



Kids' Vitamin & Mineral Chart

VIATMIN/MINERAL	ACTION	FOOD SOURCES	SUPPLEMENT DOSAGE	NOTES
Fat-soluble vitamins>> Because these nutrients are stored in fatty tissues within the body, it's wise to note recommended upper limits (UL). (Too much of even essential vitamins may cause problems.)				
A	Antioxidant needed for eye and skin health and immunity	Animal foods, fish liver oil	1-3 yr 300 mcg (UL 600) 4-8 400 mcg (UL 900) 9-13 600 mcg (UL 1700) 14-18 900 mcg (UL 2800)	Parents should be aware of upper intake levels of vitamin A, especially since some children's cereals are fortified with this fat-soluble vitamin.
D	Controls calcium levels; critical for bone and tooth growth	Cod liver oil, fatty fish, egg yolks, dairy products	1-18 yr 5 mcg (UL 50)	Take with calcium. Be aware of upper limits, as vitamin D is added to milk and other fortified products.
E (D-ALPHA TOCOPHEROL)	Antioxidant that protects against cancer, cataracts, and heart disease	Wheat germ oil, almonds and dl-alpha tocopherol). other nuts, cold-pressed vegetable oils	1-3 yr 6 mg (UL 200) 4-8 7 mg (UL 300) 9-13 11 mg (UL 600) 14-18 15 mg (UL 800)	Avoid synthetic E (Wheat germ oil, almonds and dl-alpha tocopherol).
K	Helps with blood clotting, bone formation and repair	Cruciferous and leafy green vegetables, green tea	1-3 yr 30 mcg ND 4-8 55 mcg ND 9-13 60 mcg ND 14-18 75 mcg ND	Data on the adverse effects of vitamin K is limited, so caution may be warranted. The upper limit (UL) has not been determined.
Water-soluble vitamins>> Even with therapeutic doses, these vitamins are not stored in the body, except for vitamin B12, which is nontoxic.				
B1 (THIAMINE)	Enhances brain function, circulation, digestion, and energy production	Brewer's yeast, whole grains, wheat germ, dairy, egg yolks, soy milk	1-3 yr .5 mg 4-8 .6 mg 9-13 .9 mg 14-18 1.2 mg	Consumption of refined food increases need; antibiotics and drugs can deplete levels.
B2 (RIBOFLAVIN)	Essential to antibody production, generation of energy, and tissue respiration; reduces effects of stress	Almonds, brewer's yeast, Easily destroyed by alkali and light. meats, milk, soybeans	1-3 yr .5 mg 4-8 .6 mg 9-13 .9 mg 14-18 1.3 mg	Easily destroyed by alkali and light.
B3 (NIACIN)	Essential for healthy circulation, Skin, and nerves; lowers cholesterol; enhances memory	Beef liver, brewer's yeast, broccoli, carrots, eggs, fish, nuts, wheat germ, whole wheat	1-3 yr 6 mg 4-8 8 mg 9-13 12 mg 14-18 14 mg	Fatigue, irritability, and sleeplessness may signal niacin deficiency.
B5 (PANTOTHENIC ACID)	Fights stress; supports production of adrenal hormones and antibodies; enhances stamina	Brewer's yeast, eggs, Helps speed wound healing. legumes, mushrooms, organ meats, peas, royal jelly, torula yeast, whole wheat	1-3 yr 2 mg 4-8 3 mg 9-13 4 mg 14-18 5 mg	Helps speed wound healing.
B6	Enzyme cofactor; promotes red blood cell formation; mild diuretic; important in sodium/potassium balance	Bananas, brewer's yeast, brown rice, carrots, chicken, eggs, fish, organ meats, pork, potatoes, sunflower seeds, whole-grain cereals	1-3 yr .5 mg 4-8 .6 mg 9-13 1 mg 14-18 1.3 mg	Helpful for allergies, asthma, carpal tunnel, PMS.
B9 (FOLIC ACID)	Important in genetic, metabolic, and nervous system processes; needed for healthy red blood cells	Leafy greens, asparagus, blackeyed peas, brewer's yeast, fortified grains, lentils, lima beans, rice germ, soy flour, spinach	1-3 yr 150 mcg 4-8 200 mcg 9-13 300 mcg 14-18 400 mcg	Food processing can destroy folic acid in foods, so manufacturers are beginning to add it back; check labels.
B12	Prevents anemia; needed for cell formation, digestion, absorption of food, and metabolism	Clams, fish, eggs, dairy Vegans often need B12 supplements. foods, organ meats, sea vegetables, brewer's yeast, soy	1-3 yr .9 mcg 4-8 1.2 mcg 9-13 1.8 mcg 14-18 2.4 mcg	Vegans often need B12 supplements.

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Kids' Vitamin & Mineral Chart *continued*

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BIOTIN	Synthesis and utilization of amino acids and fats; promotes healthy hair, nails, and skin	Brewer's yeast, fruits, milk, rice bran, vegetables	1-3 yr 8 mcg 4-8 12 mcg 9-13 20 mcg 14-18 25 mcg	Brittle nails are a sign that biotin levels may be low; deficiency can cause depression and elevated blood sugar levels.
CHOLINE (Not strictly water soluble)	Aids transmission of nerve impulses; supports brain function and fat metabolism	Lecithin, egg yolks, legumes, soy, meat, milk, whole grains	1-3 yr 200 mg 4-8 250 mg 9-13 375 mg 14-18 400 mg	Beneficial for brain function, prevention of heart disease.
C	Antioxidant needed for 300 different metabolic functions in the body: adrenal gland function, tissue growth and repair, and anti-inflammatory action	Berries, citrus fruits, Brussels sprouts, leafy greens, cauliflower, winter squash, asparagus	1-3 yr 15 mg 4-8 25 mg 9-13 45 mg 14-18 75 mg	Works synergistically with beta carotene, E, and selenium; children who live with someone who smokes are encouraged to meet the RDA for vitamin C.
Important minerals>> These naturally occurring elements remain in the body, so consider upper intake levels.				
CALCIUM	Essential for strong bones and teeth, healthy gums	Dairy foods (and fortified substitutes), leafy greens, sardines	1-3 yr 500 mg 4-8 800 mg 9-18 1300 mg	Works synergistically with beta carotene, E, and selenium; children who live with someone who smokes are encouraged to meet the RDA for vitamin C.
COPPER	Aids in red blood cell, bone, and collagen formation	Almonds, avocados, legumes, broccoli, oats, seafood, soybeans	1-3 yr 340 mcg (UL 1 mg) 4-8 440 mcg (UL 3 mg) 9-13 700 mcg (UL 5 mg) 14-18 890 mcg (UL 8 mg)	Consider hidden sources that include copper pans and plumbing.
IRON	Essential to blood cell production, growth, immune health, and energy production	Eggs, fish, liver, meat, leafy vegetables, whole grains	1-3 yr 7 mg (UL 40) 4-8 10 mg (UL 40) 9-13 8 mg (UL 40) 14-18 Males 11 mg (UL 45) Females 15 mg (UL 45)	Not recommended for anyone with a serious infection.
MAGNESIUM	Vital for enzyme activity and energy production	Dairy, fish, leafy greens, meat, seafood	1-3 yr 80 mg 4-8 130 mg 9-13 240 mg 14-18 410 mg	Fat-soluble vitamins and foods high in oxalic acid (chard, rhubarb, spinach) can hinder absorption.
MANGANESE	Needed for fat and protein metabolism, energy production, healthy nerves, and immune system	Avocados, nuts, seeds, Note upper intake levels. sea vegetables, whole grains	1-3 yr 1.2 mg (UL 2) 4-8 1.5 mg (UL 3) 9-13 1.9 mg (UL 6) 14-18 2.2 mg (UL 9)	Note upper intake levels.
SELENIUM	Anticancer antioxidant; works best with vitamin E to protect heart and liver	Brazil nuts, brewer's and torula yeast, broccoli, brown rice, meat, seafood, whole grains	1-3 yr 20 mg 4-8 30 mg 9-13 40 mg 14-18 55 mg	Selenium is needed in supplement form because soils in much of the U.S. are deficient in this mineral.
ZINC	Important in immune and reproductive health; deficiency results in loss of sense of smell and taste	Brewer's and torula yeast, egg yolks, legumes, soy, seafood, sea vegetables, whole grains	1-3 yr 3 mg (UL 7) 4-8 5 mg (UL 12) 9-13 8 mg (UL 23) 14-18 Males 11 mg (UL 34) Females 9 mg (UL 34)	Note upper intake levels (too much can depress immune function); deficiencies have been linked to eating disorders and retarded growth.

SELECTED SOURCES "Dietary Recommendations for Children and Adolescents: A Guide for Practitioners" by American Heart Association et al., *Pediatrics*, 2/06 ● *Smart Medicine for a Healthier Child* by Janet Zand, ND, LAc, Robert Rountree, MD, and Rachel Walton, RN (\$22.95, Penguin Group/Avery, 2003)