

# NUTRIENTS: MINERALS

Minerals are required by all humans in small amounts. Minerals come from the earth and therefore are available for us in a variety of plant foods, animal foods, and even in the water we drink. Minerals do not provide our bodies with calories but are an important part of our diet. They help our body carry out functions that are necessary to have a healthy and long life. There are two different categories of minerals; major minerals and trace minerals. We need major minerals in greater quantities than trace minerals, but both types of minerals are equally important. Major minerals include calcium, magnesium, phosphorous, potassium, and sodium. Trace minerals include copper, iodine, iron, manganese, and zinc.

Major Mineral Name	Mineral Function	Top 5 Food Sources
Calcium	Important for strong bones and teeth, blood clotting*, and muscle contraction and relaxation.	Milk, yogurt, cheese, broccoli, kale, fortified* orange juice
Magnesium	Helps turn food into energy. Important to build enzymes* and antioxidants*. Important for strong bones.	Oat bran, brown rice, almonds, lima beans, spinach
Phosphorous	Important for strong bones and teeth. Helps turn food into energy and to store extra energy for later use. Activates many hormones* and enzymes* in the body.	Dairy products, beef, seafood, lentils, almonds
Potassium	Important for water balance*, muscle contraction, and nerve impulses. Works with sodium to control blood pressure.	Potatoes, prunes, tomatoes, bananas, beans
Sodium	Important for water balance* and muscle contraction and relaxation. Works with potassium to control blood pressure.	Table salt, canned foods, processed foods (We only need 1500 milligrams of sodium per day)

Trace Mineral Name	Mineral Function	Top 5 Food Sources
Copper	Helps turn food into energy. Important for certain brain and nerve functions. Helps our body pull iron out of food to use.	Liver, seafood, nuts, lentils, semisweet chocolate
Iodine	Important to make certain hormones, especially for the thyroid gland*. Also important for growth, development, metabolism*, and reproduction.	Iodized salt, seafood, milk, navy beans, potatoes
Iron	Carries oxygen through the body and helps build red blood cells. Also helps turn food into energy.	Meat, seafood, dark leafy greens, lentils, raisins
Manganese	Important to turn food into energy. Also important for healthy bone and cartilage formation.	Pecans, oatmeal, brown rice, spinach, almonds
Zinc	Important for a strong immune system to keep you healthy. Important for a good sense of taste and smell.	Nuts, beans, wheat germ, yogurt, bread made with yeast

**References:**

Insel P, Turner RE, Ross D. *Discovering Nutrition*. 3<sup>rd</sup> ed. Sudbury, MA. Jones and Bartlett; 324-480.

Micronutrient Information Center. Linus Pauling Web Site.

<http://ipi.oregonstate.edu/infocenter/vitamins.html>. Accessed October-November 2012.

<b>* Word Bank</b>	<b>Definition</b>
Antioxidant	A substance in the body that prevents damage to cells.
Blood Clotting	A process that stops bleeding.
Enzymes	Proteins in the body that speed up chemical reactions.
Fortified	The addition of extra vitamins, minerals or fiber to a food product to increase its nutritional value.
Hormones	A chemical released by a gland or tissue that affects the activity of another cell or organ.
Metabolism	All chemical reactions that help a body maintain life.
Thyroid Gland	A gland in the neck that secretes hormones that regulate growth, development, metabolism, and reproductive function.
Water Balance	The ratio of water in the body compared to the water lost from the body.

This material was funded by USDA's Supplemental Nutrition Assistance Program – SNAP. The Supplemental Nutrition Assistance Program (SNAP) provides nutrition assistance to people with low income. It can help you buy nutritious foods for a better diet. To find out more, contact 1-800-221-5689 or visit online at <http://www.fns.usda.gov/snap/>. In accordance with Federal Law and U.S. Department of Agriculture policy, this institution is prohibited from discriminating on the basis of race, color, national origin, sex, age, religion, political beliefs or disability. To file a complaint of discrimination, write USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800)795-3572.

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