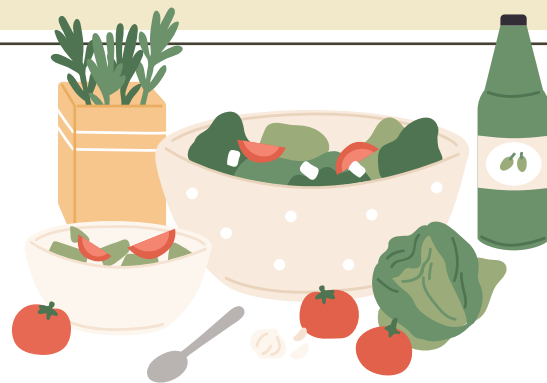


NUTRITION

protein, calories, water, minerals, carbohydrates, vitamins, dietary fiber, saturated fats, whole grain



WHAT IS NUTRITION?

Nutrients are the substances in our food that help our bodies grow, stay healthy, and keep moving. All the nutrients that our bodies need come from a variety of foods. To have proper nutrition, we need to eat more than just one type of food. Each nutrient plays an important role in satisfying our bodies' needs. Here is how the most important nutrients work for you:

PROTEIN

Supplies energy, builds cells and blood, and aids in the growth of healthy muscles, organs, skin, and hair.

Name some foods that are good sources of protein:

VITAMINS

Help your body release energy from carbohydrates, fats, and proteins, and help with other chemical reactions in the body. **Which foods contain the most vitamins?**

MINERALS

Build strong bones and teeth, make hemoglobin in red blood cells, help maintain body fluids, and help other body chemicals. **Which foods have the most minerals?**

CARBOHYDRATES

Your major fuel. Mainly starches and sugars. **Name some foods that contain carbohydrates:**

FATS

Stored in muscle fibers, provide energy, help your body absorb vitamins, and add flavor to food. **Give examples of some foods high in fat:**

WATER

Makes up more than 60% of your body and helps carry nutrients to cells.

VOCABULARY

CALORIE — a unit of energy measured in food or drinks

CEREAL GRAINS — plants in the grass family that produce edible seeds such as wheat, rice, oats, and corn

DIET — consists of the food and drinks that you consume daily

DIETARY FIBER — nutrients in the diet that are not digested but are still necessary

LEAFY GREENS — the above-ground green leaves of a plant such as kale, spinach, and lettuce

LEGUMES — a family of plants that produce their seeds in pods such as peas, soybeans, most beans, and peanuts

MYPLATE — a nutritional food guide made by the United States Department of Agriculture (USDA)

NUTRIENT DEFICIENCY — occurs when the body does not get enough of each nutrient such as vitamins and minerals

SATURATED FAT — fat that is solid at room temperature such as shortening and butter

UNSATURATED FAT — fat that is liquid at room temperature such as vegetable oils and oil from nuts and seeds

WHOLE GRAIN — foods that use all three parts of the grain including the bran, endosperm, and the kernel

MY PLATE

Visit [MyPlate.gov](https://www.MYPlate.gov) to learn more.

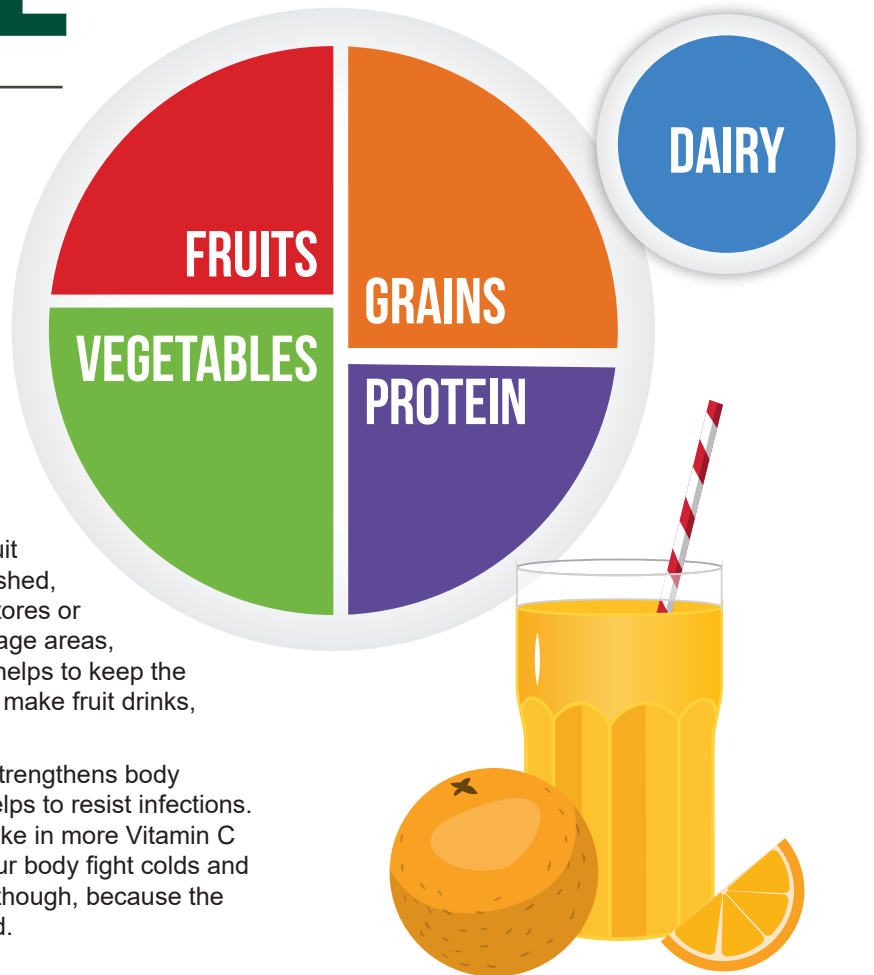
GETTING STARTED WITH MYPLATE:

Try to balance your food groups to reflect the proportions on the MyPlate graphic. The following serving sizes are recommendations based on a 2000 calorie per day diet for physically active 9-13 year olds. Find out which food plan is recommended for you at [MyPlate.gov](https://www.MYPlate.gov).

FOCUS ON FRUITS: *2 cups per day*

In Illinois, many farms grow peaches and apples. After the fruit is harvested by hand or machine, it is taken by truck to a packing house. Some orchards/fruit farms have their own packing houses. The fruit is washed, sorted, and packaged. The fruit is then delivered to stores or food processing plants by truck, train, or boat. In storage areas, the temperature is cool and oxygen is reduced. This helps to keep the fruit fresh. At the processing plants, fruits are used to make fruit drinks, pie fillings, jellies, and other products.

Fruits are a good source of Vitamin C. Vitamin C strengthens body cells, promotes healing of wounds and bones, and helps to resist infections. Athletes with broken bones or other injuries should take in more Vitamin C to help their bodies heal. Vitamin C may also help your body fight colds and illnesses. Make sure to not take too much Vitamin C though, because the unneeded amount will simply leave your body unused.



MAKE HALF YOUR GRAINS WHOLE: *6 ounces per day*

Grains are plants such as wheat, rice, corn, barley, rye, oats, and sorghum. They have a high starch content and are an excellent source of energy. They are used to feed people and livestock. Farmers feed livestock farm-grown grain and commercially prepared mixed foods. Sometimes grain is consumed directly by eating the actual grain. Grain is also consumed indirectly when people eat livestock products such as meat, eggs, and milk. Grains can also be processed into flour, starches, and oil, which are used in bread, pasta, cooking oil, and other food products. In 2019, Illinois ranked

11th in wheat production, growing 36.9 million bushels of wheat.

Grains are complex carbohydrates. Athletes get most of their energy for exercising from carbohydrates because they are the main source of energy for the red blood cells and the central nervous system.

Choose whole-grain foods, such as whole-wheat bread, oatmeal, brown rice, and low-fat popcorn more often to get the most nutritional value from grains.



GET CALCIUM-RICH DAIRY FOODS *3 cups per day*

Dairy farming is a leading agricultural field in the United States. Dairy cows produce about 22 billion gallons of milk each year. Illinois has about 102,000 dairy cows that produce close to 2 billion pounds of milk each year. This milk is used to drink, or to make foods such as butter, ice cream, cheese, and other dairy products.

The dairy cow performs a very important job in our food production industry. Dairy cows can change grass and certain grains, which people cannot eat, into milk. A good milk-producing cow will give 20,000-30,000 pounds of milk each year.

The required daily servings from the milk group provide young athletes with calcium, protein, riboflavin, and Vitamin D. These nutrients can be found in milk, cheese, yogurt, cottage cheese, ice cream, and other dairy products. Calcium makes up the 206 bones that are in our bodies, so we need to take in calcium every day. Calcium helps our bones and teeth to grow and stay strong. It also helps to regulate muscle contraction, helps blood clot, and helps to conduct nerve impulses.



VARY YOUR VEGGIES *2 ½ cups per day*

Vegetables provide us with protein and are a good source of fiber, which helps the digestive system. They also provide potassium, which regulates blood pressure and helps nutrients pass into cells. Vegetables such as potatoes, corn, and peas provide high amounts of protein. Vitamins C and A, provided by some vegetables, are necessary for the growth of body tissue. Vegetables such as broccoli, spinach, and green peppers are good sources of Vitamin C. Carrots, squash, and spinach provide high amounts of Vitamin A, which also helps the body fight infections and maintain healthy skin and eyes. Many vegetables are grown and sold in farmers markets. Illinois ranks 3rd in the nation for the number of farmers markets.



GO LEAN WITH PROTEIN *5 ½ ounces per day*

BEEF

Cattle are raised on more than 1 million farms and ranches in the United States. Modern beef production involves ranchers, farmers, feedlot operators, meat packers and processors, truck drivers, and retailers. All these people help to bring beef to us.



Total beef production in the United States is close to 27.5 billion pounds. Each person consumes about 61 pounds of beef each year. The breeds of cattle used today have been cross-bred for uniform and desirable characteristics. The ratio of fat to muscle, the animal's resistance to disease, and improved growth rate are characteristics that farmers have worked to improve in beef cattle.

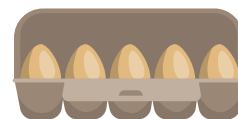
PORK

Today, pigs are raised all across the United States. Over 11 million pigs are raised in Illinois annually, ranking Illinois 4th in pork production. Producers raise pigs that weigh more, grow more efficiently, and yield more lean meat than ever before. Bacon, pork sausage, pork chops, and ham all come from pigs, along with over 500 different by-products. Pig by-products include items such as glass, china, floor wax, chalk, and crayons.



POULTRY AND EGGS

Chickens are raised in two different categories: broilers or layers. Broilers provide low-fat meat that is high in protein. The breast is the leanest part of the chicken and removing the skin, either before or after cooking, lowers the fat content even further. Layers are hens raised for the eggs that they lay. An average layer will provide about 240 eggs in a year. Illinois produces nearly 128 million dozen eggs each year. Eggs are a great high-protein option as well. Interestingly, a brown egg and a white egg have the same nutritional value.



Pork, beef, and chicken are important in our diet because each contains high amounts of protein. Protein helps to form muscle, hemoglobin, enzymes, and hormones. Athletes need more protein than non-athletes because exercise may promote a loss of muscle protein.

COLORS ON YOUR PLATE

Think about all the foods you eat in a day. Do you eat more of some food groups than others? Is your plate following the MyPlate recommendations? Take a paper plate and draw and color your favorite foods that would fit into each food category. What color or colors fill your plate while also filling your body with the necessary nutrients?

PHYSICAL ACTIVITY

Nutrition and physical activity are both important parts of being healthy. Physical activity means movement of the body that uses energy. Walking, gardening, climbing the stairs, playing sports, riding your bike, swimming, or dancing the night away are all good examples of being active. Children and teenagers should be physically active for 60 minutes every day, or most days.

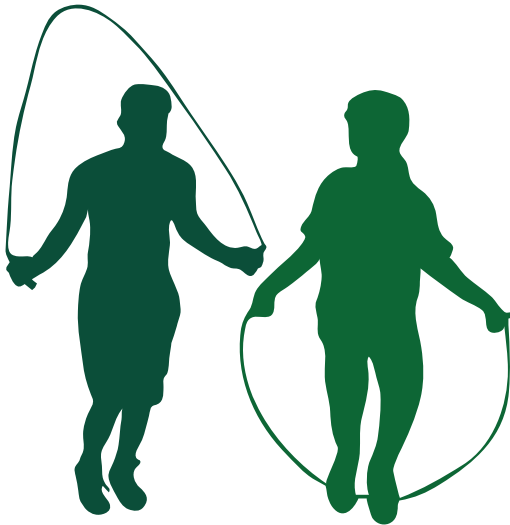
HEALTHY HOPPING:

Almost all food contains calories. Calories give you energy. Your body naturally burns calories when you are active. If you don't burn enough calories with physical activity, it can lead to weight gain. That is just one reason exercise is an important part of staying healthy. Exercise can strengthen your heart and muscles, lower your body fat, and reduce your risk of many diseases.

Check your resting heart rate before doing any exercise. Record your heart rate again after jumping rope for 5 minutes.

1. Resting Heart Rate (before exercising): _____
2. Heart Rate after jumping rope: _____
3. What is the difference? (subtract Resting Heart Rate from Heart Rate after jumping rope): _____

Try testing your heart rate by doing different exercises for the same amount of time. You could run for 5 minutes, play basketball for 5 minutes, etc. Or, do it as a class and split up into groups to test the exercises (Don't forget to always retest your resting heart rate before doing an exercise)



CAREERS

DIETITIANS

A dietitian works to create nutrition plans to improve the health of patients. They look at an individual's health goals and develop a plan to make sure that all nutritional requirements are being met. Dietitians also work to educate others about nutrition and how to maintain a balanced diet.

FOOD SCIENTIST

Food Scientists use chemistry and biology to study elements of food and their nutritional value. Food Scientists work in a variety of places. Some work in the research and development of new ways to process food and alternate food sources. Others work as quality control inspectors or production supervisors in processing plants. Food Scientists play an important role in making sure the food we consume is safe and healthy.

VETERINARY NUTRITIONIST

Nutrition is important not only for people, but for animals too. Veterinary Nutritionists are certified vets who work to make sure that animals are meeting their nutritional requirements. Like a human dietitian, a veterinary nutritionist develops diets and food plans to make sure that animals are receiving the nutrients that they need to grow and develop properly.

DID YOU KNOW?

- March is National Nutrition Month.
- Most fruits are naturally low in fat, sodium and calories and have no cholesterol.
- Milk has been a part of school lunches for over 70 years because of the passing of the National School Lunch Act in 1946.
- Pork is the world's most widely eaten meat.
- As a hen ages, her eggs increase in size.
- One bushel of wheat would make 5,000 four-inch cookies.
- Soybeans are the number one ingredient in vegetable oil.