the % DV to make dietary trade-offs with other foods throughout the day. The * is a reminder that the % DV is based on a 2,000-calorie diet. You may need more or less, but the % DV is still a helpful gauge.
Beverage Choices: Which Do You Drink?

**Milk**
- Vitamins A, D, B12, folate, calcium, magnesium, protein
- Drink at least two 8-ounce glasses a day
- Choose Low-fat (1%) or Fat-free (skim).

**100% Juice**
- Vitamins C, folate
- Drink 4 to 6 ounces a day
- Choose whole fruits instead of juice for fiber and other nutrients.

**Water**
- Essential for carrying nutrients, maintaining cellular functions, temperature regulation and more.
- Drink 6 to 8 8-ounce glasses a day.

**Orange soda**
- Flavored water, sugar, corn syrup, caffeine
- Avoid sodas and other soft drinks ("sport" drinks, juice-flavored beverages)
- May contribute to a reduced intake of other beverages including low-fat milk, water and 100% fruit juices.

**Flavored milks**
- Flavored milks offer a well-accepted nutritious alternative to soft drinks.
- Children who drink flavored milk have a lower soft drink intake, higher calcium intakes and do NOT have increased sugar intakes.

**Juice "drinks"**
- Made with some juice and added vitamins
- 100% juice has more nutrition

**State of North Carolina - Michael F. Easley, Governor | Department of Health and Human Services - Carmen Hooker Odom, Secretary | Division of Public Health - Nutrition Services Branch**

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Carbohydrates

Carbohydrates are organic molecules constructed in the ratio (CH\_2O) in a variety of lengths and shapes. Carbohydrates are the body’s preferred source of energy; the other potential energy sources being proteins and fats. Carbohydrates are broken down in the body into sugars, starches and fiber. The sugars are known as simple carbohydrates, and the starches and fiber are known as complex carbohydrates.

Function

Carbohydrates perform three important functions in the body:

- Supply energy
- Supply fiber
- Aid in the digestion of fats

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<th>Disaccharides</th>
<th>Polysaccharides</th>
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<td>Monosaccharides are the simplest form of carbohydrates. The monosaccharides are glucose, galactose, and fructose. Sugars and starches are broken down in the body into the simple sugar glucose. Glucose is the major sugar found in the bloodstream and supplies energy for the body. Some body tissues, such as red blood cells and parts of the brain, are able to get energy only from glucose. Fructose is found in honey and fruits and is known as the sweetest of the sugars. Galactose is not found in nature, but it is one of the two monosaccharides available after the breakdown of lactose (milk sugar).</td>
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<tr>
<td>Disaccharides are formed when two monosaccharides are joined together. They are broken down into their monosaccharide components during digestion. The disaccharides are sucrose, maltose, and lactose. Sucrose (glucose + fructose) is found in white, refined table sugar, brown sugar, confectioner’s sugar, cane sugar, beet sugar, molasses, and maple syrup. Maltose (glucose + glucose) is malt sugar which is found in sprouting cereal grains. Lactose (glucose + galactose) is milk sugar and is found only in milk.</td>
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<td>Polysaccharides are the complex carbohydrates often consisting of very long chains of glucose monomers. They include starch, cellulose and glycogen. Starch is the most abundant polysaccharide and is an important storage form of energy in plants. Starch can be found in roots (such as potatoes), legumes, grains, and vegetables, but must be broken down into glucose by the body before it can be utilized. Cellulose is the fibrous material found in plants, such as the strings in celery, and is commonly referred to as fiber or roughage. Cellulose cannot be digested by humans. Sources of cellulose include vegetables, fruits, and whole grain cereals. Glycogen, also known as animal starch, is the storage form of carbohydrates found in the liver and muscles. Glycogen in the liver is easily broken down into blood glucose, and muscle glycogen supplies glucose for muscle use. This is especially important during periods of intense exercise.</td>
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Forty-five to sixty-five percent of calories should come from complex carbohydrates. Preferred carbohydrate sources include vegetables, fruits, grains and grain products, legumes, and dairy products. Current recommendations suggest half of all grain and grain products consumed should be whole grains.
Vitamins

Vitamins are organic compounds necessary for normal growth, maintenance of health and reproduction. There are 13 vitamins currently identified as essential for maintaining good health; the body cannot survive without them.

**Function**

Vitamins help the body convert carbohydrates and fat into energy and assist in the formation of bones and tissues. Vitamins are either fat-soluble or water-soluble. Fat-soluble vitamins cannot be dissolved in water, so they are stored in the body fat until they are transported to the cells by the blood. Because these vitamins can accumulate in the body, it is especially important for a person’s regular daily nutrient intake of fat soluble vitamins not to exceed the Tolerable Upper Intake Levels (UL). Water-soluble vitamins are easily dissolved by water and therefore are not significantly stored by the body. Water-soluble vitamins must be replenished frequently.

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<th>Description</th>
<th>Sources</th>
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<tr>
<td>Vitamin A</td>
<td>Retinol</td>
<td>Responsible for night and color vision, growth of bones and teeth, immune function, maintenance of epithelial tissues, and embryonic development. Excessive amounts of certain forms of Vitamin A (found in some skin medications) can cause fetal abnormalities.</td>
<td>Dark green and dark yellow vegetables, yellow fruits, egg yolks, whole milk, liver, and fish oils.</td>
</tr>
<tr>
<td>Vitamin D</td>
<td>Calciferol</td>
<td>Important for the normal growth and development of bones and teeth. Aids in the absorption and utilization of calcium and phosphorus. With exposure to the sun, the body is able to make its own Vitamin D.</td>
<td>Egg yolks, liver, fish liver oils, fortified cereals, and fortified milk.</td>
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</table>

Source: [http://netx.squaremeals.org/index.aspx](http://netx.squaremeals.org/index.aspx)
### Vitamin E
**Tocopherol**

Protects cells from oxidation and is important in cell membranes. Oxidation is a chemical change that occurs as a result of exposure to oxygen. When blood cells or tissue cells are exposed to oxygen, the resulting chemical change causes a weakening of the cell walls and thus damages the tissues. Vitamin E is most effective in protecting the red blood cells in the lungs and the cells of the lung tissue because of their continuous exposure to oxygen.

### Vitamin K

Necessary for protein synthesis involved in blood clotting and other body processes.

### Vegetable oils, whole grains, nuts and seeds, liver, fish oils, and green leafy vegetables (spinach, kale, etc.).

### Water-Soluble Vitamin

<table>
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<tr>
<td><strong>B1</strong> Thiamin Aneurin</td>
<td>Helps the body breakdown carbohydrates and release energy from food. It is necessary for cell respiration, promotion of normal appetite and digestion, and maintenance of a healthy nervous system. Thiamin is heat sensitive and is easily leached into the cooking liquid.</td>
<td>Enriched or fortified whole grain products, green leafy vegetables, legumes, and pork.</td>
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<tr>
<td><strong>B2</strong> Riboflavin</td>
<td>Important for the breakdown of foods and the release of energy (oxidation-reduction reactions). Riboflavin is easily destroyed by exposure to light, especially sunlight.</td>
<td>Fortified cereals and bread products, eggs, fish, organ meats, and milk.</td>
</tr>
<tr>
<td><strong>B3</strong> Niacin Nicotinic acid</td>
<td>Helps cells convert food into energy, and is important in the nervous and digestive systems.</td>
<td>Lean meats, poultry, fish, nuts, enriched or fortified bread products and cereals, eggs, and dairy products.</td>
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</table>

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<tbody>
<tr>
<td>Folate</td>
<td>Necessary for the body to produce normal red blood cells and for amino acids and nucleic acid metabolism. Key in preventing neural tube defects, such as spina bifida, during pregnancy.</td>
<td>Dark leafy green vegetables, enriched grain and cereal products, yeast.</td>
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<td>Folic acid</td>
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<td>Folacin</td>
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<tr>
<td>Biotin</td>
<td>Essential in the metabolism of fats and amino acids.</td>
<td>Liver and eggs are important sources of biotin; it is also found in baker’s yeast, and legumes.</td>
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<tr>
<td>B5</td>
<td>Pantothenic acid</td>
<td>Eggs, milk, whole-grain products, sweet potatoes, and lean beef.</td>
</tr>
<tr>
<td>B6</td>
<td>Pyridoxine</td>
<td>Sources include poultry, fish, fortified whole grain cereals, and lentils.</td>
</tr>
<tr>
<td>B12</td>
<td>Cobalamin Cyanocobalamin</td>
<td>Animal products (meat, fish, poultry, milk), fortified cereals.</td>
</tr>
<tr>
<td>Vitamin C</td>
<td>Aids in the formation of collagen, the healing of wounds, and the absorption of iron and calcium. Vitamin C is also an important antioxidant.</td>
<td>Sources include citrus fruits, parsley, broccoli, green and red peppers, and tomatoes.</td>
</tr>
</tbody>
</table>

Research continues into the role vitamins and minerals play in preventing chronic disease and in maintaining health and wellness. The **Dietary Reference Intakes** serve as guidelines for determining the amounts of nutrients that a person needs each day.

Source: [http://netx.squaremeals.org/index.aspx](http://netx.squaremeals.org/index.aspx)

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Healthy Bones
No matter what your age, bone health is important. Strong bones help prevent osteoporosis, a disease in which bones become fragile and break easily. Often considered an “elderly” concern, osteoporosis prevention begins at an early age and continues throughout your lifetime. Bone mass develops rapidly between the ages of 10 and 20 and peaks at age 30. Building and maintaining strong bones depends on calcium, vitamin D, and physical activity.

Calcium
Calcium is an important nutrient for your body and for your health. Calcium helps your heart, muscles, and nerves function. It is also important for bone health. Ninety-nine percent of your body’s calcium is stored in your bones. Children and teenagers need adequate calcium in their diets so they can maximize the calcium storage in their bones. In later years, adequate dietary calcium helps minimize calcium loss from the bones.

Studies show that over half of Americans do not get the recommended calcium from their diets. The best sources of calcium are dairy products. Calcium should be provided in meals and snacks throughout the day. Try the Calcium Checklist to estimate how much calcium you get in a day. Follow the Food Guide Pyramid to obtain all the key nutrients you need.

Vitamin D
Your body uses vitamin D to help transport calcium to your bones. Foods such as milk and eggs contain vitamin D. Your body also makes its own vitamin D when you are exposed to sunlight. Three times a week for about 10 to 15 minutes is enough sunlight for younger people. However, because many older people do not get outdoors very often and their skin is much less efficient at making vitamin D, they may need to use supplements to obtain their needed 400 to 600 IU of vitamin D per day. Younger adults usually need around 200 IU per day. One cup of fortified cow’s or soy milk provides 100 IU.

Physical Activity
Weight-bearing exercise helps keep bones strong and prevents calcium loss. Calcium loss can take place at any age, even during childhood. For example, astronauts (weightlessness in space) and sedentary people are at risk for losing calcium from their bones. Weight-bearing exercise includes walking, jogging, weight lifting, dancing, and soccer. Try a daily activity with your family, neighbors, or friends—walking at the mall, joining a fitness club, or doing a hobby. Aim for at least 30 minutes of activity on most days of the week. You can add up the minutes throughout the day. It does not need to be all at one time.

Lactose Intolerance
It has been estimated that between 30 and 50 million Americans are lactose intolerant. People who are lactose-intolerant cannot digest lactose, a natural sugar found in milk and dairy products. Symptoms begin anywhere from 30 minutes to two hours after eating or drinking foods containing lactose. Symptoms can vary depending on the person, but include gas, nausea, diarrhea, stomach cramps, and vomiting.

Calcium Recommendations

<table>
<thead>
<tr>
<th>Group</th>
<th>Calcium Requirement</th>
</tr>
</thead>
<tbody>
<tr>
<td>Children 1 to 3 years</td>
<td>500 mg</td>
</tr>
<tr>
<td>Children 4 to 8 years</td>
<td>800 mg</td>
</tr>
<tr>
<td>Youth 9 to 18 years</td>
<td>1300 mg</td>
</tr>
<tr>
<td>Adult 19 to 50 years</td>
<td>1000 mg</td>
</tr>
<tr>
<td>Adult 51 + years</td>
<td>1200 mg</td>
</tr>
</tbody>
</table>

*Extension specialist and assistant professor and student, respectively, Department of Human Nutrition, Foods and Exercise, Virginia Tech
Original Author: Ann Hertzler, former Extension specialist, Department of Human Nutrition, Foods and Exercise, Virginia Tech
If you have trouble digesting dairy products, first try smaller amounts in meals and snacks spread throughout the day. Other solutions include: adding lactase enzyme drops to milk; choosing hard cheeses (like cheddar), and yogurt with active cultures, that are low in lactose; purchasing reduced-lactose dairy products; or taking lactase enzyme tablets before you eat or drink dairy products.

For individuals who either cannot tolerate any lactose or do not like dairy products, following are some calcium-rich alternatives. Calcium supplements may be another option.

**Calcium and Fat**

Although dairy products are high in calcium, they can also be high in fat. Read the Nutrition Facts label to find lower-fat options. The label lists the grams (g) of fat in the serving and the “%” contribution to the recommended fat level for the day. Some lower-fat options include: nonfat or 1% milk; reduced-fat cheese; and many of the calcium-rich alternatives to dairy, such as dry beans.

**Calcium Supplements**

Dietary sources of calcium are best because they contain other nutrients, too. If you are unable to get enough calcium from your diet, then calcium supplements are an alternative. They are not designed to replace nutrition, only supplement. Calcium supplements are available in tablets, powders, liquids, and chewable chocolate. Read the label for the amount of calcium. Avoid taking a supplement that contains more than 500 mg. It may keep your body from using the other nutrients in the meal or snack. High doses of calcium at one time can cause gastric upset. Calcium citrate is a supplement that dissolves easily in the stomach and is absorbed efficiently. Bone-meal supplements are made from finely ground animal bones. Bone-meal supplements are not recommended because they may contain toxic metals such as lead.

A word of caution: supplements are not regulated. As a result, many of the products are not standardized—meaning that they do not have the same amount or same product. Check for the Consumer Lab stamp of approval, a CL and a beaker, on the label. CL conducts independent product tests to ensure purity and consistency.

**Reference**

Food and Nutrition Board (FNB), Institute of Medicine (IOM). Dietary Reference Intakes for Calcium, Phosphorus, Magnesium, Vitamin D, and Fluoride (1999).

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**Calcium and Fat**

<table>
<thead>
<tr>
<th>Low-fat choices</th>
<th>Medium-fat choices</th>
<th>High-fat choices</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>300 mg calcium</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 cup skim milk or non fat yogurt</td>
<td>1 cup milk, yogurt, fortified soy milk</td>
<td>12 oz. Milk shake</td>
</tr>
<tr>
<td>1 cup 2% milk, low-fat yogurt</td>
<td>1 cup custard</td>
<td>1 cup eggnog</td>
</tr>
<tr>
<td>1 cup calcium fortified orange juice</td>
<td>4 oz canned salmon, solids</td>
<td>1 piece lasagna</td>
</tr>
<tr>
<td><strong>200 mg calcium</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 oz fat-free cheese</td>
<td>1 oz. Cheddar/American cheese</td>
<td>1 cup ice cream (10% fat)</td>
</tr>
<tr>
<td>1 oz low fat cheese</td>
<td>1 cup cream soup/chowder</td>
<td>1 cup ice cream (16% fat)</td>
</tr>
<tr>
<td><strong>100 mg calcium</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 cup 1% cottage cheese</td>
<td>1/2 cup macaroni and cheese</td>
<td>1/8 quiche pie</td>
</tr>
<tr>
<td>1 cup sherbet (2%)</td>
<td>1 cup creamed (4%) cottage cheese</td>
<td>1 cheeseburger, 4 oz</td>
</tr>
<tr>
<td>1/2 cup ice milk (4%)</td>
<td>1/8 15&quot; pizza</td>
<td>1 oz almonds</td>
</tr>
<tr>
<td>1/2 cup cooked greens</td>
<td>1/4 cup Alfredo sauce</td>
<td>1 cup tempeh</td>
</tr>
<tr>
<td>One 2 1/2&quot; muffin</td>
<td>One 7&quot; waffle</td>
<td></td>
</tr>
<tr>
<td>1 cup cooked dried beans/peas</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 taco shell</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1/2 cup tofu</td>
<td></td>
<td></td>
</tr>
<tr>
<td>One 4&quot; pancake</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Fats such as cream cheese, sour cream, whipping cream, coffee cream, artificial creamer, and whipped topping contain little or no calcium. Substitute fat free yogurt or low-fat cottage cheese blended with 1 tbsp lemon juice or vinegar for sour cream or cream cheese.
Water

Water is the most abundant substance in the human body as well as the most common substance on earth. Like oxygen, you cannot live without water. On average, body weight is 50 to 75% water or about 10-12 gallons. Water is a simple substance containing two parts hydrogen and one part oxygen (H₂O). It has no calories, but every body process needs water to function.

Water regulates your body temperature, keeping it constant at about 98.6 F. Many body processes produce heat, including any physical activity. Through perspiration, heat escapes from your body as water evaporates on your skin.

• Water transports nutrients and oxygen to your cells and carries waste products away.
• Water helps with the digestion of foods.
• Water moistens body tissues such as those in your mouth, eyes and nose.
• Water is the main part of every body fluid including blood, stomach juices and urine.
• Water helps cushion your joints and protects your body’s organs and tissues.

Of all the nutrients in the body, water is the most abundant. Water and other beverages are the main sources. But you also eat quite a bit of water in solid foods. Juicy fruits and vegetables such as celery, lettuce, tomatoes and watermelon contain more than 90% water. Even dry foods such as bread supply some water.

The average adult loses about two quarts of water daily through perspiration, urination, bowel movements and even breathing. One and one-half cups of water is lost just through breathing. Most people need 8 to 12 cups of water daily from drinking water and other beverages.

When we are really active outside in the hot weather we need to be especially careful to avoid dehydration. No matter what you do - biking, running, swimming, walking or just playing outside - make sure you get enough fluids.

• Drink plenty of fluids before, during and after activity. Carry a water bottle especially if you do not have a water source available.
• Drink fluids by schedule (every fifteen minutes) even when you do not feel thirsty.
• Wear light colored clothing.
• Be especially careful if you exercise in warm, humid weather.
• Signs of dehydration are flushed skin, fatigue, increased body temperature and increased breathing and pulse rate.
Cut the Fat:
Mooove to 1% or Less

Fat-free (skim) and 1% milk have all the protein, calcium and vitamins found in whole milk, but have little or no fat.

Nine out of 10 people like the taste of ice cold 1% or fat-free (skim) milk in blind taste tests.

Heart disease may not show up until adulthood. But the early stages, caused by too much saturated fat, can be seen in kids as young as ten years old.

One cup of whole milk has a lot of saturated fat - the same amount as five strips of bacon or a candy bar.

2% milk is not low-fat. One cup has as much saturated fat as three strips of bacon. Only 1% and fat-free are low-fat milks.

Serving 1% milk instead of 2% for children in child care (for ages 2 to 5) would cut out a lot of saturated fat from diets during those three years.

1% or Less. Yes.
Calories

Energy makes things go and grow. For example, electricity is a form of energy that makes a lamp work. Gas produces energy to make a car go. Dogs eat dog food to make them go. Fish eat fish food to make them go. Foods have six different kinds of nutrients in them. The nutrients are protein, carbohydrates, fat, vitamins, minerals, and water. Energy or calories are only found in protein, fat, and carbohydrates. Both protein and carbohydrates provide four calories per gram. Fat has more energy and provides nine calories per gram. Food gives people energy. We measure energy in calories.

Calories are the potential energy the body can receive from a food. Our bodies use food for energy to maintain all body functions both voluntary and involuntary; in other words, to move, act, grow and mend from an injury.
Fats

Fats are semisolid, energy-filled organic macromolecules found in animal and plant tissues. The term lipid is often used interchangeably with the term fat, but it is also used to describe a larger group that includes fats (solids, semisolids at room temperature), oils (liquids at room temperature), and fat-related substances. The major form of fat in the body and in foods is known as triglycerol or triglyceride. Triglycerides are organic compounds containing a glycerol backbone and three attached fatty acid chains. Other forms of fat in the body include sterols, a class of fats consisting of fused carbon rings without fatty acid chains, and phospholipids (such as lecithin). Steroids include cholesterol, Vitamin D, and sex hormones (estrogen and testosterone).

Functions of fat in the body include:

- provide energy
- transport and absorb fat-soluble vitamins
- cushion vital organs in the body
- important part of the membranes of cells
- supply essential fatty acids
- add flavor to foods
- satisfy the appetite by delaying hunger
- insulate the body
- serve as protection for nerves and blood vessels

Fatty acid chains are classified as saturated, monounsaturated, or polyunsaturated depending on the number of double bonds they possess. Every time a double bond is formed, one of the hydrogen molecules is removed and a tiny bend or kink forms in the chain. The more saturated the fat, the fewer kinks it has, the more closely the molecules can pack, and the more solid it is at room temperature.

- **Saturated fats** have no double bonds and the most hydrogen. Saturated fats are found in animal meats, butter, chocolate, egg yolks, lard, coconut and palm oil (the only saturated oils), and many other foods. The Dietary Guidelines for Americans suggest that 10% or fewer of calories should come from saturated fat.

- **Monounsaturated fats** have one double bond and less hydrogen than saturated fats. Example sources include canola, olive, and sunflower oils, and nuts.

- **Polyunsaturated fats** have multiple double bonds and even less hydrogen than monounsaturated fats. Polyunsaturated fats can be found in soybean, corn, and safflower oil, walnuts, and flaxseeds.

**Trans fats** are a special category of fats. Trans fats occur naturally in small amounts in meat and dairy foods, but the majority of trans fats in the American diet come from hydrogenation. When liquid oils are hydrogenated, treated with hydrogen to become semi-solid or solid fats, trans fats can be created. Trans fats are most commonly found in vegetable shortening, hard (stick) margarine, and manufactured foods such as crackers, cookies and baked goods. Consumption of trans fats should be limited, as they have been linked to an increased risk in coronary heart disease.

Children ages 4 to 18 years should receive between 25 and 35% of their calories from fat; adults should receive between 20 and 35% of their calories from fat.

Source: http://netx.squaremeals.org/index.aspx
Protein

Without protein, the human body would not be able to survive. Protein performs four very important functions.

Function

The body uses protein for:

- Growth and repair of new and damaged tissues. Skin, muscles, hair, finger nails, and blood clots are all made of protein.
- Regulating all body functions through the actions of enzymes, hormones, and other functional molecules.
- Transporting other nutrients and oxygen throughout the body.
- Supplying energy when adequate amounts are not supplied by carbohydrates and fat. Providing immune system defenses; antibodies are made of proteins.

Protein is an organic macromolecule comprised of compounds called amino acids. Amino acids are often referred to as the building blocks of protein. They consist of an amino group (H₂N⁻), a carboxyl group (-COOH), a hydrogen (-H), and what is called a “side group” (usually denoted chemically as “R”) attached to a central carbon atom. There are 22 different amino acids; they differ by the type of “R” group attached.

Thirteen of the 22 amino acids can be manufactured by the body. The remaining nine amino acids – often called essential amino acids – must by supplied by the diet. People in developing countries may suffer from diet-related diseases and other health problems because of the shortage of protein foods.

Protein foods that supply all nine of the essential amino acids are called complete proteins. Foods that supply only some of the nine essential amino acids are called incomplete proteins. Two incomplete protein foods can be eaten together to form a complete protein source. Most generally, animal proteins are complete protein sources and plant proteins are incomplete protein sources. However, animal proteins also provide more fat and calories than plant proteins. It is a wise dietary practice to consume combinations of plant proteins to fulfill some of the body's need for complete proteins. Some examples of combining incomplete proteins to form complete proteins are:

- Legumes (dried beans, lentils, split peas) and rice
- Pinto beans and corn tortillas
- Peanut butter sandwich (peanuts are a legume).

The amino acids are joined together by peptide bonds to form polypeptides. A protein consists of one or more of the polypeptide chains. Enzymes are globular proteins that catalyze chemical reactions within the body. For enzymes and all proteins, shape determines function – and the shape is determined by the sequence of the different amino acids.

Denaturation is the disruption of the bonds and the three-dimensional shape of a protein. This is often accomplished by changes in pH or temperature. To see denaturation in process, cook an egg white. The visible differences (moving from translucent to opaque, from watery to rubbery) are due to protein denaturation caused by heat.

It is recommended for adults that 10-35% of calories come from protein; for teenagers and children over the age of four, it is recommended that 10-30% of calories come from protein. Additional protein is needed by women during times of pregnancy and lactation. People should consult the Dietary Reference Intake charts for their gender and age group for specific protein requirements.
Names for Sugar in Foods

Sugar
Dextrose
Brown sugar
Maltose
Honey
Molasses
Glucose
Raw sugar
Sucrose
Cane sugar
Fructose
Corn syrup
Corn sweetener
High fructose corn syrup
Invert sugar
Malt syrup
Food Labels: Nutrient Content Claims

The Food and Drug Administration has regulations that spell out what terms may be used to describe the level of a nutrient in a food and how they can be used. These are the core terms:

**Free:** This term means that a product contains no amount of, or only trivial or "physiologically inconsequential" amounts of, one or more of these components: fat, saturated fat, cholesterol, sodium, sugars, and calories. For example, "calorie-free" means fewer than 5 calories per serving, and "sugar-free" and "fat-free" both mean less than 0.5 g per serving. Synonyms for "free" include "without," "no" and "zero." A synonym for fat-free milk is "skim".

**Low:** This term can be used on foods that can be eaten frequently without exceeding dietary guidelines for one or more of these components: fat, saturated fat, cholesterol, sodium, and calories. Thus, descriptors are defined as follows:
- **low-fat:** 3 g or less per serving
- **low-saturated fat:** 1 g or less per serving
- **low-sodium:** 140 mg or less per serving
- **very low sodium:** 35 mg or less per serving
- **low-cholesterol:** 20 mg or less and 2 g or less of saturated fat per serving
- **low-calorie:** 40 calories or less per serving.
Synonyms for low include "little," "few," "low source of," and "contains a small amount of."

**Lean and extra lean:** These terms can be used to describe the fat content of meat, poultry, seafood, and game meats.
- **lean:** less than 10 g fat, 4.5 g or less saturated fat, and less than 95 mg cholesterol per serving and per 100 g.
- **extra lean:** less than 5 g fat, less than 2 g saturated fat, and less than 95 mg cholesterol per serving and per 100 g.

**High:** This term can be used if the food contains 20 percent or more of the Daily Value for a particular nutrient in a serving.

**Good source:** This term means that one serving of a food contains 10 to 19 percent of the Daily Value for a particular nutrient.

**Reduced:** This term means that a nutritionally altered product contains at least 25 percent less of a nutrient or of calories than the regular, or reference, product. However, a reduced claim can't be made on a product if its reference food already meets the requirement for a "low" claim.

**Less:** This term means that a food, whether altered or not, contains 25 percent less of a nutrient or of calories than the reference food. For example, pretzels that have 25 percent less fat than potato chips could carry a "less" claim. "Fewer" is an acceptable synonym.

**Light:** This descriptor can mean two things. First, that a nutritionally altered product contains one-third fewer calories or half the fat of the reference food. If the food derives 50 percent or more of its calories from fat, the reduction must be 50 percent of the fat. Second, that the sodium content of a low-calorie, low-fat food has been reduced by 50 percent. In addition, "light in sodium" may be used on food in which the sodium content has been reduced by at least 50 percent. The term "light" still can be used to describe such properties as texture and color, as long as the label explains the intent--for example, "light brown sugar" and "light and fluffy."

**More:** This term means that a serving of food, whether altered or not, contains a nutrient that is at least 10 percent of the Daily Value more than the reference food. The 10 percent of Daily Value also applies to "fortified," "enriched" and "added" "extra and plus" claims, but in those cases, the food must be altered.
Alternative spelling of these descriptive terms and their synonyms is allowed—for example, “hi” and “lo”—as long as the alternatives are not misleading.

**Healthy:** A "healthy" food must be low in fat and saturated fat and contain limited amounts of cholesterol and sodium. In addition, if it's a single-item food, it must provide at least 10 percent of one or more of vitamins A or C, iron, calcium, protein, or fiber. Exempt from this "10-percent" rule are certain raw, canned and frozen fruits and vegetables and certain cereal-grain products. These foods can be labeled "healthy," if they do not contain ingredients that change the nutritional profile, and, in the case of enriched grain products, conform to standards of identity, which call for certain required ingredients. If it's a meal-type product, such as frozen entrees and multi-course frozen dinners, it must provide 10 percent of two or three of these vitamins or minerals or of protein or fiber, in addition to meeting the other criteria. The sodium content cannot exceed 360 mg per serving for individual foods and 480 mg per serving for meal-type products.

**OTHER DEFINITIONS**

**Percent fat free:** A product bearing this claim must be a low-fat or a fat-free product. In addition, the claim must accurately reflect the amount of fat present in 100 g of the food. Thus, if a food contains 2.5 g fat per 50 g, the claim must be "95 percent fat free." Implied: These types of claims are prohibited when they wrongfully imply that a food contains or does not contain a meaningful level of a nutrient. For example, a product claiming to be made with an ingredient known to be a source of fiber (such as "made with oat bran") is not allowed unless the product contains enough of that ingredient (for example, oat bran) to meet the definition for "good source" of fiber. As another example, a claim that a product contains "no tropical oils" is allowed—but only on foods that are "low" in saturated fat because consumers have come to equate tropical oils with high saturated fat.

**Meals and main dishes:** Claims that a meal or main dish is "free" of a nutrient, such as sodium or cholesterol, must meet the same requirements as those for individual foods. Other claims can be used under special circumstances. For example, "low-calorie" means the meal or main dish contains 120 calories or less per 100 g. "Low-sodium" means the food has 140 mg or less per 100 g. "Low-cholesterol" means the food contains 20 mg cholesterol or less per 100 g and no more than 2 g saturated fat. "Light" means the meal or main dish is low-fat or low-calorie.

**Standardized foods:** Any nutrient content claim, such as "reduced fat," "low calorie," and "light," may be used in conjunction with a standardized term if the new product has been specifically formulated to meet FDA’s criteria for that claim, if the product is not nutritionally inferior to the traditional standardized food, and the new product complies with certain compositional requirements set by FDA. A new product bearing a claim also must have performance characteristics similar to the referenced traditional standardized food. If the product doesn’t, and the differences materially limit the product’s use, its label must state the differences (for example, not recommended for baking) to inform consumers.

**HEALTH CLAIMS**

Claims for 10 relationships between a nutrient or a food and the risk of a disease or health-related condition are now allowed. They can be made in several ways: through third-party references (such as the National Cancer Institute), statements, symbols (such as a heart), and vignettes or descriptions. Whatever the case, the claim must meet the requirements for authorized health claims—for example, they cannot state the degree of risk reduction and can only use “may” or “might” in discussing the nutrient or food-disease relationship. And they must state that other factors play a role in that disease.

The claims also must be phrased so consumers can understand the relationship between the nutrient and the disease and the nutrient’s importance in relationship to a daily diet. An example of an appropriate claim is: "While many factors affect heart disease, diets low in saturated fat and cholesterol may reduce the risk of this disease.” The allowed nutrient-disease relationship claims and rules for their use are:
**Calcium and osteoporosis:** To carry this claim, a food must contain 20 percent or more of the Daily Value for calcium (200 mg) per serving, have a calcium content that equals or exceeds the food's content of phosphorus, and contain a form of calcium that can be readily absorbed and used by the body. The claim must name the target group most in need of adequate calcium intakes (that is, teens and young adult white and Asian women) and state the need for exercise and a healthy diet. A product that contains 40 percent or more of the Daily Value for calcium must state on the label that a total dietary intake greater than 200 percent of the Daily Value for calcium (that is, 2,000 mg or more) has no further known benefit.

**Fat and cancer:** To carry this claim, a food must meet the nutrient content claim requirements for "low-fat" or, if fish and game meats, for "extra lean."

**Saturated fat and cholesterol and coronary heart disease (CHD):** This claim may be used if the food meets the definitions for the nutrient content claim "low saturated fat," "low-cholesterol," and "low-fat," or, if fish and game meats, for "extra lean." It may mention the link between reduced risk of CHD and lower saturated fat and cholesterol intakes to lower blood cholesterol levels.

**Fiber-containing grain products, fruits and vegetables and cancer:** To carry this claim, a food must be or must contain a grain product, fruit or vegetable and meet the nutrient content claim requirements for "low-fat," and, without fortification, be a "good source" of dietary fiber.

**Fruits, vegetables and grain products that contain fiber and risk of CHD:** To carry this claim, a food must be or must contain fruits, vegetables and grain products. It also must meet the nutrient content claim requirements for "low saturated fat," "low-cholesterol," and "low-fat" and contain, without fortification, at least 0.6 g soluble fiber per serving.

**Sodium and hypertension (high blood pressure):** To carry this claim, a food must meet the nutrient content claim requirements for "low-sodium."

**Fruits and vegetables and cancer:** This claim may be made for fruits and vegetables that meet the nutrient content claim requirements for "low-fat" and that, without fortification, for "good source" of at least one of the following: dietary fiber or vitamins A or C. This claim relates diets low in fat and rich in fruits and vegetables (and thus vitamins A and C and dietary fiber) to reduced cancer risk. FDA authorized this claim in place of an antioxidant vitamin and cancer claim.

**Folic acid and neural tube defects:** Folic acid and neural tube defects: This claim is allowed on dietary supplements that contain sufficient folate and on conventional foods that are naturally good sources of folate, as long as they do not provide more than 100 percent of the Daily Value for vitamin A as retinol or preformed vitamin A or vitamin D. A sample claim is "healthful diets with adequate folate may reduce a woman's risk of having a child with a brain or spinal cord defect."

**Dietary sugar alcohols and dental caries (cavities):** This claim applies to food products, such as candy or gum, containing the sugar alcohols xylitol, sorbitol, mannitol, maltitol, isomalt, lactitol, hydrogenated starch hydrolysates, hydrogenated glucose syrups, or a combination of any of these. If the food also contains a fermentable carbohydrate, such as sugar, the food cannot lower the pH of plaque in the mouth below 5.7. Besides the food ingredient's relationship to dental caries, the claim also must state that frequent between-meal consumption of foods high in sugars and starches promotes tooth decay. A shortened claim is allowed on food packages with less than 15 square inches of labeling surface area.

**Soluble fiber from certain foods, such as whole oats and psyllium seed husk, and heart disease:** This claim must state that the fiber also needs to be part of a diet low in saturated fat and cholesterol, and the food must provide sufficient soluble fiber. The amount of soluble fiber in a serving of the food must be listed on the Nutrition Facts panel.
Fiber

Dietary fiber is a type of carbohydrate consisting of the parts of a plant that cannot be digested. There are two categories of fiber: soluble and insoluble. Soluble fiber is dissolved in water and may help control diabetes and lower blood pressure in some people. Soluble fiber is found in some fruits, beans, and oat bran. Insoluble fiber is not able to be dissolved in water and therefore has different functions from soluble fiber. Insoluble fiber helps move food through the digestive tract. It aids in the prevention of colon and rectal cancer, helps to control diverticulosis, and helps prevent constipation. Diverticulosis is caused when bulging pockets form on the intestinal wall and can become inflamed. Sources of insoluble fiber are fruits, vegetables, wheat bran, whole wheat, and some beans.

Function

Fiber has a number of functions in the digestive system:

- Because fiber cannot be absorbed, it essentially contributes no calories to the diet. It can give a feeling of fullness in the stomach, without adding extra calories.
- Fiber slows the emptying of food from the small intestine. Because sugars in the food are not moving through your digestive system so quickly, fiber has a positive effect on blood glucose levels.
- Fiber can interfere with the absorption of fats and cholesterol. By sweeping the fats out of the body, fiber can help lower blood cholesterol levels.

Many types of beans (black, navy, kidney, pinto, lima, etc.) are very high in fiber. Bran and shredded wheat cereals are also good fiber sources. Many fruits and vegetables, including sweet and plain potatoes, pears, peas, berries (raspberries, blackberries), pumpkin, spinach, apples, bananas, oranges, and broccoli, are good sources of fiber. Additionally, some foods you might not expect – such as almonds, soybeans, and tomato paste – also provide fiber to the diet.

Source: http://netx.squaremeals.org/index.aspx
What foods are in the grain group?

Any food made from wheat, rice, oats, cornmeal, barley or another cereal grain is a grain product. Bread, pasta, oatmeal, breakfast cereals, tortillas and grits are examples of grain products.

Grains are divided into 2 subgroups, whole grains and refined grains.

Whole grains contain the entire grain kernel -- the bran, germ, and endosperm. Examples include:
- whole-wheat flour
- bulgur (cracked wheat)
- oatmeal
- whole cornmeal
- brown rice

Refined grains have been milled, a process that removes the bran and germ. This is done to give grains a finer texture and improve their shelf life, but it also removes dietary fiber, iron and many B vitamins. Some examples of refined grain products are:
- white flour
- degermed cornmeal
- white bread
- white rice

Most refined grains are enriched. This means certain B vitamins (thiamin, riboflavin, niacin, folic acid) and iron are added back after processing. Fiber is not added back to enriched grains. Check the ingredient list on refined grain products to make sure that the word “enriched” is included in the grain name. Some food products are made from mixtures of whole grains and refined grains. Some commonly eaten grain products are:

**Whole grains:**
- brown rice
- buckwheat
- bulgur (cracked wheat)
- oatmeal
- popcorn

**Ready-to-eat breakfast cereals:**
- whole wheat cereal flakes
- muesli

**Whole grain barley**
- whole grain cornmeal
- whole rye
- whole wheat bread
- whole wheat crackers
- whole wheat pasta
- whole wheat sandwich buns and rolls
- whole wheat tortillas
- wild rice

**Less common whole grains:**
- amaranth
- millet
- quinoa
- sorghum
- triticale

**Refined grains:**
- cornbread*
- corn tortillas*
- couscous*
- crackers*
- flour tortillas*
- grits
- noodles*

**Pasta**
- spaghetti
- macaroni

**Pitas**
- pitas*
- pretzels

**Ready-to-eat breakfast cereals**
- corn flakes

**White bread**
- white bread
- white sandwich buns and rolls
- white rice.

*Most of these products are made from refined grains. Some are made from whole grains. Check the ingredient list for the words "whole grain" or "whole wheat" to decide if they are made from a whole grain. Some foods are made from a mixture of whole and refined grains. Some grain products contain significant amounts of bran. Bran provides fiber, which is important for health. However, products with added bran or bran alone (e.g., oat bran) are not necessarily whole grain products.

Source: www.MyPyramid.gov
Why is it important to eat grains, especially whole grains?

Eating grains, especially whole grains, provides health benefits. People who eat whole grains as part of a healthy diet have a reduced risk of some chronic diseases. Grains provide many nutrients that are vital for the health and maintenance of our bodies.

**Health benefits**
- Consuming foods rich in fiber, such as whole grains, as part of a healthy diet, reduces the risk of coronary heart disease.
- Consuming foods rich in fiber, such as whole grains, as part of a healthy diet, may reduce constipation.
- Eating at least 3 ounce equivalents a day of whole grains may help with weight management.
- Eating grains fortified with folate before and during pregnancy helps prevent neural tube defects during fetal development.

**Nutrients**
Grains are important sources of many nutrients, including dietary fiber, several B vitamins (thiamin, riboflavin, niacin, and folate), and minerals (iron, magnesium, and selenium).
- Dietary fiber from whole grains, as part of an overall healthy diet, helps reduce blood cholesterol levels and may lower risk of heart disease. Fiber is important for proper bowel function. It helps reduce constipation and diverticulosis. Fiber-containing foods such as whole grains help provide a feeling of fullness with fewer calories. Whole grains are good sources of dietary fiber; most refined (processed) grains contain little fiber.
- B vitamins (thiamin, riboflavin, niacin, and folate) play a key role in metabolism – they help the body release energy from protein, fat, and carbohydrates. B vitamins are also essential for a healthy nervous system. Many refined grains are enriched with these B vitamins.
- Folate (folic acid), another B vitamin, helps the body form red blood cells. Women of childbearing age who may become pregnant and those in the first trimester of pregnancy should consume adequate folate, including folic acid from fortified foods or supplements. This reduces the risk of neural tube defects, spina bifida, and anencephaly during fetal development.
- Iron is used to carry oxygen in the blood. Many teenage girls and women in their childbearing years have iron-deficiency anemia. They should eat foods high in heme-iron (meats) or eat other iron-containing foods along with foods rich in vitamin C, which can improve absorption of non-heme iron. Whole and enriched refined grain products are major sources of non-heme iron in American diets.
- Whole grains are sources of magnesium and selenium. Magnesium is a mineral used in building bones and releasing energy from muscles. Selenium protects cells from oxidation. It is also important for a healthy immune system.

How many grain foods are needed daily?

The amount of grains you need to eat depends on your age, sex, and level of physical activity. Recommended daily amounts are listed in the chart. Most Americans consume enough grains, but few are whole grains. At least ½ of all the grains eaten should be whole grains.

<table>
<thead>
<tr>
<th>How many grain foods are needed daily?</th>
<th>Daily Recommendation</th>
<th>Daily Minimum Amount of Whole Grains</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Children</strong> 2-3 years old</td>
<td>3 ounce equivalents</td>
<td>1½ ounce equivalents</td>
</tr>
<tr>
<td>4-8 years old</td>
<td>4 - 5 ounce equivalents</td>
<td>2 – 2½ ounce equivalents</td>
</tr>
<tr>
<td><strong>Girls</strong> 9-13 years old</td>
<td>5 ounce equivalents</td>
<td>3 ounce equivalents</td>
</tr>
<tr>
<td>14-18 years old</td>
<td>6 ounce equivalents</td>
<td>3 ounce equivalents</td>
</tr>
<tr>
<td><strong>Boys</strong> 9-13 years old</td>
<td>6 ounce equivalents</td>
<td>3 ounce equivalents</td>
</tr>
<tr>
<td>14-18 years old</td>
<td>7 ounce equivalents</td>
<td>3½ ounce equivalents</td>
</tr>
<tr>
<td><strong>Women</strong> 19-30 years old</td>
<td>6 ounce equivalents</td>
<td>3 ounce equivalents</td>
</tr>
<tr>
<td>31-50 years old</td>
<td>6 ounce equivalents</td>
<td>3 ounce equivalents</td>
</tr>
<tr>
<td>51+ years old</td>
<td>5 ounce equivalents</td>
<td>3 ounce equivalents</td>
</tr>
<tr>
<td><strong>Men</strong> 19-30 years old</td>
<td>8 ounce equivalents</td>
<td>4 ounce equivalents</td>
</tr>
<tr>
<td>31-50 years old</td>
<td>7 ounce equivalents</td>
<td>3½ ounce equivalents</td>
</tr>
<tr>
<td>51+ years old</td>
<td>6 ounce equivalents</td>
<td>3 ounce equivalents</td>
</tr>
</tbody>
</table>

Source: www.MyPyramid.gov
*These amounts are appropriate for individuals who get less than 30 minutes per day of moderate physical activity, beyond normal daily activities. Those who are more physically active may be able to consume more while staying within calorie needs.

**What counts as an ounce equivalent of grains?**

In general, 1 slice of bread, 1 cup of ready-to-eat cereal, or ½ cup of cooked rice, cooked pasta, or cooked cereal can be considered as 1 ounce equivalent from the grains group. The chart lists specific amounts that count as 1 ounce equivalent of grains towards your daily recommended intake. In some cases the number of ounce-equivalents for common portions is also shown.

<table>
<thead>
<tr>
<th>Item</th>
<th>Amount that counts as 1 ounce equivalent of grains</th>
<th>Common portions and ounce equivalents</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Bagels</strong></td>
<td>WG*: whole wheat RG*: plain, egg 1 &quot;mini&quot; bagel</td>
<td>1 large bagel = 4 ounce equivalents</td>
</tr>
<tr>
<td><strong>Biscuits</strong></td>
<td>(baking powder/buttermilk—RG*) 1 small (2” diameter)</td>
<td>1 large (3” diameter) = 2 ounce equivalents</td>
</tr>
<tr>
<td><strong>Breads</strong></td>
<td>WG*: 100% Whole wheat RG*: white, wheat, French, sourdough 1 regular slice, 1 small slice French, 4 snack-size slices rye bread</td>
<td>2 regular slices = 2 ounce equivalents</td>
</tr>
<tr>
<td><strong>Bulgur</strong></td>
<td>cracked wheat (WG*) ½ cup cooked</td>
<td>1 medium piece (2½” x 2½” x 1 ¼”) = 2 ounce equivalents</td>
</tr>
<tr>
<td><strong>Cornbread</strong></td>
<td>(RG*) 1 small piece (2½” x 1¼” x 1¼”)</td>
<td>1 medium piece (2½” x 2½” x 1 ¼”) = 2 ounce equivalents</td>
</tr>
<tr>
<td><strong>Crackers</strong></td>
<td>WG*: 100% whole wheat, rye RG*: saltines, snack crackers 5 whole wheat crackers, 2 rye crispbreads, 7 square or round crackers</td>
<td></td>
</tr>
<tr>
<td><strong>English muffins</strong></td>
<td>WG*: whole wheat RG*: plain, raisin ½ muffin</td>
<td>1 muffin = 2 ounce equivalents</td>
</tr>
<tr>
<td><strong>Muffins</strong></td>
<td>WG*: whole wheat RG*: bran, corn, plain 1 small (2½” diameter)</td>
<td>1 large (3 ½” diameter) = 3 ounce equivalents</td>
</tr>
<tr>
<td><strong>Oatmeal</strong></td>
<td>(WG) ½ cup cooked 1 packet instant 1 ounce dry (regular or quick)</td>
<td></td>
</tr>
<tr>
<td><strong>Pancakes</strong></td>
<td>WG*: Whole wheat, buckwheat RG*: buttermilk, plain 1 pancake (4 ½” diameter), 2 small pancakes (3” diameter)</td>
<td>3 pancakes (4 ½” diameter) = 3 ounce equivalents</td>
</tr>
<tr>
<td><strong>Popcorn</strong></td>
<td>(WG*) 3 cups, popped</td>
<td>1 microwave bag, popped = 4 ounce equivalents</td>
</tr>
<tr>
<td><strong>Ready-to-eat breakfast cereal</strong></td>
<td>WG*: toasted oat, whole wheat flakes RG*: corn flakes, puffed rice 1 cup flakes or rounds 1 ¼ cup puffed</td>
<td></td>
</tr>
<tr>
<td><strong>Rice</strong></td>
<td>WG*: brown, wild RG*: enriched, white, polished ½ cup cooked 1 ounce dry</td>
<td>1 cup cooked = 2 ounce equivalents</td>
</tr>
<tr>
<td><strong>Pasta—spaghetti, macaroni, noodles</strong></td>
<td>WG*: whole wheat RG*: enriched, durum ½ cup cooked 1 ounce dry</td>
<td>1 cup cooked = 2 ounce equivalents</td>
</tr>
<tr>
<td><strong>Tortillas</strong></td>
<td>WG*: whole wheat, whole grain corn RG*: Flour, corn 1 small flour tortilla (6” diameter), 1 corn tortilla (6” diameter)</td>
<td>1 large tortilla (12” diameter) = 4 ounce equivalents</td>
</tr>
</tbody>
</table>

*WG = whole grains, RG = refined grains. This is shown when products are available both in whole grain and refined grain forms.

Source: www.MyPyramid.gov
Tips to help you eat whole grains

At Meals:

- To eat more whole grains, substitute a whole-grain product for a refined product – such as eating whole-wheat bread instead of white bread or brown rice instead of white rice. It’s important to substitute the whole-grain product for the refined one, rather than adding the whole-grain product.
- For a change, try brown rice or whole-wheat pasta. Try brown rice stuffing in baked green peppers or tomatoes and whole-wheat macaroni in macaroni and cheese.
- Use whole grains in mixed dishes, such as barley in vegetable soup or stews and bulgur wheat in casserole or stir-fries.
- Create a whole grain pilaf with a mixture of barley, wild rice, brown rice, broth and spices. For a special touch, stir in toasted nuts or chopped dried fruit.
- Experiment by substituting whole wheat or oat flour for up to half of the flour in pancake, waffle, muffin or other flour-based recipes. They may need a bit more leavening.
- Use whole-grain bread or cracker crumbs in meatloaf.
- Try rolled oats or a crushed, unsweetened whole grain cereal as breading for baked chicken, fish, veal cutlets, or eggplant parmesan.
- Try an unsweetened, whole grain ready-to-eat cereal as croutons in salad or in place of crackers with soup.
- Freeze leftover cooked brown rice, bulgur or barley. Heat and serve it later as a quick side dish.

As Snacks:

- Snack on ready-to-eat, whole grain cereals such as toasted oat cereal.
- Add whole-grain flour or oatmeal when making cookies or other baked treats.
- Try a whole-grain snack chip, such as baked tortilla chips.
- Popcorn, a whole grain, can be a healthy snack with little or no added salt and butter.

What to Look for on the Food Label:

- Choose foods that name one of the following whole-grain ingredients first on the label’s ingredient list:
  - “brown rice”
  - “bulgur”
  - “graham flour”
  - “oatmeal”
  - “whole-grain corn”
  - “whole oats”
  - “whole rye”
  - “whole wheat”
  - “wild rice”
- Foods labeled with the words “multi-grain,” “stone-ground,” “100% wheat,” “cracked wheat,” “seven-grain,” or “bran” are usually not whole-grain products.
- Color is not an indication of a whole grain. Bread can be brown because of molasses or other added ingredients. Read the ingredient list to see if it is a whole grain.
- Use the Nutrition Facts label and choose products with a higher % Daily Value (%DV) for fiber — the %DV for fiber is a good clue to the amount of whole grain in the product.
- Read the food label’s ingredient list. Look for terms that indicate added sugars (sucrose, high-fructose corn syrup, honey, and molasses) and oils (partially hydrogenated vegetable oils) that add extra calories. Choose foods with fewer added sugars, fats, or oils.
- Most sodium in the food supply comes from packaged foods. Similar packaged foods can vary widely in sodium content, including breads. Use the Nutrition Facts label to choose foods with a lower % DV for sodium. Foods with less than 140 mg sodium per serving can be labeled as low sodium foods. Claims such as “low in sodium” or “very low in sodium” on the front of the food label can help you identify foods that contain less salt (or sodium).

Whole Grain Tips for Children

- Set a good example for children by eating whole grains with meals or as snacks.
- Let children select and help prepare a whole grain side dish.
- Teach older children to read the ingredient list on cereals or snack food packages and choose those with whole grains at the top of the list.

Source: www.MyPyramid.gov
What foods are in the fruit group?

Any fruit or 100% fruit juice counts as part of the fruit group. Fruits may be fresh, canned, frozen, or dried, and may be whole, cut-up, or pureed. Some commonly eaten fruits are:

Apples
Apricots
Avocado
Bananas
Berries:
strawberries
blueberries
raspberries
cherries
Grapefruit
Grapes
Kiwi fruit
Lemons
Limes
Mangoes
Melons:
cantaloupe
honeydew
watermelon

Mixed fruits:
fruit cocktail
Nectarines
Oranges
Peaches
Pears
Papaya
Pineapple
Plums
Prunes
Raisins
Tangerines

100% Fruit juice:
orange
apple
grape
grapefruit

Why is it important to eat fruit?

Eating fruit provides health benefits — people who eat more fruits and vegetables as part of an overall healthy diet are likely to have a reduced risk of some chronic diseases. Fruits provide nutrients vital for health and maintenance of your body.

Health benefits

- Eating a diet rich in fruits and vegetables as part of an overall healthy diet may reduce risk for stroke and perhaps other cardiovascular diseases.
- Eating a diet rich in fruits and vegetables as part of an overall healthy diet may reduce risk for type 2 diabetes.
- Eating a diet rich in fruits and vegetables as part of an overall healthy diet may protect against certain cancers, such as mouth, stomach, and colon-rectum cancer.
- Diets rich in foods containing fiber, such as fruits and vegetables, may reduce the risk of coronary heart disease.
- Eating fruits and vegetables rich in potassium as part of an overall healthy diet may reduce the risk of developing kidney stones and may help to decrease bone loss.
- Eating foods such as fruits that are low in calories per cup instead of some other higher-calorie food may be useful in helping to lower calorie intake.

Nutrients

- Most fruits are naturally low in fat, sodium, and calories. None have cholesterol.
- Fruits are important sources of many nutrients, including potassium, dietary fiber, vitamin C and folate (folic acid).
- Diets rich in potassium may help to maintain healthy blood pressure. Fruit sources of potassium include bananas, prunes and prune juice, dried peaches and apricots, cantaloupe, honeydew melon, and orange juice.
- Dietary fiber from fruits, as part of an overall healthy diet, helps reduce blood cholesterol levels and may lower risk of heart disease. Fiber is important for proper bowel function. It helps reduce constipation and diverticulosis. Fiber-containing foods such as fruits help provide a feeling of fullness with fewer calories. Whole or cut-up fruits are sources of dietary fiber; fruit juices contain little or no fiber.

Source: www.MyPyramid.gov
Vitamin C is important for growth and repair of all body tissues, helps heal cuts and wounds, and keeps teeth and gums healthy.

Folate (folic acid) helps the body form red blood cells. Women of childbearing age who may become pregnant and those in the first trimester of pregnancy should consume adequate folate, including folic acid from fortified foods or supplements. This reduces the risk of neural tube defects, spina bifida, and anencephaly during fetal development.

How much fruit is needed daily?

The amount of fruit you need to eat depends on age, sex, and level of physical activity. Recommended daily amounts are shown in the chart. Recommended amounts are shown in the table below.

<table>
<thead>
<tr>
<th>Age Group</th>
<th>Recommendation</th>
</tr>
</thead>
<tbody>
<tr>
<td>2-3 years old</td>
<td>1 cup</td>
</tr>
<tr>
<td>4-8 years old</td>
<td>1 to 1½ cups</td>
</tr>
<tr>
<td>9-13 years old</td>
<td>1 ½ cups</td>
</tr>
<tr>
<td>14-18 years old</td>
<td>1½ cups</td>
</tr>
<tr>
<td>19-30 years old</td>
<td>2 cups</td>
</tr>
<tr>
<td>31-50 years old</td>
<td>1½ cups</td>
</tr>
<tr>
<td>51+ years old</td>
<td>1½ cups</td>
</tr>
</tbody>
</table>

What counts as a cup of fruit?

In general, 1 cup of fruit or 100% fruit juice, or ½ cup of dried fruit can be considered as 1 cup from the fruit group.

Tips to help you eat fruits

In general:

- Keep a bowl of whole fruit on the table, counter or in the refrigerator.
- Refrigerate cut-up fruit to store for later.
- Buy fresh fruits in season when they may be less expensive and at their peak flavor.
- Buy fruits that are dried, frozen, and canned (in water or juice) as well as fresh, so that you always have a supply on hand.
- Consider convenience when shopping. Buy pre-cut packages of fruit (such as melon or pineapple chunks) for a healthy snack in seconds. Choose packaged fruits that do not have added sugars.

For the best nutritional value:

- Make most of your choices whole or cut-up fruit rather than juice, for the benefits dietary fiber provides.
- Select fruits with more potassium often, such as bananas, prunes and prune juice, dried peaches and apricots, cantaloupe, honeydew melon, and orange juice.
- When choosing canned fruits, select fruit canned in 100% fruit juice or water rather than syrup.
- Vary your fruit choices. Fruits differ in nutrient content.

At meals:

- At breakfast, top your cereal with bananas or peaches; add blueberries to pancakes; drink 100% orange or grapefruit juice. Or, try a fruit mixed with low-fat or fat-free yogurt.
- At lunch, pack a tangerine, banana, or grapes to eat, or choose fruits from a salad bar. Individual containers of fruits like peaches or applesauce are easy and convenient.
- At dinner, add crushed pineapple to coleslaw, or include mandarin oranges or grapes in a tossed salad.

Source: www.MyPyramid.gov
• Make a Waldorf salad, with apples, celery, walnuts, and dressing.
• Try meat dishes that incorporate fruit, such as chicken with apricots or mango chutney.
• Add fruit like pineapple or peaches to kabobs as part of a barbecue meal.
• For dessert, have baked apples, pears, or a fruit salad.

As snacks:
• Cut-up fruit makes a great snack. Either cut them yourself, or buy pre-cut packages of fruit pieces like pineapples or melons. Or, try whole fresh berries or grapes.
• Dried fruits also make a great snack. They are easy to carry and store well. Because they are dried, ¼ cup is equivalent to ½ cup of other fruits.
• Keep a package of dried fruit in your desk or bag. Some fruits that are available dried include apricots, apples, pineapple, bananas, cherries, figs, dates, cranberries, blueberries, prunes (dried plums), and raisins (dried grapes).
• As a snack, spread peanut butter on apple slices or top frozen yogurt with berries or slices of kiwi fruit.
• Frozen juice bars (100% juice) make healthy alternatives to high-fat snacks.

Make fruit more appealing:
• Many fruits taste great with a dip or dressing. Try low-fat yogurt or pudding as a dip for fruits like strawberries or melons.
• Make a fruit smoothie by blending fat-free or low-fat milk or yogurt with fresh or frozen fruit. Try bananas, peaches, strawberries, or other berries.
• Try applesauce as a fat-free substitute for some of the oil when baking cakes.
• Try different textures of fruits. For example, apples are crunchy, bananas are smooth and creamy, and oranges are juicy.
• For fresh fruit salads, mix apples, bananas, or pears with acidic fruits like oranges, pineapple, or lemon juice to keep them from turning brown.

Fruit tips for children:
• Set a good example for children by eating fruit everyday with meals or as snacks.
• Offer children a choice of fruits for lunch.
• Depending on their age, children can help shop for, clean, peel, or cut up fruits.
• While shopping, allow children to pick out a new fruit to try later at home.
• Decorate plates or serving dishes with fruit slices.
• Top off a bowl of cereal with some berries. Or, make a smiley face with sliced bananas for eyes, raisins for a nose, and an orange slice for a mouth.
• Offer raisins or other dried fruits instead of candy.
• Make fruit kabobs using pineapple chunks, bananas, grapes, and berries.
• Pack a juice box (100% juice) in children’s lunches versus soda or other sugar-sweetened beverages.
• Choose fruit options, such as sliced apples, mixed fruit cup, or 100% fruit juice that are available in some fast food restaurants.
• Offer fruit pieces and 100% fruit juice to children. There is often little fruit in “fruit-flavored” beverages or chewy fruit snacks.

Keep it safe:
• Wash fruits before preparing or eating them. Under clean, running water, rub fruits briskly with your hands to remove dirt and surface microorganisms. Dry after washing.
• Keep fruits separate from raw meat, poultry and seafood while shopping, preparing, or storing.

Source: www.MyPyramid.gov
What foods are in the meat, poultry, fish, dry beans, eggs, and nuts (meat & beans) group?

All foods made from meat, poultry, fish, dry beans or peas, eggs, nuts, and seeds are considered part of this group. Dry beans and peas are part of this group as well as the vegetable group. Most meat and poultry choices should be lean or low-fat. Fish, nuts, and seeds contain healthy oils, so choose these foods frequently instead of meat or poultry. Some commonly eaten choices in the Meat and Beans group, with selection tips, are:

<table>
<thead>
<tr>
<th>Meats*</th>
<th>Dry beans and peas:</th>
<th>Fish*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lean cuts of:</td>
<td>black beans</td>
<td>Finfish such as:</td>
</tr>
<tr>
<td>beef</td>
<td>black-eyed peas</td>
<td>catfish</td>
</tr>
<tr>
<td>ham</td>
<td>chickpeas (garbanzo beans)</td>
<td>cod</td>
</tr>
<tr>
<td>lamb</td>
<td>falafel</td>
<td>flounder</td>
</tr>
<tr>
<td>pork</td>
<td>kidney beans</td>
<td>haddock</td>
</tr>
<tr>
<td>veal</td>
<td>lentils</td>
<td>halibut</td>
</tr>
<tr>
<td>Game meats:</td>
<td>lima beans (mature)</td>
<td>herring</td>
</tr>
<tr>
<td>bison</td>
<td>navy beans</td>
<td>mackerel</td>
</tr>
<tr>
<td>rabbit</td>
<td>pinto beans</td>
<td>pollock</td>
</tr>
<tr>
<td>venison</td>
<td>soy beans</td>
<td>porgy</td>
</tr>
<tr>
<td>Lean ground meats:</td>
<td>split peas</td>
<td>salmon</td>
</tr>
<tr>
<td>beef</td>
<td>tofu (bean curd made from soy</td>
<td>sea bass</td>
</tr>
<tr>
<td>pork</td>
<td>beans)</td>
<td>snapper</td>
</tr>
<tr>
<td>lamb</td>
<td>white beans</td>
<td>swordfish</td>
</tr>
<tr>
<td>Lean luncheon meats</td>
<td></td>
<td>trout</td>
</tr>
<tr>
<td>Organ meats:</td>
<td>bean burgers:</td>
<td>tuna</td>
</tr>
<tr>
<td>liver</td>
<td>garden burgers</td>
<td></td>
</tr>
<tr>
<td>giblets</td>
<td>veggie burgers</td>
<td></td>
</tr>
<tr>
<td>Poultry*</td>
<td></td>
<td>Shellfish such as:</td>
</tr>
<tr>
<td>chicken</td>
<td></td>
<td>clams</td>
</tr>
<tr>
<td>duck</td>
<td></td>
<td>crab</td>
</tr>
<tr>
<td>goose</td>
<td></td>
<td>crayfish</td>
</tr>
<tr>
<td>turkey</td>
<td></td>
<td>lobster</td>
</tr>
<tr>
<td>ground chicken and turkey</td>
<td></td>
<td>mussels</td>
</tr>
<tr>
<td>Eggs*</td>
<td></td>
<td>octopus</td>
</tr>
<tr>
<td>chicken eggs</td>
<td></td>
<td>scallops</td>
</tr>
<tr>
<td>duck eggs</td>
<td></td>
<td>squid (calamari)</td>
</tr>
<tr>
<td>Nuts &amp; seeds*</td>
<td></td>
<td>shrimp</td>
</tr>
<tr>
<td>almonds</td>
<td></td>
<td>Canned fish such as:</td>
</tr>
<tr>
<td>cashews</td>
<td></td>
<td>anchovies</td>
</tr>
<tr>
<td>hazelnuts (filberts)</td>
<td></td>
<td>clams</td>
</tr>
<tr>
<td>mixed nuts</td>
<td></td>
<td>tuna</td>
</tr>
<tr>
<td>peanuts</td>
<td></td>
<td>sardines</td>
</tr>
<tr>
<td>peanut butter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pecans</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pistachios</td>
<td></td>
<td></td>
</tr>
<tr>
<td>pumpkin seeds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>sesame seeds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>sunflower seeds</td>
<td></td>
<td></td>
</tr>
<tr>
<td>walnuts</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Selection Tips

Choose lean or low-fat meat and poultry. If higher fat choices are made, such as regular ground beef (75 to 80% lean) or chicken with skin, the fat in the product counts as part of the discretionary calorie allowance.

If solid fat is added in cooking, such as frying chicken in shortening or frying eggs in butter or stick margarine, this also counts as part of the discretionary calorie allowance.

Select fish rich in omega-3 fatty acids, such as salmon, trout, and herring, more often.

Liver and other organ meats are high in cholesterol. Egg yolks are also high in cholesterol, but egg whites are cholesterol-free.

Processed meats such as ham, sausage, frankfurters, and luncheon or deli meats have added sodium. Check the ingredient and Nutrition Facts label to help limit sodium intake. Fresh chicken, turkey,
and pork that have been enhanced with a salt-containing solution also have added sodium. Check the product label for statements such as “self-basting” or “contains up to ___% of ___”, which mean that a sodium-containing solution has been added to the product.

Sunflower seeds, almonds, and hazelnuts (filberts) are the richest sources of vitamin E in this food group. To help meet vitamin E recommendations, make these your nut and seed choices more often.

**How much food from the meat & beans group is needed daily?**

The amount of food from the Meat and Beans Group you need to eat depends on age, sex and level of physical activity. Most Americans eat enough food from this group, but need to make leaner and more varied selections of these foods. Recommended daily amounts are shown in the chart.

<table>
<thead>
<tr>
<th></th>
<th>2-3 years old</th>
<th>4-8 years old</th>
<th>9-13 years old</th>
<th>14-18 years old</th>
<th>19-30 years old</th>
<th>31-50 years old</th>
<th>51+ years old</th>
<th>19-30 years old</th>
<th>31-50 years old</th>
<th>51+ years old</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Children</strong></td>
<td>2 ounce equivalents**</td>
<td>3 – 4 ounce equivalents**</td>
<td>5 ounce equivalents**</td>
<td>5 ounce equivalents**</td>
<td>5½ ounce equivalents**</td>
<td>5 ounce equivalents**</td>
<td>5 ounce equivalents**</td>
<td>6½ ounce equivalents**</td>
<td>6 ounce equivalents**</td>
<td>5½ ounce equivalents**</td>
</tr>
<tr>
<td><strong>Girls</strong></td>
<td>2 ounce equivalents**</td>
<td>3 – 4 ounce equivalents**</td>
<td>5 ounce equivalents**</td>
<td>5 ounce equivalents**</td>
<td>5½ ounce equivalents**</td>
<td>5 ounce equivalents**</td>
<td>5 ounce equivalents**</td>
<td>6½ ounce equivalents**</td>
<td>6 ounce equivalents**</td>
<td>5½ ounce equivalents**</td>
</tr>
<tr>
<td><strong>Boys</strong></td>
<td>2 ounce equivalents**</td>
<td>3 – 4 ounce equivalents**</td>
<td>5 ounce equivalents**</td>
<td>5 ounce equivalents**</td>
<td>5½ ounce equivalents**</td>
<td>5 ounce equivalents**</td>
<td>5 ounce equivalents**</td>
<td>6½ ounce equivalents**</td>
<td>6 ounce equivalents**</td>
<td>5½ ounce equivalents**</td>
</tr>
<tr>
<td><strong>Women</strong></td>
<td>2 ounce equivalents**</td>
<td>3 – 4 ounce equivalents**</td>
<td>5 ounce equivalents**</td>
<td>5 ounce equivalents**</td>
<td>5½ ounce equivalents**</td>
<td>5 ounce equivalents**</td>
<td>5 ounce equivalents**</td>
<td>6½ ounce equivalents**</td>
<td>6 ounce equivalents**</td>
<td>5½ ounce equivalents**</td>
</tr>
<tr>
<td><strong>Men</strong></td>
<td>2 ounce equivalents**</td>
<td>3 – 4 ounce equivalents**</td>
<td>5 ounce equivalents**</td>
<td>5 ounce equivalents**</td>
<td>5½ ounce equivalents**</td>
<td>5 ounce equivalents**</td>
<td>5 ounce equivalents**</td>
<td>6½ ounce equivalents**</td>
<td>6 ounce equivalents**</td>
<td>5½ ounce equivalents**</td>
</tr>
</tbody>
</table>

*These amounts are appropriate for individuals who get less than 30 minutes per day of moderate physical activity, beyond normal daily activities. Those who are more physically active may be able to consume more while staying within calorie needs.

**What counts as an ounce equivalent in the meat & beans group?**

In general, 1 ounce of meat, poultry or fish, ¼ cup cooked dry beans, 1 egg, 1 tablespoon of peanut butter, or ½ ounce of nuts or seeds can be considered as 1 ounce equivalent from the meat and beans group. The chart lists specific amounts that count as 1 ounce equivalent in the Meat and Beans group towards your daily recommended intake:

<table>
<thead>
<tr>
<th>Amount that counts as 1 ounce equivalent in the Meat and Beans group</th>
<th>Common portions and ounce equivalents</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Meats</strong></td>
<td>1 ounce cooked lean beef</td>
</tr>
<tr>
<td></td>
<td>1 ounce cooked lean pork or ham</td>
</tr>
<tr>
<td><strong>Poultry</strong></td>
<td>1 ounce cooked chicken or turkey, without skin</td>
</tr>
<tr>
<td></td>
<td>1 sandwich slice of turkey (4½ x 2½ x ⅛”)</td>
</tr>
<tr>
<td><strong>Fish</strong></td>
<td>1 ounce cooked fish or shell fish</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Eggs</strong></td>
<td>1 egg</td>
</tr>
</tbody>
</table>

Source: www.MyPyramid.gov

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### Nuts and seeds

- ½ ounce of nuts (12 almonds, 24 pistachios, 7 walnut halves)
- ½ ounce of seeds (pumpkin, sunflower or squash seeds, hulled, roasted)
- 1 Tablespoon of peanut butter or almond butter

1 ounce of nuts or seeds = 2 oz eq

### Dry beans and peas

- ¼ cup of cooked dry beans (such as black, kidney, pinto, or white beans)
- ¼ cup of cooked dry peas (such as chickpeas, cowpeas, lentils, or split peas)
- ¼ cup of baked beans, refried beans
- ¼ cup (about 2 ounces) of tofu
- 1 oz. tempeh, cooked
- ¼ cup roasted soybeans
- 1 falafel patty (2 ¼”, 4 oz)
- 2 Tbsp. hummus

1 cup split pea soup = 2 oz eq
1 cup lentil soup = 2 oz eq
1 cup bean soup = 2 oz eq

1 soy or bean burger patty = 2 oz eq

---

**Tips to help you make wise choices from the meat & beans group**

**Go lean with protein:**

- **Start with a lean choice:**
  - The leanest beef cuts include round steaks and roasts (round eye, top round, bottom round, round tip), top loin, top sirloin, and chuck shoulder and arm roasts.
  - The leanest pork choices include pork loin, tenderloin, center loin, and ham.
  - Choose extra lean ground beef. The label should say at least "90% lean". You may be able to find ground beef that is 93% or 95% lean.
  - Buy skinless chicken parts, or take off the skin before cooking.
  - Boneless skinless chicken breasts and turkey cutlets are the leanest poultry choices.
  - Choose lean turkey, roast beef, ham, or low-fat luncheon meats for sandwiches instead of luncheon meats with more fat, such as regular bologna or salami.

- **Keep it lean:**
  - Trim away all of the visible fat from meats and poultry before cooking.
  - Broil, grill, roast, poach, or boil meat, poultry, or fish instead of frying.
  - Drain off any fat that appears during cooking.
  - Skip or limit the breading on meat, poultry, or fish. Breading adds fat and calories. It will also cause the food to soak up more fat during frying.
  - Prepare dry beans and peas without added fats.
  - Choose and prepare foods without high fat sauces or gravies.

**Vary your protein choices:**

- Choose fish more often for lunch or dinner. Look for fish rich in omega-3 fatty acids, such as salmon, trout, and herring.
  - Some ideas are:
    - Salmon steak or filet
    - Salmon loaf
    - Grilled or baked trout

- Choose dry beans or peas as a main dish or part of a meal often. Some choices are:
  - Chili with kidney or pinto beans
  - Stir- fried tofu
  - Split pea, lentil, minestrone, or white bean soups
  - Baked beans
  - Black bean enchiladas
  - Garbanzo or kidney beans on a chef’s salad
  - Rice and beans

Source: www.MyPyramid.gov

Page 3 of 4
- Veggie burgers or garden burgers
- Hummus (chickpeas) spread on pita bread

Choose nuts as a snack, on salads, or in main dishes. Use nuts to replace meat or poultry, not in addition to these items:
- Use pine nuts in pesto sauce for pasta.
- Add slivered almonds to steamed vegetables.
- Add toasted peanuts or cashews to a vegetable stir fry instead of meat.
- Sprinkle a few nuts on top of low-fat ice cream or frozen yogurt.
- Add walnuts or pecans to a green salad instead of cheese or meat.

**What to look for on the Food Label:**
- Check the Nutrition Facts label for the saturated fat, trans fat, cholesterol, and sodium content of packaged foods.
  - Processed meats such as hams, sausages, frankfurters, and luncheon or deli meats have added sodium. Check the ingredient and Nutrition Facts label to help limit sodium intake.
  - Fresh chicken, turkey, and pork that have been enhanced with a salt-containing solution also have added sodium. Check the product label for statements such as “self-basting” or “contains up to __% of __.”
  - Lower fat versions of many processed meats are available. Look on the Nutrition Facts label to choose products with less fat and saturated fat.

**Keep it safe to eat:**
- Separate raw, cooked and ready-to-eat foods.
- Do not wash or rinse meat or poultry.
- Wash cutting boards, knives, utensils and counter tops in hot soapy water after preparing each food item and before going on to the next one.
- Store raw meat, poultry and seafood on the bottom shelf of the refrigerator so juices don’t drip onto other foods.
- Cook foods to a safe temperature to kill microorganisms. Use a meat thermometer, which measures the internal temperature of cooked meat and poultry, to make sure that the meat is cooked all the way through.
- Chill (refrigerate) perishable food promptly and defrost foods properly. Refrigerate or freeze perishables, prepared food and leftovers within two hours.
- Plan ahead to defrost foods. Never defrost food on the kitchen counter at room temperature. Thaw food by placing it in the refrigerator, submerging air-tight packaged food in cold tap water, or defrosting on a plate in the microwave.
- Avoid raw or partially cooked eggs or foods containing raw eggs and raw or undercooked meat and poultry.
- Women who may become pregnant, pregnant women, nursing mothers, and young children should avoid some types of fish and eat types lower in mercury. See www.cfsan.fda.gov/~dms/admehg3.html or call 1-888-SAFEFOOD for more information.
What foods are in the milk, yogurt and cheese (milk) group?

All fluid milk products and many foods made from milk are considered part of this food group. Foods made from milk that retain their calcium content are part of the group, while foods made from milk that have little to no calcium, such as cream cheese, cream and butter, are not. Most milk group choices should be fat-free or low-fat. Some commonly eaten choices in the milk, yogurt and cheese group are:

Milk*
All fluid milk:
- fat-free (skim)
- low fat (1%)
- reduced fat (2%)
- whole milk
flavored milks:
- chocolate
- strawberry
lactose reduced milks
lactose free milks
Milk-based desserts*
Puddings made with milk
ice milk
frozen yogurt
ice cream

Cheese*
Hard natural cheeses:
- cheddar
- mozzarella
- Swiss
- parmesan
soft cheeses
ricotta
cottage cheese
processed cheeses
American

Yogurt*
All yogurt
- Fat-free
- low fat
- reduced fat
- whole milk yogurt

*Selection Tips
Choose fat-free or low-fat milk, yogurt, and cheese. If you choose milk or yogurt that is not fat-free, or cheese that is not low-fat, the fat in the product counts as part of the discretionary calorie allowance.

If sweetened milk products are chosen (flavored milk, yogurt, drinkable yogurt, desserts), the added sugars also count as part of the discretionary calorie allowance.

For those who are lactose intolerant, lactose-free and lower-lactose products are available. These include hard cheeses and yogurt. Also, enzyme preparations can be added to milk to lower the lactose content. Calcium-fortified foods and beverages such as soy beverages or orange juice may provide calcium, but may not provide the other nutrients found in milk and milk products.

Health benefits and nutrients

Consuming milk and milk products provides health benefits—people who have a diet rich in milk and milk products can reduce the risk of low bone mass throughout the life cycle. Foods in the milk group provide nutrients that are vital for health and maintenance of your body. These nutrients include calcium, potassium, vitamin D and protein.

Health benefits
- Diets rich in milk and milk products help build and maintain bone mass throughout the lifecycle. This may reduce the risk of osteoporosis.
- The intake of milk products is especially important to bone health during childhood and adolescence, when bone mass is being built.
- Diets that include milk products tend to have a higher overall nutritional quality.

Nutrients
- Calcium is used for building bones and teeth and in maintaining bone mass. Milk products are the primary source of calcium in American diets. Diets that provide 3 cups or the equivalent of milk products per day can improve bone mass.

Source: www.MyPyramid.gov
• Diets rich in potassium may help to maintain healthy blood pressure. Milk products, especially yogurt and fluid milk, provide potassium.
• Vitamin D functions in the body to maintain proper levels of calcium and phosphorous, thereby helping to build and maintain bones. Milk that is fortified with vitamin D is a good source of this nutrient. Other sources include vitamin D-fortified yogurt and vitamin D-fortified ready-to-eat breakfast cereals.
• Milk products that are consumed in their low-fat or fat-free forms provide little or no solid fat.

**Why is it important to make fat-free or low-fat choices from the milk group?** Choosing foods from the milk group that are high in saturated fats and cholesterol can have health implications. Diets high in saturated fats raise “bad” cholesterol levels in the blood. The “bad” cholesterol is called LDL (low-density lipoprotein) cholesterol. High LDL cholesterol, in turn, increases the risk for coronary heart disease. Many cheeses, whole milk, and products made from them are high in saturated fat. To help keep blood cholesterol levels healthy, limit the amount of these foods you eat. In addition, a high intake of fats makes it difficult to avoid consuming more calories than are needed.

**How much food from the milk group is needed daily?**

The amount of food from the Milk Group you need to eat depends on age. Recommended daily amounts are shown in the chart.

<table>
<thead>
<tr>
<th>Children</th>
<th>2-3 years old</th>
<th>2 cups*</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4-8 years old</td>
<td>2 cups*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Girls</td>
<td>9-13 years old</td>
<td>3 cups*</td>
</tr>
<tr>
<td></td>
<td>14-18 years old</td>
<td>3 cups*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Boys</td>
<td>9-13 years old</td>
<td>3 cups*</td>
</tr>
<tr>
<td></td>
<td>14-18 years old</td>
<td>3 cups*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Women</td>
<td>19-30 years old</td>
<td>3 cups*</td>
</tr>
<tr>
<td></td>
<td>31-50 years old</td>
<td>3 cups*</td>
</tr>
<tr>
<td></td>
<td>51+ years old</td>
<td>3 cups*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Men</td>
<td>19-30 years old</td>
<td>3 cups*</td>
</tr>
<tr>
<td></td>
<td>31-50 years old</td>
<td>3 cups*</td>
</tr>
<tr>
<td></td>
<td>51+ years old</td>
<td>3 cups*</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**What counts as 1 cup in the milk group?**

In general, 1 cup of milk or yogurt, 1½ ounces of natural cheese, or 2 ounces of processed cheese can be considered as 1 cup from the milk group. The chart lists specific amounts that count as 1 cup in the milk group towards your daily recommended intake:

<table>
<thead>
<tr>
<th>Amount that counts as 1 cup in the milk group</th>
<th>Common portions and cup</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Milk</strong> [choose fat-free or low-fat milk most often]</td>
<td>1 cup</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Yogurt</strong> [choose fat-free or low-fat yogurt most often]</td>
<td>1 regular container (8 fluid ounces)</td>
</tr>
<tr>
<td></td>
<td>1 cup</td>
</tr>
<tr>
<td><strong>Cheese</strong> [choose low-fat cheeses most often]</td>
<td>1½ ounces hard cheese (cheddar, mozzarella, Swiss, parmesan)</td>
</tr>
<tr>
<td></td>
<td>¼ cup shredded cheese</td>
</tr>
<tr>
<td></td>
<td>2 ounces processed cheese (American)</td>
</tr>
<tr>
<td></td>
<td>½ cup ricotta cheese</td>
</tr>
</tbody>
</table>

Source: www.MyPyramid.gov
2 cups cottage cheese  ½ cup cottage cheese is equivalent to ¼ cup milk

**Milk-based desserts**

[choose fat-free or low-fat types most often]

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1 cup pudding made with milk</td>
<td>1 scoop ice cream is equivalent to 1/3 cup milk</td>
</tr>
<tr>
<td>1 cup frozen yogurt</td>
<td></td>
</tr>
<tr>
<td>1½ cups ice cream</td>
<td></td>
</tr>
</tbody>
</table>

**Tips for making wise choices**

- Include milk as a beverage at meals. Choose fat-free or low-fat milk.
- If you usually drink whole milk, switch gradually to fat-free milk, to lower saturated fat and calories. Try reduced fat (2%), then low-fat (1%), and finally fat-free (skim).
- If you drink cappuccinos or lattes—ask for them with fat-free (skim) milk.
- Add fat-free or low-fat milk instead of water to oatmeal and hot cereals
- Use fat-free or low-fat milk when making condensed cream soups (such as cream of tomato).
- Have fat-free or low-fat yogurt as a snack.
- Make a dip for fruits or vegetables from yogurt.
- Make fruit-yogurt smoothies in the blender.
- For dessert, make chocolate or butterscotch pudding with fat-free or low-fat milk.
- Top cut-up fruit with flavored yogurt for a quick dessert.
- Top casseroles, soups, stews, or vegetables with shredded low-fat cheese.
- Top a baked potato with fat-free or low-fat yogurt.

**Keep it safe to eat**

- Avoid raw (unpasteurized) milk or any products made from unpasteurized milk.
- Chill (refrigerate) perishable food promptly and defrost foods properly. Refrigerate or freeze perishables, prepared food and leftovers as soon as possible. If food has been left at temperatures between 40° and 140° F for more than two hours, discard it, even though it may look and smell good.
- Separate raw, cooked and ready-to-eat foods.

**For those who choose not to consume milk products**

- If you avoid milk because of lactose intolerance, the most reliable way to get the health benefits of milk is to choose lactose-reduced or low-lactose alternatives within the milk group, such as cheese, yogurt, or lactase-treated milk, or to consume the enzyme lactase before consuming milk products.
- Calcium choices for those who do not consume milk products include
  - Calcium fortified juices, cereals, breads, soy beverages, or rice beverages
  - Canned fish (sardines, salmon with bones) soybeans and other soy products (soy-based beverages, soy yogurt, tempeh), some other dried beans, and some leafy greens (collard and turnip greens, kale, bok choy). The amount of calcium that can be absorbed from these foods varies. Click here for more information about non-dairy calcium sources.
Is It a Portion or a Serving?

A portion is the amount of food you choose to eat. There is no standard portion size and no single right or wrong portion size. A portion is what you serve yourself or what might come in one food package or what a restaurant might give you. You might also think of a portion as a helping.

A serving is a standard amount used to help give advice about how much to eat or to identify how many calories and nutrients are in a food. For example, a sandwich has two slices of bread. According to MyPyramid, the serving size for bread is one slice. The portion in your sandwich is two slices, which equals two servings.

A common problem today is that when we look at a standard serving of a food or beverage, it looks very small in comparison to the portions of foods we see in restaurants and in food packages. It’s not a problem with your eyes! We call this portion distortion! The portions are way too big. You have to look at the Nutrition Facts Label on food packages to see how many servings are in a package.

Here are some easy tips for how you can tell what a healthy portion is - show students these objects:

- A serving of nuts is a small handful
- For meat, a deck of cards serves as a good eyeball guess
- For cheese, four dice equals one serving
- For fruits and vegetables, a computer mouse or a tennis ball is about the size of a half-cup of vegetables
- For milk, a serving is equal to a school-size carton or a carton of yogurt

Trends in Portion Sizes

More than 60 percent of adults in the U.S. are overweight or obese, and there are twice as many overweight children and three times as many overweight teens as there were two decades ago. Part of the problem is that Americans are eating more and physical activity has not increased to maintain energy balance. Between 1970 and the late 1990s, the daily food supply in America increased by 500 calories. Although food supply is an overestimation of what people eat, dietary intake surveys show an average increase of more than 200 calories per day. Even small increases in calories can translate into significant weight gain. One contributing factor is an increase in portion sizes.

“Portion size” is defined as the amount of food one chooses to eat. There are no standards for portion sizes. On the other hand, a “serving size” is a standard amount that gives guidance as to how much to eat or identifies how many calories and nutrients are in a food. The MyPyramid provides serving size recommendations to guide people in selecting their daily food intake. For example, one half cup of spaghetti (just the pasta) is one serving from the Grain Group. If you eat two cups of spaghetti for dinner, you are actually eating four servings. Depending on age, gender and activity level, this could amount to one-third to two-thirds of the daily recommendation for the Grain Group. While there is nothing wrong with eating a “portion size” that is more than one serving, it is important to know the difference between a portion and a serving. If you eat a portion that is actually several servings, you need to balance that with the other foods eaten in the day. The portion sizes of a majority of foods sold for immediate consumption far exceed the MyPyramid serving sizes. Indeed, our perception of what a serving size is has been altered by the increasing availability and marketing of larger food portions.

The introduction of larger-size portions in away-from home and marketplace foods has increased significantly. Bagels used to weigh between 2-3 ounces. Today, the average bagel weighs 4-7 ounces. The eight-ounce soft drink has become 20 ounces and the average theater serving of popcorn has gone from three cups to 16 cups. A typical hamburger in 1957 contained a little more than one ounce of cooked meat, compared to as much as six ounces in 1997. The trend toward larger portion sizes is most evident in restaurants and fast food outlets but is also significant in homes. One example is observed in recipes used at home. Newer editions of classic cookbooks such as The Joy of Cooking contain recipes identical to earlier versions, but yield fewer and therefore, larger portions than before.

Meal combos or value meals have become increasingly popular. Fast food chains offer more food for only a slight increase in cost. This supersizing of meals encourages Americans to buy and eat more food under the premise that it is a good value. For only 29¢ - 49¢, a fast food meal is supersized by as much as 400 calories. Super-combo meals, which include a large drink and fries, are often less expensive than the same sandwich with a small drink and fries. Fast food chains are not the only eating establishments increasing portion sizes. Many restaurant orders are so large that the MyPyramid daily recommendations for some food groups can be met in a single meal. Larger portion sizes can easily shift a healthful meal to one of excessive calories, fat, sugar and sodium.

Children are not immune to the increase in portion sizes. Fast food chains are now targeting children ages 7 to 12 with supersized versions of their popular kids’ meals. By increasing the regular hamburger to a double hamburger or double cheeseburger, the calorie content of the meal increases by 100-180 calories.

In the past, many people considered eating out to be a special treat. Indulging in a large meal at a restaurant or fast food outlet was easily balanced with more moderate meals eaten throughout the week. However, several societal shifts – such as an increase of women in the workforce, dual-income households and smaller household sizes – have increased the demand for foods prepared away from home. In addition, away-from-home foods are now more affordable and accessible than ever before. Away-from-home food consumption has increased by two-thirds from 1977 to 1995. Half of the meals eaten away from home are fast foods. As children get older, the proportion of meals eaten away from home increases from 18 percent in preschoolers to 30 percent in adolescents.

Serving Sizes are in Your Hand

A fist or cupped hand = 1 cup

- 1 serving = ½ cup cereal, cooked pasta or rice
- or 1 cup of raw, leafy green vegetables
- or ½ cup of cooked or raw, chopped vegetables or fruit

A thumb = 1 oz. of cheese

Consuming low-fat cheese is a good way to help you meet the required servings from the milk, yogurt and cheese group. 1 ½ - 2 oz. of low-fat cheese counts as 1 of the 2-3 daily recommended servings.

Handful = 1-2 oz. of snack food

Snacking can add up. Remember, 1 handful equals 1 oz. of nuts and small candies. For chips and pretzels, 2 handfuls equals 1 oz.

Palm = 3 oz. of meat

Two servings, or 6 oz., of lean meat (poultry, fish, shellfish, beef) should be a part of a daily diet. Measure the right amount with your palm. One palm size portion equals 3 oz., or one serving.

Thumb tip = 1 teaspoon

Keep high-fat foods, such as peanut butter and mayonnaise, at a minimum by measuring the serving with your thumb. One teaspoon is equal to the end of your thumb, from the knuckle up. Three teaspoons equals 1 tablespoon.

1 tennis ball = 1 serving of fruit

Healthy diets include 2-4 servings of fruit a day.

Because hand sizes vary, compare your fist size to an actual measuring cup.
What’s in a Serving Size?

Finding it hard to picture a serving size? Everyday examples can help you compare your portion size with the standard Food Guide Pyramid serving size. Note: hands and finger sizes vary from person to person! These are GUIDES only.

The Bread, Cereal, Rice, and Pasta Group

- 1 pancake....................................................... is a compact disc (CD)
- ½ cooked cup rice, pasta..................................... is a cupcake wrapper full or a rounded handful
- 1 piece of cornbread......................................... is a bar of soap
- 1 slice of bread ............................................... is an audiocassette tape
- 1 cup of cereal............................................... is tennis ball
- 1 roll.............................................................. is a bar of soap

The Vegetable Group

- 1 cup green salad............................................ is a tennis ball
- 1 baked potato................................................ is a tennis ball
- ¾ cup tomato juice......................................... is a small Styrofoam cup
- ½ cup cooked broccoli.................................... is a scoop of ice cream or a light bulb
- ½ cup serving ................................................ is 6 asparagus spears/7 or 8 baby carrots/1 ear of corn

The Fruit Group

- ½ cup of grapes (15 grapes)............................. is a light bulb
- ½ cup of fresh fruit......................................... is 7 cotton balls
- 1 medium size fruit.......................................... is a tennis ball
- 1 cup of cut-up fruit ........................................ is a tennis ball
- ¼ cup raisins.................................................. is a large egg or a golf ball

The Milk, Yogurt, and Cheese Group

- 1½ ounces cheese........................................... is a 9-volt battery
- 1 ounce of cheese.......................................... is a pair of dice
- 1 cup of ice cream........................................... is the size of a tennis ball

The Meat, Poultry, Fish, Dry Beans, Eggs, and Nuts Group

- 2 tablespoons peanut butter.......................... is a Ping-Pong ball
- 3 ounces cooked meat, fish, poultry............... is a deck of cards
- 3 ounces grilled/baked fish............................. is a checkbook
- 3 ounces cooked chicken_______________________ is a chicken leg and thigh or a breast
- 1 cup cooked dried beans .............................. is a tennis ball
- 1 ounce of nuts.............................................. is one handful

Fats, Oils and Sweets

- 1 teaspoon butter, margarine.......................... is the size of a stamp the thickness of your finger
- 2 tablespoons salad dressing.......................... is a Ping-Pong ball
- 1 ounce of chocolate.................................... is one package of dental floss
- 1 ounce of small candies............................... is one handful
- 1 ounce of chips or pretzels........................... is two handfuls
- ½ cup of potato chips, crackers or popcorn...... is one handful
Lesson Plans

Grade 3

What’s in My Drink?
Moooving to Low-fat Milk
Sugar Seekers
Don’t Forget Breakfast
Portions and Servings
Grade 3

What’s In My Drink?

Healthful Living Objectives
4.01 Compare and contrast the health effects of nutritious and non-nutritious beverages.
4.02 Explain and analyze the nutrient and caloric information found on a Nutrition Facts Label.
4.03 Identify foods low in sugar and high in calcium and describe the health benefits of each.
4.05 Differentiate between a portion and a serving and explain how to plan meals and snacks using appropriate portion sizes.

Math Objectives
1.01 Develop a sense of whole numbers through 9,999.
2.02 Estimate and measure using appropriate units.
4.01 Collect, organize, analyze and display data (including circles and graphs) to solve problems.

English Language Arts Objectives
1.04 Increase sight vocabulary, reading vocabulary, and writing vocabulary through:
   • wide reading
   • word study
   • listening
   • discussion
   • book talks
   • book clubs
   • seminars
   • viewing
   • role play
   • studying the author’s craft
3.05 Analyze, compare and contrast printed and visual information (e.g., graphs, charts, maps).
5.02 Use correct subject/verb agreement.
5.03 Demonstrate understanding by using a variety of complete sentences (declarative, imperative, interrogative, and exclamatory) in writing and speaking.

Teacher Resources
• Nutrition Facts Label
• Beverage Choices: Which Do You Drink?
• Carbohydrates
• Vitamins
• Calcium: Build Strong Bones
• Water

Materials Needed
• Measuring spoon (¼ teaspoon size)
• Nutrition Facts Labels from a variety of soft drinks
• White sugar
• Small paper plates
• 2-liter bottle of soda/soft drink
• Cups of various sizes
• 2-cup liquid measuring cup
Handouts
- What’s in My Drink?
- Soft Drink Facts
- Soft Drink Math
- Soda Interview

Focus
For a variety of soft drinks, look at the labels and find out how many grams of sugar are in one serving. Display the amount of sugar on paper plates beside the labels. **NOTE:** one gram of sugar is equal to ¼ teaspoon or 1 teaspoon equals 4 grams of sugar. Use the ¼ teaspoon to measure the grams of sugar in each type of beverage.

Compare the amount of sugar in one serving to the amount of sugar in one helping. Ask a student to pour out an amount from a 2-liter bottle that he/she would typically drink. Explain that this amount is called a helping or portion. Look at the label to determine what a serving size is. Ask another student to measure out a serving using a measuring cup. Direct students to calculate how many grams of sugar are in the helping. Ask two more students to measure out the amount of sugar in the helping and the serving. Display on paper plates.

Teacher Input
Using the Nutrition Facts Label, Beverage Choices: Which Do You Drink?, Vitamins, Carbohydrates, Calcium: Build Strong Bones and Water teacher resources, discuss how labels can help us choose healthy beverages. This lesson focuses on Vitamin C, Vitamin A, carbohydrates/sugars and calcium.

**Talking Points:**
- The Nutrition Facts Label lists calories and nutrients (fats, carbohydrates, protein, vitamins and minerals). They can be used to compare between foods.
- Ingredients tell what the food is made from.
- Vitamin C helps heal cuts and bruises, fight infections and use iron from food.
- Vitamin A keeps eyes and skin healthy.
- Carbohydrates give the body energy. On the Nutrition Facts Label, carbohydrates include the total amount of natural and added sugars, while sugars are the amount of added sugar.
- Calcium is a mineral that builds bones and teeth.
- If you drink too much soda and juice and not enough milk, you will get too much sugar and not enough calcium.
- To be labeled as a fruit juice, the product must be 100% juice (no added sugars). Any beverage that is less than 100% juice must list the percentage of fruit juice. The beverage must be labeled as a “drink”, “beverage” or “cocktail”. These beverages might also contain added sweeteners, flavors, and fortifiers such as vitamin C or calcium.
- Water is a great thirst-quenching beverage.

Practice and Assessment
Distribute and direct students to complete the What’s in My Drink?, Soft Drink Facts and Soft Drink Math handouts.

As homework, instruct students to interview a grandparent or other older adult using the Soda Interview Guide.
## What’s in My Drink?

<table>
<thead>
<tr>
<th>Name of Drink</th>
<th>Grams of Sugar*</th>
<th>Teaspoons of Sugar</th>
<th>Vitamin C (mg)</th>
<th>Calcium (mg)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gatorade</td>
<td>21</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Coke</td>
<td>41</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Pepsi</td>
<td>41</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Fruitopia</td>
<td>42</td>
<td>90</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Chocolate Milk</td>
<td>42</td>
<td>4</td>
<td>450</td>
<td>0</td>
</tr>
<tr>
<td>2% Milk</td>
<td>42</td>
<td>4</td>
<td>450</td>
<td>0</td>
</tr>
<tr>
<td>Orange Juice</td>
<td>41</td>
<td>90</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Kool-Aid</td>
<td>24</td>
<td>9</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Crystal Light</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Hot Chocolate</td>
<td>46</td>
<td>0</td>
<td>80</td>
<td>0</td>
</tr>
<tr>
<td>Water</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Grape Juice</td>
<td>48</td>
<td>72</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>V8</td>
<td>16</td>
<td>101</td>
<td>41</td>
<td>0</td>
</tr>
<tr>
<td>Tomato Juice</td>
<td>15</td>
<td>67</td>
<td>33</td>
<td>0</td>
</tr>
</tbody>
</table>

*per 12 oz.

1. Calculate how many teaspoons of sugar are in each drink. Write your answers in the table above (1 teaspoon of sugar equals 4 grams of sugar). Hint: divide the grams of sugar by 4 to get the teaspoons.

2. Draw a bar graph of the number of grams of sugar in Coke, 2% milk and orange juice.

<table>
<thead>
<tr>
<th>Grams</th>
<th>Coke</th>
<th>2% Milk</th>
<th>Orange Juice</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>40</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>30</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
3. How many more grams of sugar does a serving of Kool-Aid have than a serving of Gatorade?

4. How many fewer grams of sugar does a serving of milk have than a serving of Fruitopia?

5. If you drink three 12 oz. Pepsis in one day, how many grams of sugar would you have consumed?

6. If there are 9 teaspoons of sugar in one can of Pepsi, how many teaspoons are in 3 cans?

7. Which drink has the most vitamin C per serving?

8. Why is vitamin C important for our bodies?

9. Which drink has the most calcium per serving?

10. Why is calcium important for our bodies?

11. What do you think is the best drink to have when you are thirsty? Why?
Soft Drink Facts

Soft drinks include soda, fruit-flavored and part-juice drinks, and sports drinks.

Q: How much sugar is there in a soda?
A: There are approximately 9 teaspoons of sugar in one 12-ounce (can) soda. There are approximately 15 teaspoons of sugar in one 20-ounce (bottle) soda.

Q: How much sugar do people eat/drink?
A: The average teenage boy eats at least 109 pounds per year. Wow!! The average American eats more than 64 pounds per year.

Q: Who drinks soft drinks and how much do they drink?
A: Half of all Americans drink sugar-sweetened soft drinks every day!
  - Soda is the most frequently consumed soft drink
  - 56% of 8 year olds drink soft drinks daily
  - 72% of 9 to 13 year olds drink soft drinks daily
  - 78% of 14 year old girls drink soft drinks daily
  - 83% of 14 year old boys drink soft drinks daily
  - The average teen gets 15 teaspoons of sugar from soft drinks each day

Q: How does soda compare to milk and juice?
A:

<table>
<thead>
<tr>
<th></th>
<th>Soda (non-diet)</th>
<th>Orange Juice</th>
<th>1% Milk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calories kcal</td>
<td>160</td>
<td>168</td>
<td>153</td>
</tr>
<tr>
<td>Vitamin A IU</td>
<td>0</td>
<td>291</td>
<td>750</td>
</tr>
<tr>
<td>Vitamin C mg</td>
<td>0</td>
<td>146</td>
<td>3</td>
</tr>
<tr>
<td>Calcium mg</td>
<td>0</td>
<td>33</td>
<td>450</td>
</tr>
</tbody>
</table>

*per 12 ounce serving

Q: How many ounces of soft drinks do kids drink compared to milk and juice?
A:

<table>
<thead>
<tr>
<th></th>
<th>Milk*</th>
<th>Juice*</th>
<th>Soft Drinks*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kids 5 and under</td>
<td>12 oz.</td>
<td>5 oz.</td>
<td>7 oz.</td>
</tr>
<tr>
<td>Boys 6 to 11</td>
<td>12 oz.</td>
<td>4 oz.</td>
<td>13 oz.</td>
</tr>
<tr>
<td>Girls 6 to 11</td>
<td>10 oz.</td>
<td>3 oz.</td>
<td>12 oz.</td>
</tr>
<tr>
<td>Boys 12 to 19</td>
<td>11 oz.</td>
<td>4 oz.</td>
<td>29 oz.</td>
</tr>
<tr>
<td>Girls 12 to 19</td>
<td>7 oz.</td>
<td>4 oz.</td>
<td>19 oz.</td>
</tr>
</tbody>
</table>

(Average amount in **ounces** per day)
Use the “Soft Drink Facts” handout to answer these questions. Show your work.

1. How many pounds of sugar does the average teenage boy get each month?

2. If Bob drank one 12-ounce glass of milk instead of one 12-ounce soda for 1 day, how much more calcium would he get?

   If Bob did this for 5 days, how much more calcium would he get?

3. How many teaspoons of sugar are there in a 20-ounce bottle of soda?

4. How many teaspoons of sugar are there in a 32-ounce “big gulp” of soda?

5. It is recommended that everyone get at least eight 8-ounce glasses of water every day to stay healthy. How many ounces of water is that each day?

6. If Latoya drinks three 12-ounce cans of soda and one 12-ounce glass of juice and NO water each day, how many ounces of water does she still need to drink to meet the recommendation?
Graphing:

1. Draw a graph that shows the amount of calcium in soda, orange juice and 1% milk.

2. Draw a graph that shows the average number of ounces of soda and milk consumed by Boys 6 – 11, Girls 6 – 11, Boys 12 – 19, and Girls 12 – 19.
Soda Interview

Name of person interviewed ___________________________________
Age of person interviewed _____________________________________

Ask the person you interview these questions and report their answers.

1. Did you drink soda when you were my age?

2. If so, how often did you drink soda?

3. What brand of soda did you drink?

4. Do you remember the average size of soda you drank when you were my age? If so, please draw a picture of it on the back of this sheet of paper.

5. Do you remember advertisements for sodas then? Where did you see them?

Describe an advertisement that you remember.

6. How do you think sodas and soda consumption have changed since you were my age?
Grade 3

Moooving to Low-Fat Milk

Healthful Living Objectives
4.02 Explain and analyze the nutrient and caloric information found on a Nutrition Facts Label.
4.03 Identify foods low in sugar and high in calcium and describe the health benefits of each.
4.05 Differentiate between a portion and a serving and explain how to plan meals and snacks using appropriate portion sizes.

Math Objective
4.01 Collect, organize, analyze and display data (including circles and graphs) to solve problems.

English Language Arts Objectives
2.03 Read a variety of texts, including:
   • fiction (short stories, novels, fantasies, fairy tales, fables)
   • nonfiction (biographies, letters, articles, procedures and instructions, charts, maps)
   • poetry (proverbs, riddles, limericks, simple poems)
   • drama (skits, plays)
4.05 Analyze, compare and contrast printed and visual information (e.g., graphs, charts, maps).
4.02 Use oral and written language to:
   • present information in a sequenced, logical manner
   • discuss
   • sustain conversation on a topic
   • share information and ideas
   • recount or narrate
   • answer open-ended questions
   • report information on a topic
   • explain own learning

Teacher Resources
   • Nutrition Facts Label
   • Cut the Fat: Mooove to 1% or Less
   • Calories
   • Fats
   • Protein
   • Carbohydrates
   • Calcium: Build Strong Bones

Materials Needed
   • Four cafeteria-size milk cartons (½ pint) - one of each type of milk: whole, 2%, 1% and skim
   • Butter
   • Measuring teaspoon

Handouts
   • All about Milk
   • All about Milk Labels
   • Calculating Calories
Focus
Display and compare whole, 2%, 1% and skim milks. Demonstrate the amount of fat in each type of milk using butter and the measuring teaspoon. For ½ pint (8 ounces):
- whole milk = 2 teaspoons
- 2% milk = 1¼ teaspoon
- 1% milk = ½ teaspoon
- skim milk = 0 teaspoons

Teacher Input
Using the Nutrition Facts Label, Cut the Fat: Mooove to 1% or Less, Calories, Fat, Protein, Carbohydrates, and Calcium: Build Strong Bones teacher resources, discuss how labels can help us choose healthy beverages, like low-fat or fat-free milk. This lesson focuses on fat, protein, carbohydrates/sugars and calcium.

Talking Points:
- The Nutrition Facts Label lists calories and nutrients (fats, carbohydrates, protein, vitamins and minerals). They can be used to compare between foods.
- Ingredients tell what the food is made from.
- Calories are the energy that food gives our bodies. Carbohydrates, protein and fat supply the body with energy.
- Fat supplies energy and helps absorb vitamins A, D, E and K. We need some fat in our diet but not too much. If we get too much fat, we get too much energy, which is stored on the body as fat. Too much fat is bad for our hearts as well.
- Protein helps the whole body grow and stay in good repair.
- Carbohydrates give the body energy. On the Nutrition Facts Label, carbohydrates include the total amount of natural and added sugars, while sugars are the amount of added sugar.
- Calcium is a mineral that builds bones and teeth.

Practice and Assessment
Distribute the All about Milk and All about Milk Labels handouts. Poll students about the type of milk they drink at home and instruct them to record the responses and complete the All about Milk handout.

Ask students what the major difference between the milks is (the amount of fat in the milk). Explain that each type of milk supplies about the same amount of calcium, protein and carbohydrates but that some milk has a lot more fat. Tell students that the extra fat provides extra energy/calories without providing any additional important nutrients such as calcium. Explain that fat-free (skim) milk is the best choice because it contains all of the important nutrients in milk without all of the fat.

Distribute and instruct students to complete the Calculating Calories handout. As a class, calculate the percentage of calories from fat in the four types of milk. Use calculators if necessary.
All about Milk

1. How many students in the class use:
   - Whole milk
   - 2% milk
   - 1% milk
   - Skim milk

2. Draw a bar graph to show the number of students that use each type of milk.

3. Review the labels from the 4 types of milk. Report the information below:

<table>
<thead>
<tr>
<th></th>
<th>Whole milk</th>
<th>2% milk</th>
<th>1% milk</th>
<th>Skim milk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Calories (8 oz.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grams of fat</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grams of protein</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Grams of carbohydrate</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

How many teaspoons of fat* are in one cup of:
   - Whole milk
   - 2% milk
   - 1% milk
   - Skim milk

*one teaspoon of fat = 4 grams of fat
# All about Milk Labels

## Whole Milk

### Nutrition Facts

<table>
<thead>
<tr>
<th>Amount per Serving</th>
<th>Calories 150</th>
<th>Calories from Fat 72</th>
<th>% Daily Value*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Fat</td>
<td>8g</td>
<td>12%</td>
<td></td>
</tr>
<tr>
<td>Saturated Fat</td>
<td>5g</td>
<td>25%</td>
<td></td>
</tr>
<tr>
<td>Cholesterol</td>
<td>35mg</td>
<td>11%</td>
<td></td>
</tr>
<tr>
<td>Sodium</td>
<td>120mg</td>
<td>5%</td>
<td></td>
</tr>
<tr>
<td>Total Carbohydrate</td>
<td>11g</td>
<td>4%</td>
<td></td>
</tr>
<tr>
<td>Dietary Fiber</td>
<td>0g</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Sugars</td>
<td>11g</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protein</td>
<td>8g</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Vitamin A: 6%
Vitamin C: 4%
Calcium: 30%
Vitamin D: 25%

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

## 2% Milk

### Nutrition Facts

<table>
<thead>
<tr>
<th>Amount per Serving</th>
<th>Calories 120</th>
<th>Calories from Fat 45</th>
<th>% Daily Value*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Fat</td>
<td>5g</td>
<td>8%</td>
<td></td>
</tr>
<tr>
<td>Saturated Fat</td>
<td>3g</td>
<td>15%</td>
<td></td>
</tr>
<tr>
<td>Cholesterol</td>
<td>20mg</td>
<td>7%</td>
<td></td>
</tr>
<tr>
<td>Sodium</td>
<td>120mg</td>
<td>5%</td>
<td></td>
</tr>
<tr>
<td>Total Carbohydrate</td>
<td>12g</td>
<td>4%</td>
<td></td>
</tr>
<tr>
<td>Dietary Fiber</td>
<td>0g</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Sugars</td>
<td>12g</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protein</td>
<td>8g</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Vitamin A: 10%
Vitamin C: 4%
Calcium: 30%
Vitamin D: 25%

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

## 1% Milk

### Nutrition Facts

<table>
<thead>
<tr>
<th>Amount per Serving</th>
<th>Calories 100</th>
<th>Calories from Fat</th>
<th>% Daily Value*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Fat</td>
<td>2.5g</td>
<td>4%</td>
<td></td>
</tr>
<tr>
<td>Saturated Fat</td>
<td>1.5g</td>
<td>8%</td>
<td></td>
</tr>
<tr>
<td>Cholesterol</td>
<td>10mg</td>
<td>3%</td>
<td></td>
</tr>
<tr>
<td>Sodium</td>
<td>130mg</td>
<td>5%</td>
<td></td>
</tr>
<tr>
<td>Total Carbohydrate</td>
<td>12g</td>
<td>4%</td>
<td></td>
</tr>
<tr>
<td>Dietary Fiber</td>
<td>0g</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Sugars</td>
<td>11g</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protein</td>
<td>8g</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Vitamin A: 6%
Vitamin C: 4%
Calcium: 30%
Vitamin D: 25%

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

## Skim Milk

### Nutrition Facts

<table>
<thead>
<tr>
<th>Amount per Serving</th>
<th>Calories 80</th>
<th>Calories from Fat</th>
<th>% Daily Value*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Fat</td>
<td>0g</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Saturated Fat</td>
<td>0g</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Cholesterol</td>
<td>5mg</td>
<td>2%</td>
<td></td>
</tr>
<tr>
<td>Sodium</td>
<td>125mg</td>
<td>5%</td>
<td></td>
</tr>
<tr>
<td>Total Carbohydrate</td>
<td>13g</td>
<td>4%</td>
<td></td>
</tr>
<tr>
<td>Dietary Fiber</td>
<td>0g</td>
<td>0%</td>
<td></td>
</tr>
<tr>
<td>Sugars</td>
<td>12g</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Protein</td>
<td>8g</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Vitamin A: 10%
Vitamin C: 4%
Calcium: 30%
Vitamin D: 25%

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

Fill in the blanks using the nutrition labels from milk cartons.

### Whole Milk: 1 cup = 150 Calories

<table>
<thead>
<tr>
<th>Carbohydrate</th>
<th>Protein</th>
<th>Fat</th>
</tr>
</thead>
<tbody>
<tr>
<td>_____ grams</td>
<td>_____ grams</td>
<td>_____ grams</td>
</tr>
<tr>
<td>x4</td>
<td>x4</td>
<td>x9</td>
</tr>
<tr>
<td>_____ calories</td>
<td>_____ calories</td>
<td>_____ calories</td>
</tr>
</tbody>
</table>

\[ \text{ _____ calories + _____ calories + _____ calories = _____ total calories} \]

### 2% Milk: 1 cup = 120 Calories

<table>
<thead>
<tr>
<th>Carbohydrate</th>
<th>Protein</th>
<th>Fat</th>
</tr>
</thead>
<tbody>
<tr>
<td>_____ grams</td>
<td>_____ grams</td>
<td>_____ grams</td>
</tr>
<tr>
<td>x4</td>
<td>x4</td>
<td>x9</td>
</tr>
<tr>
<td>_____ calories</td>
<td>_____ calories</td>
<td>_____ calories</td>
</tr>
</tbody>
</table>

\[ \text{ _____ calories + _____ calories + _____ calories = _____ total calories} \]

### Chocolate 1% Milk: 1 cup = 160 Calories

<table>
<thead>
<tr>
<th>Carbohydrate</th>
<th>Protein</th>
<th>Fat</th>
</tr>
</thead>
<tbody>
<tr>
<td>_____ grams</td>
<td>_____ grams</td>
<td>_____ grams</td>
</tr>
<tr>
<td>x4</td>
<td>x4</td>
<td>x9</td>
</tr>
<tr>
<td>_____ calories</td>
<td>_____ calories</td>
<td>_____ calories</td>
</tr>
</tbody>
</table>

\[ \text{ _____ calories + _____ calories + _____ calories = _____ total calories} \]

### 1% Milk: 1 cup = 100 Calories

<table>
<thead>
<tr>
<th>Carbohydrate</th>
<th>Protein</th>
<th>Fat</th>
</tr>
</thead>
<tbody>
<tr>
<td>_____ grams</td>
<td>_____ grams</td>
<td>_____ grams</td>
</tr>
<tr>
<td>x4</td>
<td>x4</td>
<td>x9</td>
</tr>
<tr>
<td>_____ calories</td>
<td>_____ calories</td>
<td>_____ calories</td>
</tr>
</tbody>
</table>

\[ \text{ _____ calories + _____ calories + _____ calories = _____ total calories} \]

### Skim Milk: 1 cup = 80 Calories

<table>
<thead>
<tr>
<th>Carbohydrate</th>
<th>Protein</th>
<th>Fat</th>
</tr>
</thead>
<tbody>
<tr>
<td>_____ grams</td>
<td>_____ grams</td>
<td>_____ grams</td>
</tr>
<tr>
<td>x4</td>
<td>x4</td>
<td>x9</td>
</tr>
<tr>
<td>_____ calories</td>
<td>_____ calories</td>
<td>_____ calories</td>
</tr>
</tbody>
</table>

\[ \text{ _____ calories + _____ calories + _____ calories = _____ total calories} \]
### Calculating Calories

Fill in the blanks using the nutrition labels from milk cartons.

1. **Whole Milk:** 1 cup = 150 Calories

<table>
<thead>
<tr>
<th>Carbohydrate</th>
<th>Protein</th>
<th>Fat</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 grams</td>
<td>8 grams</td>
<td>8 grams</td>
</tr>
<tr>
<td>x4</td>
<td>x4</td>
<td>x9</td>
</tr>
<tr>
<td>44 calories +</td>
<td>32 calories +</td>
<td>72 calories = 148 total calories</td>
</tr>
</tbody>
</table>

2. **2% Milk:** 1 cup = 120 Calories

<table>
<thead>
<tr>
<th>Carbohydrate</th>
<th>Protein</th>
<th>Fat</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 grams</td>
<td>8 grams</td>
<td>5 grams</td>
</tr>
<tr>
<td>x4</td>
<td>x4</td>
<td>x9</td>
</tr>
<tr>
<td>44 calories +</td>
<td>32 calories +</td>
<td>45 calories = 121 total calories</td>
</tr>
</tbody>
</table>

3. **Chocolate 1% Milk:** 1 cup = 160 Calories

<table>
<thead>
<tr>
<th>Carbohydrate</th>
<th>Protein</th>
<th>Fat</th>
</tr>
</thead>
<tbody>
<tr>
<td>26 grams</td>
<td>8 grams</td>
<td>2.5 grams</td>
</tr>
<tr>
<td>x4</td>
<td>x4</td>
<td>x9</td>
</tr>
<tr>
<td>104 calories +</td>
<td>32 calories +</td>
<td>22.5 calories = 158.5 total calories</td>
</tr>
</tbody>
</table>

4. **1% Milk:** 1 cup = 100 Calories

<table>
<thead>
<tr>
<th>Carbohydrate</th>
<th>Protein</th>
<th>Fat</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 grams</td>
<td>8 grams</td>
<td>2.5 grams</td>
</tr>
<tr>
<td>x4</td>
<td>x4</td>
<td>x9</td>
</tr>
<tr>
<td>48 calories +</td>
<td>32 calories +</td>
<td>22.5 calories = 102.5 total calories</td>
</tr>
</tbody>
</table>

5. **Skim Milk:** 1 cup = 80 Calories

<table>
<thead>
<tr>
<th>Carbohydrate</th>
<th>Protein</th>
<th>Fat</th>
</tr>
</thead>
<tbody>
<tr>
<td>13 grams</td>
<td>8 grams</td>
<td>0 grams</td>
</tr>
<tr>
<td>x4</td>
<td>x4</td>
<td>x9</td>
</tr>
<tr>
<td>52 calories +</td>
<td>32 calories +</td>
<td>0 calories = 84 total calories</td>
</tr>
</tbody>
</table>
Grade 3

Sugar Seekers

Healthful Living Objective

4.02 Demonstrate the ability to explain and analyze the nutrient and caloric information found on a Nutrition Facts Label.

Math Objectives

2.02 Estimate and measure using appropriate units.
4.01 Collect, analyze and display data (including circles and graphs) to solve problems.

English Language Arts Objectives

3.05 Analyze, compare and contrast printed and visual information (e.g., graphs, charts, maps).
4.02 Use oral and written language to:
   • present information in a sequenced, logical manner
   • discuss
   • sustain conversation on a topic
   • share information and ideas
   • recount or narrate
   • answer open-ended questions
   • report information on a topic
   • explain own learning

Teacher Resources

• Names for Sugar in Foods - made into an overhead transparency
• Nutrition Facts Label
• Food Labels: Nutrient Content Claims
• Carbohydrates
• Fiber

Materials Needed

• Nutrition Facts Labels from various whole-grain cereals, such as Total, Wheaties, Shredded Wheat, Raisin Bran, Nutri-Grain, Grape Nuts, Multigrain Cheerios, oatmeal and Wheatena
• Nutrition Facts Labels from sweetened and unsweetened varieties of the same type of cereal, such as Wheaties and Frosted Wheaties, Cheerios and Honey-Nut Cheerios, or Shredded Wheat and Frosted Mini-Wheats

Handouts

• Find the Sugar
• Fiber in Cereal
• Label Logic

Focus

NOTE: A week before this activity, instruct students to bring boxes with Nutrition Facts Labels from common cereals eaten at home. Use the overhead transparency of Names for Sugar in Foods and instruct students to determine the sugar content of a single serving of one cereal and identify the ingredients that signify the presence of sugar in the cereal. Using several boxes, instruct students to complete the table on the Find the Sugar handout and answer the first two questions.
Teacher Input
Using the Nutrition Facts Label, Food Labels: Nutrient Content Claims, Carbohydrates and Fiber teacher resources, discuss how labels can help us choose healthy foods. This lesson focuses on ingredients, carbohydrates/sugars and fiber.

Talking Points:
- The Nutrition Facts Label lists calories and nutrients (fats, carbohydrates, protein, vitamins and minerals). They can be used to compare between foods.
- An ingredient is something that goes into a mixture or, in this case, something that goes into a food. The list of ingredients on a food product names all of the things put into a mixture to make the final food. The first ingredient on the label is the ingredient of which there is the most by weight in the product.
- Fiber is a plant material that adds structure and form to the plant. In your intestines, fiber absorbs water, adds bulk and speeds up digestion.
- Carbohydrates give the body energy. On the Nutrition Facts Label, carbohydrates include the total amount of natural and added sugars, while sugars are the amount of added sugar.

Practice and Assessment
Instruct students to complete questions 3-7 on the Find the Sugar and Fiber in Cereal handouts. To ensure that whole-grain cereals are included, supplement the cereals brought by students with the Nutrition Facts Labels from various whole-grain cereals, such as Total, Wheaties, Shredded Wheat, Raisin Bran, Nutri-Grain, Grape Nuts, Multigrain Cheerios, oatmeal and Wheatena.

Use the Nutrition Facts Labels from sweetened and unsweetened varieties of the same type of cereal, such as Wheaties and Frosted Wheaties, Cheerios and Honey-Nut Cheerios, or Shredded Wheat and Frosted Mini-Wheats. Distribute and instruct students to work in groups to complete the Label Logic handout. The purpose of this exercise is to see what happens to the fiber content of breakfast cereal as the sugar content increases.
Find the Sugar

Look at the labels from different cereal packages. Write down the name of the cereal, the serving size, the amount of sugar per serving, and the ingredients used to sweeten the cereal. List the first ingredient in the cereal. Rank the cereals from lowest amount of sugar to highest (1 is the least sugar).

<table>
<thead>
<tr>
<th>Name of Cereal</th>
<th>Serving Size</th>
<th>Amount of Sugar</th>
<th>“Sweet” Ingredients</th>
<th>First Ingredient</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
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</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
1. Which cereal has the most sugar?

2. Which cereal has the least sugar?

3. What is the first ingredient in the cereal with the most sugar?

4. What is the first ingredient in the cereal with the least sugar?

5. How many teaspoons of sugar are in one serving of the cereal with the most sugar? 
   (4 grams of sugar = 1 teaspoon of sugar)
   
   In two servings?

6. How many teaspoons of sugar are in one serving of the cereal with the least sugar?
   
   In two servings?

7. Which cereal(s) do you think is the best to eat for breakfast on most days? Why?
Fiber in Cereal

Using three cereal labels, answer the following questions:

1. Fill in the spaces for 3 cereals:

<table>
<thead>
<tr>
<th>Name of Cereal</th>
<th>First Ingredient</th>
<th>Fiber in 1 Serving</th>
<th>Serving Size</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>B.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>C.</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. Make a bar graph that shows the fiber in the three cereals.

3. Which cereal (or cereals) has the most fiber?

4. Which cereal (or cereals) has the least fiber?

5. Which cereal has a whole grain listed as the first ingredient?
6. Which cereal has sugar listed as the first ingredient?

7. How much fiber is in one serving of cereal with a whole grain as the first ingredient?

8. How much fiber is in one serving of cereal with sugar as the first ingredient?

9. If you eat 2 cups of cereal with a whole grain as the first ingredient, how many grams of fiber will you get?

10. If you eat 2 cups of cereal with sugar as the first ingredient, how many grams of fiber will you get?

**Note:** Cereals with whole grains listed as the first ingredient have more fiber. Look for cereals with these listed as the first ingredient:
- Whole wheat
- Whole barley
- Whole oats
- Whole rye
- Whole cornmeal
- Cracked wheat
- Graham flour
- Brown rice
Label Logic

<table>
<thead>
<tr>
<th>Name of Cereal</th>
<th>Grams of sugar per serving</th>
<th>Grams of fiber per serving</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Sweetened:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Unsweetened:</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

1. Which cereal has the most sugar in one serving?

2. Which has the least?

3. Which cereal has the most fiber in one serving?

4. Which has the least?

5. When extra sugar is added to a cereal, does the amount of fiber to increase or decrease?

6. Why?

7. Do you think it is a good idea to add sugar to breakfast cereal?

8. Why or why not?
Grade 3

Don’t Forget Breakfast

Healthful Living Objective
4.04 Demonstrate the ability to select a nutritious breakfast and describe the importance of eating breakfast daily.

English Language Arts Objectives
3.05 Analyze, compare and contrast printed and visual information (e.g., graphs, charts, maps).
4.02 Use oral and written language to:
   • present information in a sequenced, logical manner
   • discuss
   • sustain conversation on a topic
   • share information and ideas
   • recount or narrate
   • answer open-ended questions
   • report information on a topic
   • explain own learning

Teacher Resources
• What Foods are in the Grain Group?
• What Foods are in the Fruit Group?
• What Foods are in the Meat Group?
• What Foods are in the Milk Group?

Handouts
• Smart Breakfast Choices
• Five-Star Breakfasts: Before and After
• MyPyramid for Kids

Focus
Ask students about reasons to eat breakfast. Probe for some of the following answers: Fuels the body with nutrients. You might not make up the nutrients missed at breakfast. Provides energy for the morning’s activities. You have not eaten for 8 or more hours. Gets you ready to learn. You learn better if you eat breakfast. Helps keep a healthy body weight. Breakfast helps control the urge to nibble or eat too big a lunch. Helps you feel good. Your stomach might hurt from hunger pangs if you miss breakfast. It tastes good.

Teacher Input
Any breakfast is better than no breakfast. But a smart breakfast can get your body and brain going for a busy day and keep it going strong until lunchtime. Distribute and use the Smart Breakfast Choices handout to discuss what makes a smart breakfast.

A smart breakfast includes one item from each of these three food groups:
   • Grain: Grains get your body and brain going for the day. Try to eat more whole grains.
   • Protein: Protein is what you need to keep you going until lunch.
   • Fruit: You can eat fresh, frozen, canned or dried fruits. Just don’t drink too much fruit juice. Juices don’t have any fiber. Two 4-ounce servings of juice a day is enough for kids.

Refer to the What Foods are in the Grain Group?, What Foods are in the Fruit Group?, What Foods are in the Meat Group? and What Foods are in the Milk Group? teacher resources for additional ideas.
Point out that another way to tell if you are eating a healthy breakfast is to use the Five-Star Breakfast rating system. Distribute the *Five-Star Breakfasts: Before and After* handout. Review the rating system outlined on the handout with students and develop an example as a class. Refer to the example on the answer key.

**Practice and Assessment**
Distribute the *MyPyramid for Kids* handout and instruct students to use it and the lists on the *Smart Breakfast Choices* handout to create three different breakfast combinations that they would like to eat.

Instruct students to complete the *Five-Star Breakfast: Before and After* handout.
Smart Breakfast Choices
For a smart breakfast, you need one food from each group.

- **Grain**: Grains get your body and brain going for the day. Try to eat more whole-grain foods.

- **Protein**: Protein is what you need to keep you going until lunch.

- **Fruit**: You can eat fresh, frozen, canned or dried fruits. Just don’t drink too much fruit juice. Juices don’t have any fiber. Two 4-ounce servings of juice a day is enough for kids.

Choose one from each group

<table>
<thead>
<tr>
<th>Grain</th>
<th>Protein</th>
<th>Fruit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tortilla</td>
<td>Low-fat milk (1% or skim)</td>
<td>Banana</td>
</tr>
<tr>
<td>Bagel</td>
<td>Low-fat string cheese</td>
<td>Raisins</td>
</tr>
<tr>
<td>Pita bread</td>
<td>Low-fat cottage cheese</td>
<td>Apple</td>
</tr>
<tr>
<td>Whole-wheat toast</td>
<td>Low-fat yogurt</td>
<td>Grapes</td>
</tr>
<tr>
<td>Low-fat granola bar</td>
<td>Peanut butter</td>
<td>Orange slices</td>
</tr>
<tr>
<td>Oatmeal</td>
<td>Hard-cooked egg</td>
<td>Kiwi</td>
</tr>
<tr>
<td>Whole-wheat toaster waffle</td>
<td>Low-fat sausage</td>
<td>Tomato juice</td>
</tr>
<tr>
<td>Whole-wheat cereal</td>
<td>Canadian bacon</td>
<td>Mango</td>
</tr>
</tbody>
</table>

Winning breakfast ideas!
Use the lists above and other ideas from MyPyramid for Kids to make three different breakfasts that you would like to eat. Feel free to add your own foods. Don’t forget - the goal is to have a grain, a protein and a fruit.

<table>
<thead>
<tr>
<th>Breakfast 1</th>
<th>Breakfast 2</th>
<th>Breakfast 3</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grain:</td>
<td>Grain:</td>
<td>Grain:</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Protein:</td>
<td>Protein:</td>
<td>Protein:</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------</td>
<td>-------------</td>
</tr>
<tr>
<td>Fruit:</td>
<td>Fruit:</td>
<td>Fruit:</td>
</tr>
<tr>
<td>--------------</td>
<td>-------------</td>
<td>-------------</td>
</tr>
</tbody>
</table>
Five-Star Breakfasts: Before and After

How can you tell if you are eating a healthy breakfast? Use the Five Star Breakfast rating system to find out.

★ Give yourself a star for each food from a different group of MyPyramid, but not the fats group
★ Give yourself a star for each whole-grain food (read the ingredients and make sure the words "whole" or "whole grain" appear first on the list and in front of the words oats, wheat, rice or corn)
★ Give yourself a star for each choice that is “reduced-fat” or “low-fat” (such as milk, sausage, cheese)

**How many stars does each of these before and after breakfasts get?**

<table>
<thead>
<tr>
<th>1. Before:</th>
<th>2. Before:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Frosted cereal and whole milk</strong></td>
<td><strong>Scrambled eggs and bacon</strong></td>
</tr>
<tr>
<td>How many food groups?</td>
<td>How many food groups? (remember - bacon counts as a serving from the fat group)</td>
</tr>
<tr>
<td>_________</td>
<td>_________</td>
</tr>
<tr>
<td>Is there a whole grain?</td>
<td>Is there a whole grain?</td>
</tr>
<tr>
<td>_________</td>
<td>_________</td>
</tr>
<tr>
<td>Is it low fat?</td>
<td>Is it low fat?</td>
</tr>
<tr>
<td>_________</td>
<td>_________</td>
</tr>
<tr>
<td>Total:</td>
<td>Total:</td>
</tr>
<tr>
<td>_________</td>
<td>_________</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>After:</th>
<th>After:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Whole grain cereal with skim milk and fresh berries</strong></td>
<td><strong>Scrambled eggs, bacon, a slice of whole-grain toast and a glass of calcium-fortified orange juice</strong></td>
</tr>
<tr>
<td>How many food groups?</td>
<td>How many food groups?</td>
</tr>
<tr>
<td>_________</td>
<td>_________</td>
</tr>
<tr>
<td>Is there a whole grain?</td>
<td>Is there a whole grain?</td>
</tr>
<tr>
<td>_________</td>
<td>_________</td>
</tr>
<tr>
<td>Is it low fat?</td>
<td>Is it low fat?</td>
</tr>
<tr>
<td>_________</td>
<td>_________</td>
</tr>
<tr>
<td>Total:</td>
<td>Total:</td>
</tr>
<tr>
<td>_________</td>
<td>_________</td>
</tr>
</tbody>
</table>
3. **Before:**
Chocolate donut and fruit drink
How many food groups? __________
(remember - the fruit drink is NOT a 100% fruit juice)
Is there a whole grain? __________
Is it low fat? __________
Total: __________

**After:**
Cake doughnut, low-fat chocolate milk and apple
How many food groups? __________
Is there a whole grain? __________
Is it low fat? __________
Total: __________

What could you add to make this a 5-star breakfast?

---

**Your own breakfast**
Write down what you ate for breakfast this morning.

**Before:**
How many food groups? __________
Is there a whole grain? __________
Is it low fat? __________
Total: __________

**After:**
How could you change your breakfast to make it into a 5-star breakfast?

How many food groups? __________
Is there a whole grain? __________
Is it low fat? __________
Total: __________
Five-Star Breakfasts: Before and After

How can you tell if you are eating a healthy breakfast? Use the Five Star Breakfast rating system to find out.

★ Give yourself a star for each food from a different group of MyPyramid, but not the fats group
★ Give yourself a star for each whole grain food (read the ingredients and make sure the words "whole" or "whole grain" appear first on the list and in front of the words oats, wheat, rice or corn)
★ Give yourself a star for each choice that is “reduced-fat” or “low-fat” (such as milk, sausage, cheese)

EXAMPLE: 5 Star Breakfast
Instant oatmeal made with skim milk and topped with cinnamon and raisins
• 3 food groups (instant oatmeal = grain group, skim milk = milk group and raisins = fruit group) = ★★★
• Instant oatmeal, like regular oatmeal, is an excellent whole grain choice and good source of fiber = ★
• Skim milk is low fat = ★
Total = ★★★★★

How many stars does each of these before and after breakfasts get?

1. Before:
Frosted cereal and whole milk
How many food groups? ____2____       __2__
Is there a whole grain? ____no___       __0__
Is it low fat? ____no____       __0__
Total: ____2__

After:
Whole grain cereal with skim milk and fresh berries
How many food groups? ___3___       __3__
Is there a whole grain? ___yes__       __1__
Is it low fat? ___yes__       __1__
Total: ____5__

2. Before:
Scrambled eggs and bacon
How many food groups? ____1____       __1__
(remember - bacon counts as a serving from the fat group)
Is there a whole grain? ____no____       __0__
Is it low fat? ____no____       __0__
Total: ____1__

After:
Scrambled eggs, low-fat bacon, a slice of whole-grain toast and a glass of calcium-fortified orange juice
How many food groups? ___3_____       __3__
3. Before:
Chocolate donut and fruit drink
How many food groups? 1
(remember - the fruit drink is NOT a 100% fruit juice)
Is there a whole grain? No
Is it low fat? No
Total: 1

After:
Cake doughnut, low-fat chocolate milk and apple
How many food groups? 3
Is there a whole grain? No
Is it low fat? Yes
Total: 4

What could you add to make this a 5-star breakfast?
Add a hard-cooked egg for a total of four food groups - this would be a 5-star breakfast.

Your own breakfast
Write down what you ate for breakfast this morning.

Before:
How many food groups? 1
Is there a whole grain? 1
Is it low fat? Yes
Total: 1

After:
How could you change your breakfast to make it into a 5-star breakfast?

How many food groups? 1
Is there a whole grain? 1
Is it low fat? Yes
Total: 1
MyPyramid
For Kids
Eat Right. Exercise. Have Fun.
MyPyramid.gov

Grains
Make half your grains whole
Start smart with breakfast. Look for whole-grain cereals.
Just because bread is brown doesn't mean it's whole grain. Search the ingredients list to make sure the first word is "whole" (like "whole wheat").

Vegetables
Vary your veggies
Color your plate with all kinds of great-tasting veggies.
What's green and orange and tastes good? Veggies! Go dark green with broccoli and spinach, or try orange ones like carrots and sweet potatoes.

Fruits
Focus on fruits
Fruits are nature's treats - sweet and delicious. Go easy on juice and make sure it's 100%.

Milk
Get your calcium-rich foods
Move to the milk group to get your calcium. Calcium builds strong bones.
Look at the carton or container to make sure your milk, yogurt, or cheese is low-fat or fat-free.

Meat & Beans
Go lean with protein
Eat lean or low-fat meat, chicken, turkey, and fish. Ask for it baked, broiled, or grilled - not fried.
It's nutty, but true. Nuts, seeds, peas, and beans are all great sources of protein, too.

For a 1,000-calorie diet, you need the amounts below from each food group. To find the amounts that are right for you, go to MyPyramid.gov.

- Oils are not a food group, but you need some for good health. Get your oils from fish, nuts, and liquid oils such as corn oil, soybean oil, and canola oil.

- Find your balance between food and fun
  - Move more. Aim for at least 60 minutes everyday, or most days.
  - Walk, dance, bike, rollerblade - it all counts. How great is that!

- Fats and sugars - know your limits
  - Get your fat facts and sugar smarts from the Nutrition Facts label.
  - Limit solid fats as well as foods that contain them.
  - Choose foods and beverages low in added sugars and other caloric sweeteners.
Grade 3

Portions and Servings

Healthful Living Objective
4.05 Differentiate between a portion and a serving and explain how to plan meals and snacks using appropriate portion sizes.

Math Objectives
2.01 Solve problems using measurement concepts and procedures involving equivalent measures within the same measurement system.
2.02 Estimate and measure using appropriate units.

English Language Arts Objective
4.02 Use oral and written language to:
• present information in a sequenced, logical manner
• discuss
• sustain conversation on a topic
• share information and ideas
• recount or narrate
• answer open-ended questions
• report information on a topic
• explain own learning

Teacher Resources
• Is It a Portion or a Serving?
• Trends in Portion Sizes
• Serving Sizes are in Your Hand
• What’s in a Serving Size?

Materials Needed
• 20-ounce soda bottle with Nutrition Facts Label
• Deck of cards
• Four dice
• Tennis ball
• Computer mouse
• Paper plates, bowls and cups
• Box of cereal
• Pretzels
• Can of green beans or other vegetable
• Peanut butter
• Measuring cups (liquid and dry measures)
• Measuring spoons

Handouts
• Five-Star Snacks
• Five-Star Snack Ideas
• MyPyramid for Kids
Focus
Ask for a volunteer who drinks soda. Ask if he/she regularly drinks a 20-ounce size soda as part of a snack or meal. Have another student look at the Nutrition Facts Label from a 20-ounce bottle of soda and report how many servings are in the bottle. One bottle actually contains 2½ serving; one serving is equal to 8 ounces. So, if you drink the whole 20 ounces, you are drinking 2½ servings, or enough soda for you, a friend, and then there's still some left over.

Teacher Input
Using the Is It a Portion or a Serving?, Trends in Portion Sizes, Serving Sizes are in Your Hand and What's in a Serving Size? teacher resources, discuss the difference between portions and servings.

Discuss portions with students using the reflective questions below.

• How do you decide how much of a food or drink you are going to eat for a meal or snack?
• Do you use a scoop or measuring cup?
• Does your plate or bowl serve as your guide for how much you will eat?
• What about when you eat out? Do you eat whatever amount the restaurant gives you?
• Just how much food does one person need in a day? And what does it look like in terms of portion sizes?

Demonstrate various serving sizes using the What's in a Serving Size? teacher resource and the deck of cards, dice, tennis ball and computer mouse.

Ask students how they can tell if they are eating a healthy meal or snack. One way to tell if you are eating a healthy snack is to use the Five-Star Snack rating system. Distribute the Five-Star Snacks and MyPyramid for Kids handouts. Review the rating system and examples outlined on the handout with students and develop an additional example as a class. NOTE: refer to MyPyramid for Kids to determine from which food group/s the foods are from.

Practice and Assessment
Use the paper plates, bowls and cups and the cereal, pretzels, canned vegetables and peanut butter. Place the items at the front of the classroom. Ask two students to come up and pour out the amount of cereal that he or she would eat for breakfast. Give them a measuring cup and help them measure the amount of cereal in the bowl. Read the Nutrition Facts Label to determine what the serving size is. Direct students to calculate how many servings are in the portions that were measured. Repeat this activity for the other foods. Point out that it is okay to eat more than one serving at a time but they need to balance out the total number of servings they eat throughout the day. NOTE: the foods listed for this activity are examples. Alternative foods may be used.

Distribute the Five-Star Snacks handout and direct students to write down a snack they ate the day before or a favorite snack and complete the remainder of the handout. Direct them to use the Five-Star Snack Ideas and MyPyramid for Kids handouts to guide their answers.
Five-Star Snacks

How can you tell if you are eating a healthy snack? Use the Five Star Snack rating system to find out.

★ Give yourself one star if the snack has at least one food from two or more different food groups
★ Give yourself one star if the snack has one food or less from the fats group
★ Give yourself one star if the snack has high-fiber foods, like whole-grain breads and cereals, fruits, vegetables, dry beans, nuts and seeds
★ Give yourself one star if the snack is low in fat like low-fat milk or cheese, low-fat crackers or lean meats
★ Give yourself one star if the snack is same size as the serving size on the Nutrition Facts Label

<table>
<thead>
<tr>
<th>Example 1</th>
<th>Example 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Large bowl of potato chips and 20-oz bottle of soda</strong></td>
<td><strong>Small plate of nachos made with baked tortilla chips, salsa and cheddar cheese, ½ cup of 100% fruit juice</strong></td>
</tr>
<tr>
<td>★ Does the snack have at least one food from two or more different food groups?</td>
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<td>★ Does the snack have one food or less from the fats group?</td>
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<td>★ Is the snack the same size as the serving size on the Nutrition Facts Label?</td>
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How many stars does this snack rate?
Write down your favorite snack or a snack that you ate yesterday:

How many stars does your snack have?

**Before:**
- How many food groups? \( \text{______} \)
- How many foods from the fats group? \( \text{______} \)
- Was there a high fiber food? \( \text{_____} \)
- Was it low fat? \( \text{_____} \)
- Was it the same size as the serving size on the label? \( \text{_____} \)

**Total:** \( \text{_____} \)

If your snack is not a five star snack, how could you change it so that it would have five stars? Write down your NEW snack here.

How many stars does your NEW snack have?

**After:**
- How many food groups? \( \text{______} \)
- How many foods from the fats group? \( \text{______} \)
- Was there a high fiber food? \( \text{_____} \)
- Was it low fat? \( \text{_____} \)
- Was it the same size as the serving size on the label? \( \text{_____} \)

**Total:** \( \text{_____} \)
Five-Star Snacks

How can you tell if you are eating a healthy snack? Use the Five Star Snack rating system to find out.
★ Give yourself one star if the snack has at least one food from two or more different food groups
★ Give yourself one star if the snack has one food or less from the fats group
★ Give yourself one star if the snack has high-fiber foods, like whole-grain breads and cereals, fruits, vegetables, dry beans, nuts and seeds
★ Give yourself one star if the snack is low in fat like low-fat milk or cheese, low-fat crackers or lean meats
★ Give yourself one star if the snack is same size as the serving size on the Nutrition Facts Label

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</tr>
<tr>
<td>★ Does the snack have at least one food from two or more different food groups?</td>
<td>★ Does the snack have at least one food from two or more different food groups?</td>
</tr>
<tr>
<td>NO, the potato chips are in the fats group and the soda is not in any group on MyPyramid.</td>
<td>YES, the baked chips are in the grain group, the salsa is in the vegetable group, the cheese is in the milk group and the juice is in the fruit group.</td>
</tr>
<tr>
<td>★ Does the snack have one food or less from the fats group? YES</td>
<td>★ Does the snack have one food or less from the fats group? YES, it has nothing from this group.</td>
</tr>
<tr>
<td>★ Does the snack have high-fiber foods, like whole-grain breads and cereals, fruits, vegetables, dry beans, nuts and seeds? NO</td>
<td>★ Does the snack have high-fiber foods, like whole-grain breads and cereals, fruits, vegetables, dry beans, nuts and seeds? YES, the salsa.</td>
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<td>★ Is the snack low in fat like low-fat milk or cheese, low-fat crackers or lean meats? NO</td>
<td>★ Is the snack low in fat like low-fat milk or cheese, low-fat crackers or lean meats? YES, the baked chips.</td>
</tr>
<tr>
<td>★ Is the snack the same size as the serving size on the Nutrition Facts Label? MAYBE - a large bowl is probably more than the serving size.</td>
<td>★ Is the snack the same size as the serving size on the Nutrition Facts label? MAYBE - a small plate is probably the same as the serving size.</td>
</tr>
</tbody>
</table>

This snack rates just **ONE STAR**.

This is a **FIVE STAR** snack.
Write down your favorite snack or a snack that you ate yesterday:

How many stars does your snack have?

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If your snack is not a five star snack, how could you change it so that it would have five stars? Write down your NEW snack here.

How many stars does your NEW snack have?

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Five-Star Snack Ideas

Here are some good five-star snacks:

★ Low-fat yogurt with sliced fruits, topped with low-fat granola
★ Whole-grain toast with peanut butter and slices of banana
★ Pasta salad with chopped vegetables and a glass of 100% juice

Here are some other foods that could be included in a five-star snack:

★ Whole-grain crackers
★ Baby carrots
★ Fresh fruits
★ String cheese or cheese cubes
★ Peanut butter for spreading on crackers, fruits and vegetables
★ Whole-grain toaster waffles
★ Pretzels
★ Whole-grain granola bars
★ Hard-cooked eggs
★ Whole-grain breadsticks
★ Popcorn
★ Bagels
★ Reduced-fat or baked tortilla chips
★ Fig bars
★ Oatmeal or peanut butter cookies
★ Pudding
★ Nuts or seeds
★ Bean dip
★ Beef jerky
**Grains**

Make half your grains whole
- Start smart with breakfast. Look for whole-grain cereals.
- Just because bread is brown doesn’t mean it’s whole-grain. Search the ingredients list to make sure the first word is “whole” (like “whole wheat”).

**Vegetables**

Vary your veggies
- Color your plate with all kinds of great-tasting veggies.
- What’s green and orange and tastes good? Veggies! Go dark green with broccoli and spinach, or try orange ones like carrots and sweet potatoes.

**Fruits**

Focus on fruits
- Fruits are nature’s treats — sweet and delicious. Go easy on juice and make sure it’s 100%.

**Milk**

Get your calcium-rich foods
- Move to the milk group to get your calcium. Calcium builds strong bones.
- Look at the carton or container to make sure your milk, yogurt, or cheese is lowfat or fat-free.

**Meat & Beans**

Go lean with protein
- Eat lean or low-fat meat, chicken, turkey, and fish. Ask for it baked, broiled, or grilled — not fried.
- It’s nutty, but true. Nuts, seeds, peas, and beans are all great sources of protein, too.

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For a 1,000-calorie diet, you need the amounts below from each food group. To find the amounts that are right for you, go to MyPyramid.gov.

- **Grains:**
  - Eat 6 oz. every day
  - At least half should be whole

- **Vegetables:**
  - Eat 2 1/2 cups every day

- **Fruits:**
  - Eat 1 1/2 cups every day

- **Milk:**
  - Get 3 cups every day
  - For kids ages 2 to 8, it’s 2 cups

- **Meat & Beans:**
  - Eat 5 oz. every day

**Oils**

Oils are not a food group, but you need some for good health. Get your oils from fish, nuts, and liquid oils such as corn oil, soybean oil, and canola oil.

**Find your balance between food and fun**

- Move more. Aim for at least 60 minutes everyday, or most days.
- Walk, dance, bike, rollerblade — it all counts. How great is that!

**Fats and sugars — know your limits**

- Get your fat facts and sugar smarts from the Nutrition Facts label.
- Limit solid fats as well as foods that contain them.
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