
The ABC's of Vitamins

You take a vitamin tablet in the morning. Someone says eat your fruit and vegetables because they have vitamins. What's so important about vitamins? While they do not provide energy like protein from meat and sugar from breads, they do help to convert this energy into the energy your body uses.

Since our bodies can't make vitamins we need to get them from the food we eat. There are 11 vitamins we need to get from the foods we eat.

Four of these vitamins dissolve in fat (are fat soluble). They are found in foods that contain fat and are stored in fat in our body - vitamins A, D, E, and K.

Seven of these vitamins dissolve in water (are water soluble). They are not stored in our body. The seven vitamins are B vitamins that include thiamin, riboflavin, niacin, folate, B₆, B₁₂ and vitamin C.



Visit *Ask a Biologist* to find out.
<http://askabiologist.asu.edu/research/scurvy/>

Fat Soluble Vitamins

Vitamin A- discovered in 1913

What it does:

- helps with eyesight
- keeps skin healthy
- helps with growth of body organs (like bones)

Foods that have vitamin A:

liver, fish, milk, butter, eggs, carrots

Deficiency problems:

night blindness, poor growth, dry skin



Vitamin D - made in the skin by the sun

What it does:

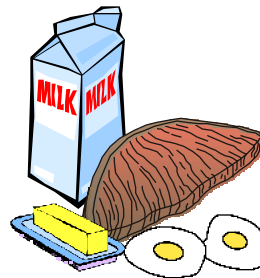
- helps bones grow strong

Foods that have vitamin D:

egg yolks, liver, butter, milk

Deficiency problems:

rickets (deformed bones), weak bones



Vitamin E - called the antiaging vitamin

What it does:

- protects lungs against pollution damage
- helps keep heart healthy
- may help protect against cancer

Foods that have vitamin E:

sweet potatoes, peanut butter, sunflower seeds, spinach, nuts

Deficiency problems:

nerve destruction, red blood cell destruction



Vitamin K - made by bacteria in our intestines

What it does:

- helps make blood clot
- helps keep bones healthy

Foods that have vitamin K:

- liver, cabbage, lettuce, spinach, milk, meat, eggs

Deficiency problems:

- hemorrhage



Water Soluble Vitamins

Thiamin

What it does:

- helps convert the food we eat to the energy we need

Foods that have thiamin:

- spinach, tomato juice, watermelon, sunflower seeds, ham

Deficiency problems:

- weakness, tingling in feet and hands, poor coordination



Riboflavin - named for its yellow color (*flavus* means yellow in Latin)

What it does:

- helps convert the food we eat to the energy we need

Foods that have riboflavin:

- milk, cheese, liver, broccoli, asparagus, spinach

Deficiency problems:

- eye disorders, cracks at corners of mouth, swollen tongue



Niacin

What it does:

- helps our body use the fat and sugar we eat for energy
- helps keep our skin healthy

Foods that have niacin:

- mushrooms, tuna, green beans, broccoli, spinach, breakfast cereals

Deficiency problems:

- diarrhea, skin problems, mental disorientation



Vitamin B₆

What it does:

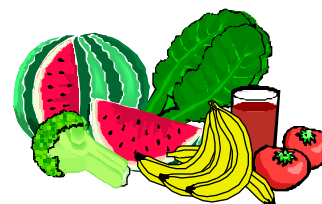
- helps make red blood cells
- helps our body use the fat and protein we eat for energy

Foods that have vitamin B₆:

- spinach, broccoli, tomato juice, banana, watermelon, chicken breast

Deficiency problems:

- headache, convulsions, vomiting, flaky skin, sore tongue



Folate

What it does:

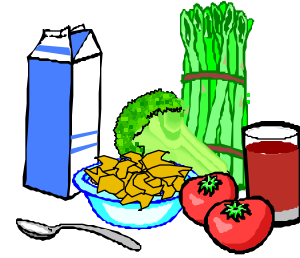
- helps to make new cells
- helps prevent heart disease

Foods that have folate:

- asparagus, broccoli, corn flakes, green beans, tomato juice, beans

Deficiency problems:

- diarrhea, mental disorders, poor growth



Vitamin B₁₂

What it does:

- helps to make new cells

Foods that have vitamin B₁₂:

- meat, fish, poultry, milk, cheese, eggs

Deficiency problems:

- anemia, poor nerve function



Vitamin C - almost all animals make vitamin C in their bodies (only humans, guinea pigs, some bats, and some fish don't)

What it does:

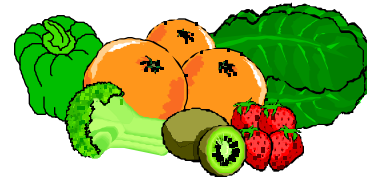
- protects cells from damage
- helps keep bones and skin healthy
- may help prevent cancer and heart disease

Foods that have vitamin C:

- oranges, strawberries, peppers, kiwi, brussel sprouts, broccoli, spinach

Deficiency problems:

- bleeding gums, tiredness, weakness, sore muscles



Vita means *life* - you can see by what vitamins do that they are important for a healthy life!