Nutrition Background Information
See the Additional Resources section at the end of this Teachers' Guide for more information.

What is a healthy diet?
There is plenty of nutrition information available out there. The problem is deciding what sources of information to trust. One good place to start is the Dietary Guidelines for Americans, published every five years by the U.S. Department of Agriculture (USDA) and updated to reflect the latest clinical research findings. The Dietary Guidelines describe a healthy diet as one that:

- Emphasizes fruits, vegetables, whole grains, and fat-free or low-fat milk and milk products;
- Includes foods high in protein, such as lean meats, poultry, fish, beans, eggs, and nuts; and
- Is low in saturated fats, trans fats, cholesterol, salt (sodium), and added sugars.

The food pyramid to the right provides general guidelines for a child’s daily food intake. This latest edition of the pyramid recognizes that what we eat is only half the equation and highlights the importance of daily activity. Being active is critical to maintaining a healthy weight and preventing chronic disease. (See What are calories? below.)

Some people think they can eat anything they want as long as they take daily vitamin supplements. Fruits, vegetables, and other whole foods, however, contain important substances, such as fiber and phytochemicals, not found in supplements. Because of this, nutrition experts recommend we get most of our nutrients from foods, rather than supplements or vitamin pills.
What’s the big deal about fruits and vegetables?
Strong scientific evidence from clinical research studies supports the benefits of eating a variety of fruits and vegetables every day. Beyond keeping all of our body systems functioning, research suggests that eating a diet rich in fruits and vegetables as part of an overall healthy diet may reduce risk for chronic diseases, such as stroke, coronary heart disease, and type 2 diabetes, and may help decrease bone loss.

And the more fruits and veggies we eat, the better. For example, research shows that eating five or more servings of fruits and veggies lowers our risk for cancer of the pancreas. By increasing to eight servings, we can also help prevent most digestive problems and significantly lower our risk for heart disease and stroke. If we eat eight or more servings a day, we are a third (30%) less likely to get these diseases than people who eat 1–2 servings a day. The Dietary Guidelines recommends 4–5 servings (2–2.5 cups) of fruit and 5–8 servings (2.5–4 cups) of vegetables per day, depending on our calorie needs. Go to http://mypyramid.gov/ to calculate your personal fruit and vegetable intake recommendations.

All fruits and vegetables are not created equal. Each type contains different vitamins, minerals, phytochemicals, and other nutrients. Eating a variety of fruits and vegetables every day can help us stay healthy. Color can be a good guide to nutrient content. For example, orange fruits and vegetables, such as squash, sweet potatoes, carrots, and cantaloupe, contain high amounts of Vitamin A. Eating a variety of colors helps ensure that our bodies get all the nutrients they need.

What are calories?
A calorie is a unit of energy that comes from food. When we eat food, calories become fuel for our bodies, giving us the energy to grow, play, and work. Eating enough calories also helps our bodies fight off illnesses. Without calories, our bodies would shut down. The number of calories we need in a day depends on our age, height, gender, activity level, and other factors.

Balancing the number of calories we consume with the number we burn, called energy balance, is a key component of a healthy diet and lifestyle. Calories consumed in excess of calories burned are stored as fat. High levels of fat stores in the body are associated with elevated risks of certain diseases. Regular exercise is an important part of maintaining energy balance. Even activities that don’t seem like exercise, like gardening, dancing, and playing at a park with your family, can burn off lots of calories and are also lots of fun!

What are nutrients?
Nutrients include fats, carbohydrates, proteins, vitamins, minerals, and water. Each of the nutrients plays an important role in our bodies. We can get all these nutrients from the five food groups outlined in the Food Pyramid.
- **Fats** give our bodies energy and help them absorb vitamins. They also give us healthy skin and hair. Fats are found in many foods, but the healthiest ones come from fish and plants, like nuts, olives, and avocados.
- **Carbohydrates** are a great source of quick energy. We can find carbohydrates in grains, beans, vegetables, and fruits.
- **Proteins** provide building blocks to construct, maintain, and replace the cells in our bodies. The Meat and Beans group contains foods with plenty of protein.
- **Vitamins and minerals** help our cells, tissues, and organs grow, maintain themselves, and defend against disease. We can find vitamins and minerals in many foods, but fruits and vegetables are a great source.
- **Water** has many important jobs such as keeping our bodies at a normal temperature and facilitating chemical reactions. Most of the human body is made up of water.

There are many other substances found in food that are important to staying healthy, including phytochemicals found in fruits and vegetables. Scientists are only beginning to understand the effects of these substances and how they interact with each other. The best way to ensure that our bodies get all of the nutrients they need to thrive is to eat a variety of fruits, vegetables, and whole grains.
Teaching Nutrition
Effective nutrition education should be fun! This may not come as a surprise, but it is nice to know that the days of the boring lecture on macro- and micronutrients are long gone. Research tells us that certain practices are most effective for communicating nutrition concepts to students and promoting healthy eating behaviors and lifestyle choices. The guidelines below come from the book *How to Teach Nutrition to Kids* by Connie Liakos Evers, MS, RD. These guidelines are based on learning theory and research.

Effective nutrition education requires:
- Instruction with a behavioral focus (better to focus on changing specific behaviors rather than on just learning nutrition facts)
- Use of active learning strategies (not just lectures)
- Devotion of adequate time and intensity to nutrition education (the time needed to impact attitudes and behavior is estimated at 50 hours per year)
- A family involvement component
- School meals and food-related policies that reinforce classroom nutrition education
- Teachers with adequate training in nutrition education
Additional Resources

The following resources provide information and activities that may be useful to supplement the Every Body Eats exhibit and Teachers’ Guide.

Websites for Parents and Teachers
http://www.kidnetic.com/Parents/ (Available in Spanish and English)
Includes a parents’ guide to nutrition as well as articles on specific nutrition topics

www.mypyramid.gov (English)
http://www.mypyramid.gov/sp-index.html (Spanish)
The U.S. government’s guide to healthy eating

http://www.nutrition.gov/ (English)
The U.S. government nutrition site, with links to many other government health websites

http://www.hsph.harvard.edu/nutritionsource/ (English)
Nutrition school of public health

http://www.fruitsandveggiesmatter.gov/ (English)
http://www.cdc.gov/nccdphp/dnpa/frutasyverduras/ (Spanish)
Great science information and practical healthy eating tips and resources from the Centers for Disease Control and Prevention

http://www.nutritionforkids.com/ (English)
Includes a nutrition newsletter, handouts and resources for teachers and parents, and more

http://www.programenergy.org/ (English)
More classroom activities for elementary school students focused on nutrition and healthy eating

www.omsi.edu/everybodyeats (Available in English and Spanish)
The OMSI Nutrition and Fitness site has nutrition information, online games based on the Everybody Eats exhibit, and links to other nutrition resources.

Websites for Students
www.kp.org/amazingfooddetective (Available in Spanish and English)
Amazing Food Detective is an online crime solving game that shows kids how to choose healthy foods and how to become more active.

http://www.kidnetic.com/ (English)
Games, information, and resources

http://www.bam.gov/ (English)
Information for kids about nutrition, physical activity, and other health and safety issues

http://nutritionforkids.com/kidactivities.htm (English)
Activities, recipes, links, and books

http://www.kidshealth.org/kid/centers/nutrition_center.html (English)
Nutrition and fitness information from Nemours Center for Children’s Health
Media, includes some resources in Spanish

http://www.cspinet.org/smartmouth/ (English)
Kid nutrition site from the Center for Science in the Public Interest

http://exhibits.pacsci.org/nutrition/nutrition_cafe.html (English)
Nutrition games and information from the Pacific Science Center, Seattle