

# Nutrition Facts for Better Meals

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## Guide E-113

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Nutrition is the science of how the body uses food to nourish the body. Nutrients are chemical substances the body needs for building, maintaining, and repairing body tissues and efficient body functioning. Specifically, nutrients provide the following:

- Materials necessary for growth, maintenance, and repair of body tissues. Protein, minerals, and water are necessary for the body to build and repair bones and tissues throughout life.
- Regulators for all the body processes. Vitamins, minerals, water, and proteins do this job.
- Fuel for energy for work and play. Carbohydrates, fats, and proteins are fuel nutrients.

Nutrients fall into six general classes: carbohydrates, proteins, fats, vitamins, minerals, and water.

Carbohydrates, fats, and proteins furnish fuel to provide energy for the body. Both carbohydrates and proteins furnish 4 calories per gram. Fat provides 9 calories per gram.

Vitamins and minerals are necessary for regulating body processes.

Water accounts for 70% of the body's weight. Water is a part of all body fluids and is necessary for regulating temperature, digesting food, transporting nutrients to the cells, and eliminating body wastes.

Although everyone needs the same nutrients, they need different amounts. For example, children need more protein to build tissues as they grow. Men and women have varying requirements for different nutrients. For example, women need more iron than men. Large people need more nutrients than small people. Active people require more nutrients than inactive ones. People recovering from an accident or illness need more of certain nutrients than healthy people. Also, people who have an immune deficiency from a disease, such as cancer or AIDS, require more nutrients.

The body needs more than 40 different nutrients. Although nutrients are found in all foods, some foods

are better sources than others. The body needs the following key nutrients in proper amounts:

### Protein

Protein is critical for building body tissue. Protein breaks down to simpler compounds called amino acids. The body needs 22 amino acids, and all but 8 can be manufactured by the body. These 8 essential amino acids must be obtained from food. Foods containing all 8 amino acids in adequate amounts include meat, fish, poultry, eggs, milk, and cheese. Dried beans and peas, nuts, peanuts and peanut butter also contain large amounts of all essential amino acids. An adult can get adequate amounts of all essential amino acids by consuming animal products or a variety of plant products. Because children have higher protein needs, a person should consult with a dietitian before eliminating all animal protein sources from a child's diet.

### Calcium

Calcium is a mineral needed to build bones and teeth. Most calcium in the body is stored in the bones and available to the fluids and soft tissues that regulate vital body processes. The best sources of calcium are milk and milk products. Other good sources are dark green leafy vegetables, canned fish with bones, dry beans, and corn tortillas. Calcium needs phosphorus and vitamin D to be used properly. Phosphorus is found in foods that contain protein and calcium. A good supply of these foods will insure enough phosphorus.

### Iron

Iron is critical to the formation of red blood cells, which carry oxygen to the cells of the body. Good sources of iron are red meat, poultry, fish, dark green vegetables, peas and beans, dried fruits, dark molasses, and whole grain or enriched breads and cereals.

To find more resources for your business, home, or family, visit the College of Agriculture and Home Economics on the World Wide Web at <http://www.cahe.nmsu.edu>

## Vitamin A

Vitamin A is important for growth, normal vision, and keeping the skin, eyes, and linings of the body healthy. Although vitamin A is found only in animal foods, another substance called betacarotene, which the body converts to vitamin A, is found in deep yellow and dark green leafy vegetables. Vitamin A and betacarotene are found in liver, butter, margarine, egg yolk, fortified milk and cheese, as well as broccoli, carrots, spinach, pumpkin, sweet potatoes, cantaloupe, and chile.

## Vitamin C

Vitamin C, also called ascorbic acid, helps keep blood vessels and connective tissue strong. It's also necessary for forming teeth and bone and healing wounds. Vitamin C needs to be included in the diet every day because it is not stored in the body. Best sources are citrus fruits, green peppers, green chile, and strawberries. Other good sources are tomatoes, cabbage, melons, broccoli, and potatoes.

## B Vitamins

Thiamine, riboflavin, and niacin are the best known of the B vitamins. These vitamins are important for a good appetite, healthy skin, digestion, and proper nerve functioning. Meats, whole grains, and enriched breads and cereals are good sources. Milk is an excellent source of riboflavin and pork is a good source of niacin.

## Folate

Folate is one of the B vitamins. Folate is also called folic acid and folacin. Folate is necessary for proper blood cell formation and cell growth. Folate is important in pregnancy to ensure proper development of the baby and prevention of certain birth defects. It is especially critical during the first 6 weeks of pregnancy. Good sources of folate include dried beans and peas, green leafy vegetables, liver, oranges and orange juice, peanuts, sunflowers seeds, and whole grains.

## Vitamin D

Vitamin D, in combination with calcium and phosphorous, is necessary for forming strong bones and

teeth. Vitamin D comes from sunshine, egg yolk, butter, liver, canned fish, and vitamin D–fortified milk

It isn't necessary to shop with a nutrient guide to select healthy foods. Follow the guidelines below to assure you get plenty of all 40 nutrients. In general, vegetables and fruits with darker color have a higher amount of vitamins like vitamin A and folate. Choose dark green vegetables and deep yellow (or orange) vegetables and fruits often. Most people should have at least the lower number of servings from each group. Some people may need more because of their body size and activity level. Young children should eat a variety of foods, but may need smaller servings.

Food group/daily servings	What counts as a serving
Breads, cereals, rice and pasta 6–11 servings	1 slice bread 1/2 bun 1 plain bagel 1 oz dry cereal 1/2 cup cooked cereal, rice, pasta
Fruits 2–4 servings	1 med. apple, banana, orange 1/2 cup fresh fruit 3/4 cup juice
Vegetables 3–5 servings	1 cup raw leafy greens 1/2 cup other kinds of vegetables
Milk, yogurt and cheese 2–3 servings	1 cup milk 8 oz yogurt 1 1/2 oz natural cheese 2 oz processed cheese
Meat, poultry, fish, dry beans and peas, eggs, nuts and seeds 2–3 servings	2–3 oz cooked meat, poultry, or fish Count 1/2 cup cooked beans, 1 egg, or 2 Tbsp peanut butter as 1oz of meat

Source: USDA'S Food Guide

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