



NUTRI-FACTS: VITAMINS AND MINERALS

Vitamins and minerals are nutrients that your body needs to stay healthy and perform at its peak.¹ Vitamins are organic substances that are made by plants or animals.¹ Whereas, minerals are inorganic substances found in soil and water that are absorbed by plants or eaten by animals.¹ Each nutrient has its own job, such as building muscle, fighting infection, or getting energy from food.² Together, vitamins and minerals are known as micronutrients because you only need small amounts to help your body function properly.¹ If you eat a balanced diet of nutrient-dense foods, you should get all the vitamins and minerals that your body needs.^{1,2} However, in some cases dietary supplements may be necessary; and it is recommended that you consult your health care provider first if you think you need supplements.²

Vitamins

There are two types of vitamins – fat soluble and water soluble. Fat soluble vitamins dissolve in fat and can be stored in the body.³ Because your body retains fat soluble vitamins, excess intake can lead to health problems.³ Water soluble vitamins dissolve in water and are not stored in the body.³ Because your body excretes water soluble vitamins, you need to replace these vitamins regularly.³ Regardless of the type, it is advised that you consume the Recommended Daily Allowances (RDA) or Adequate Intakes (AI) in milligrams (mg), micrograms (mcg), or international units (IU) for each vitamin.³

Fat Soluble Vitamins⁴

Vitamin	Health Benefit	Source	RDA/AI (mg/mcg/IU)
Vitamin A	Supports immune and reproductive systems, and maintains bone, skin, and eye health	Sweet potatoes, spinach, carrots, and fortified cereal	900 mcg/men; 700 mcg/women
Vitamin D	Absorbs calcium to build strong bones	Sunlight, fatty fish, eggs, and fortified milk, juice, and cereal	600 IU
Vitamin E	Protects against cell damage	Sunflower seeds, almonds, vegetable oil, and fortified cereal	15 mg
Vitamin K	Helps with blood clotting and builds strong bones	Spinach, collards, kale, broccoli, and cabbage	120 mcg/men; 90 mcg/women

Water Soluble Vitamins⁴

Vitamin	Health Benefit	Source	RDA/AI (mg/mcg/IU)
Vitamin C	Prevents cell damage, promotes iron absorption, promotes healthy skin, and boosts immune system	Oranges, kiwi, strawberries, broccoli, tomatoes, and red and green peppers	90 mg/men; 75 mg/women
Thiamin (B1)	Helps convert food into energy	Whole grain and fortified bread and cereal products	1.2 mg/men; 1.1 mg/women
Riboflavin (B2)	Helps convert food into energy and make red blood cells	Milk, bread, and fortified cereal	1.3 mg/men; 1.1 mg/women
Niacin (B3)	Aids digestion and reduces cholesterol	Meat, fish, poultry, whole grains, and fortified cereal	16 mg/men; 14 mg/women
Pantothenic Acid (B5)	Helps convert food into energy	Beef, poultry, potatoes, oats, and tomatoes	5 mg
Pyridoxine (B6)	Supports the immune system	Fortified cereal and soy products, potatoes, and chickpeas	1.3 mg
Biotin (B7)	Promotes cell growth and maintains healthy hair and nails	Fruit, meat, and liver	30 mcg
Cobalamin (B12)	Produces red blood cells and keeps the nervous system working properly	Clams, oysters, fish, meat, poultry, dairy, and fortified cereal	2.4 mcg
Folic Acid	Prevents birth defects and supports heart health	Broccoli, spinach, collard, whole grains, and fortified cereal	400 mcg



Minerals

Minerals are categorized based on the amount your body needs to function properly. Both types of minerals are equally important to overall health; however, major minerals are needed in larger amounts than trace minerals.⁵ It is advised that you consume the RDA or AI for each mineral, as they have different health benefits.⁵

Tips for Getting More Vitamins and Minerals

The best way to get all the vitamins and minerals that your body needs is to eat a balanced diet of nutrient-dense foods every day. Select 100% whole grains, lean proteins, fruits, vegetables, and fat-free or low-fat dairy products. These power-packed foods contain the most vitamins and minerals, which provide you with quality energy for the least amount of calories. Be sure to limit processed and prepared foods, such as prepackaged and convenience foods. They often contain high amounts of calories, sodium, added sugars, and fat. You can also check out [HPW Healthy Eating](#) and follow these tips:

- ▶ Make half your plate fruits and vegetables
- ▶ Make at least half your grains 100% whole grains
- ▶ Switch to fat-free or low-fat milk
- ▶ Choose foods with less sodium
- ▶ Avoid oversized portions
- ▶ Drink water instead of soda or sugary drinks
- ▶ Check out [HPW Healthy Eating](#) for more nutrition tips

Supplements

Nutrient deficiencies are rare in the United States.⁶ Most individuals are able to meet their vitamin and mineral needs by eating a variety of healthy foods.⁶ However, some individuals may require supplemental nutrients.⁶ For example, those who are wounded, ill, or injured (WII) may need additional zinc and vitamins A and C for healing.⁶ Proper nutrition is a powerful weapon in fighting illness and recovering from psychological, emotional, and physical wounds. Check out the [WII Toolbox on Nutrition](#) for more information. Likewise, vegetarians and vegans may need to take a vitamin B12 supplement to compensate for the lack of animal products in their diet.⁶ For more information check out [Food First, Supplement Second](#) and be sure to consult your health care provider before taking a supplement.

Major Minerals⁴

Mineral	Health Benefit	Source	RDA/AI (mg/mcg/IU)
Calcium	Strengthens bones, and aids muscle contraction	Milk, yogurt, cheese, kale, and fortified dairy alternatives (soy milk)	1000 mg
Phosphorous	Activates hormones and builds strong bones	Milk, beef, seafood, eggs, and lentils	700 mg
Potassium	Aids nerve function and controls blood pressure	Potatoes, bananas, yogurt, tuna, and soy	4700 mg
Magnesium	Builds strong bones and aids muscle and nerve function	Oat bran, brown rice, and almonds	400-420 mg/men; 310-320 mg/women
Sodium	Controls muscle contraction, fluid balance, and blood pressure	Table salt and canned and processed foods	1500 mg
Sulfur	Maintains healthy hair, skin, and nails	Meat, fish, eggs, poultry, garlic, and milk	n/a
Chloride	Aids digestion and maintains fluid balance	Table salt, seaweed, rye, and tomatoes	2300 mg

Trace Minerals⁴

Mineral	Health Benefit	Source	RDA/AI (mg/mcg/IU)
Iron	Produces red blood cells and helps transport oxygen throughout the body	Beef, eggs, beans, and fortified cereal	8 mg/men; 18 mg/women
Copper	Helps absorb iron and aids nerve function	Liver, nuts, seafood, and whole grains	900 mcg
Iodine	Required by the thyroid to produce thyroid hormones	Iodized salt, dairy, and seaweed	150 mcg
Manganese	Builds strong bones	Nuts, beans, tea, and whole grains	2.3 mg/men; 1.8 mg/women
Zinc	Supports immune, nervous, and reproductive systems	Meat, seafood, and fortified cereal	11 mg/men; 8 mg/women
Fluoride	Prevents tooth cavities	Fluoridated water and some fish	4 mg/men; 3 mg/women
Chromium	Component in managing blood sugar levels	Broccoli, potatoes, meat, fish, and poultry	35 mcg/men; 25 mcg/women
Selenium	Protects cells from damage	Organ meats, seafood, dairy, and Brazil nuts	55 mcg
Molybdenum	Needed to make some enzymes	Green, kidney, and navy beans; peas; and nuts	45 mcg

To view the references for the Nutri-Facts series, visit:

[HTTP://WWW.MED.NAVY.MIL/SITES/NMCPHC/HEALTH-PROMOTION/PAGES/NUTRI-FACTS_REFERENCES.ASPX](http://www.med.navy.mil/sites/nmcphc/health-promotion/pages/nutri-facts_references.aspx)