



Nutrients, Vitamins, Minerals, and Water

Chapter 5 Lesson 3

Vitamins

- ⇒ Definition- *compounds that help regulate many vital body processes, including digestion, absorption, and metabolism of other nutrients.*
- ⇒ Vitamins are known as micronutrients because they are needed in small amounts
- ⇒ Vitamins do not supply calories so they do not directly give you energy. Vitamins do however speed up reactions that produce energy in body cells.
- ⇒ Of the 13 vitamins that play a key role in good nutrition, only one- vitamin D can be manufactured by the body.
- ⇒ Vitamins are classified into two groups, water-soluble, and fat-soluble.

Water-Soluble Vitamins

- ⇒ Water-soluble vitamins include vitamin C and the eight vitamins in the vitamin B-complex.
- ⇒ Water-soluble vitamins dissolve in water and pass easily into the bloodstream during the process of digestion.
- ⇒ Excess amounts of water-soluble vitamins are excreted in urine.
- ⇒ Since these vitamins are not stored by the body, they need to be replenished regularly through the foods you eat.
- ⇒ Adding variety to the foods you eat will help ensure you obtain these nutrients.

Fat-soluble Vitamins

- ⇒ Fat soluble vitamins are absorbed and transported by fat including vitamins: A,D,E,and K.
- ⇒ Unlike water-soluble vitamins, which are eliminated through urine, fat-soluble vitamins are stored in the body's fat tissue, the liver, and the kidneys.
- ⇒ Excess build-up of these vitamins can have a toxic or other damaging effect on the body.
- ⇒ People who take nutrient supplements with very large doses of these vitamins are especially vulnerable to these effects.

Minerals

- ⇒ Definition- *inorganic substances that the body cannot manufacture but that act as catalysts, regulating many vital body processes.*
- ⇒ Like vitamins minerals are micro-nutrients. Your body requires larger amounts of some minerals than others.
- ⇒ Trace minerals- minerals your body needs in small amounts include: iron, iodine, copper, and others.
- ⇒ During your teen years, when growth is rapid, iron is especially important. Iron is essential for hemoglobin in your blood , which carries oxygen throughout the body. Without iron, you may feel tired and have little endurance.

Minerals cont.

- ⇒ Another important mineral is calcium. Giving structure to your bones, calcium helps develop and maintain bone strength.
- ⇒ Calcium aids in blood clotting, muscle contraction, and proper functioning of the nervous system.
- ⇒ Milk and most dairy products, some leafy-green vegetable, and salmon are good sources of calcium.
- ⇒ When you fail to get enough calcium through foods such as these your body draws upon deposits of the mineral in bones, and sends these to muscles, blood, and nerves. This can result in weakening of the skeleton and increase your susceptibility to bone fractures.

Minerals cont.

- ⇒ Three other minerals- sodium, chloride, and potassium belong to a group of minerals known as electrolytes.
- ⇒ Electrolytes become electrically charged when in a solution such as that of body fluids.
- ⇒ Sodium and potassium help maintain the balance of fluid within the body cells.
- ⇒ You get these minerals (electrolytes) through eating many different fruits and vegetable mainly- salt, bananas, and orange juice.

Water

- ⇒ Water is the nutrient that makes up the greatest percentage of your body.
- ⇒ Water is a regulator and is vital to every body function. It carries nutrients and transports waste from cells, mainly through the plasma in your blood.
- ⇒ Water lubricates joints and mucus membranes. It also enables you to swallow, digest foods, absorb nutrients, and eliminate wastes.
- ⇒ Through perspiration water helps to regulate body temperature.
- ⇒ Your body uses about 10 cups of water a day.