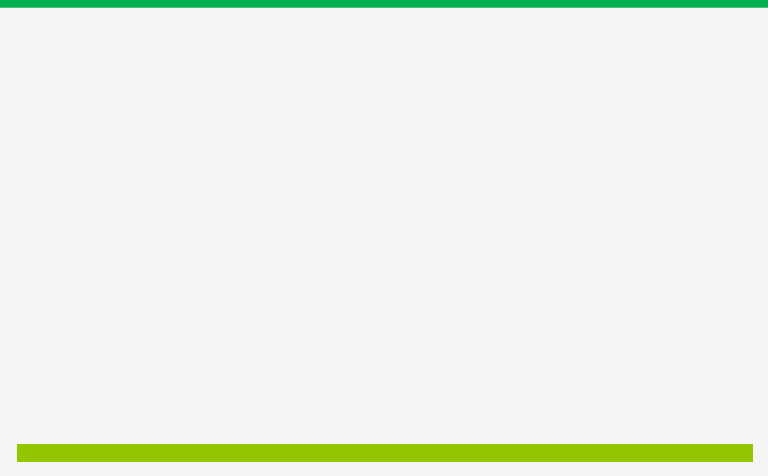




Nutrients



Six Nutrients

Nutrients: substances in food that your body needs to stay healthy

Carbohydrates

Protein

Fat

Minerals

Vitamins

Water



Water

- **Function:** most essential nutrient
 - Helps digest and absorb food
 - Regulates body temperature and blood circulation
 - Carries nutrients and oxygen to cells
- 50-60% of our body weight
- 6-8 cups a day (64 oz.)



Carbohydrates

- **Function:** to provide fuel/energy to the body
 - 50% of daily calories
- **Examples:** whole-grains, rice, pasta
- **Two types:**
 - Simple Carbohydrates
 - Complex Carbohydrates

Complex Carbohydrates

- **Starch:** storage form of sugar (glucose) in plants
 - Fuel for human health, broken down to glucose
 - *Examples:* potatoes, corn, green peas
- **Fiber:** structural part of plants
 - No energy or calories
 - Provides fecal bulk (cannot be digested)
 - Protection against constipation
 - *Examples:* whole-grain, fruits, vegetables

Simple Carbohydrates (Sugars)

- Depends on the chemical structure of the food and how quickly the sugar is digested and absorbed
 - **Monosaccharides**
 - Glucose (blood sugar)
 - Fructose (sugar in fruit)
 - Galactose (sugar in milk)
 - **Disaccharides**
 - Sucrose (table sugar)
 - Lactose (milk)
 - Maltose (sugar produced from breads, cereals)

Fat (Lipids)

- **Function:** provides fuel, insulation, shock absorption, hormone regulation
 - Feeling of fullness or satisfaction after eating
 - Provides 9 calories (kcal) per gram
 - 20-35% or less of daily calories
- Saturated – animal sources
 - Fats that are solid at room temperature
- Unsaturated – plant sources
 - Fats that remain liquid at room temperature

Fats: Cholesterol

- **Cholesterol:** waxy substance produced by liver that helps digest fat
 - Produced by liver
 - Found in animal sources (dietary cholesterol)
- **HDL:** removes cholesterol from the blood vessels and carries it back to the liver
- **LDL:** clogs the blood vessels, keeping blood from flowing

Protein

- **Function:** component of vital body growth and repair
 - Tissue growth and maintenance
 - Transfer and store water at cellular level
 - Antibodies
 - Blood clotting
- 10-15% of daily calories
- *Examples:* milk, meat, vegetables, breads and starches

Protein: Incomplete & Complete

- **Essential Amino Acids:** proteins your body cannot create
- *Complete* – animal sources
 - Provides all essential amino acids
 - *Examples:* Meat sources (beef, pork, fish)
- *Incomplete* – plant sources
 - Missing one or more essential amino acids
 - *Examples:* Vegetables, breads, and milk

Minerals

- **Function:** inorganic elements that aid the body's processes
 - Aid absorption of vitamins
 - Healthy bones and teeth
 - Muscle contraction
 - Readily excreted (water soluble)
- **Electrolytes:** help regulate the balance of fluids in the body's cells and bloodstream

Minerals: Calcium & Iron

- **Calcium:** build and maintain strong bones and teeth
 - *Examples:* dairy products, dark-green leafy vegetables (spinach)
- **Iron:** helps red blood cells carry oxygen, increases immunity
 - *Examples:* red meat, pork, fish, leafy vegetables

Major Mineral: Sodium

- Sodium
 - Regulates amount of water in the body
 - Regulates blood and body fluids
 - Only 500-1000 mg needed per day
 - Average American consumers 6000-12000 mg
 - Excessive amounts may lead to high blood pressure
- *Examples:* processed foods

Vitamins

- **Function:** organic compounds that promote growth and reproduction and help maintain your health
 - Help maintain nerves and skin
 - Produce blood cells
 - Build bones and teeth
 - Help wounds heal better
- *Fat Soluble* - - stored in the body
 - Vitamins: A, D, E, K
- *Water Soluble* - - excess goes through body
 - B-Vitamins and Vitamin C

Vitamins: Fat & Water Soluble

- Fat Soluble:
 - **Vitamin A:** healthy skin and vision
 - *Examples:* dark-green vegetables, yellow-orange fruits & vegetables
 - **Vitamin D:** strong bones/teeth and absorption of calcium
 - *Examples:* milk, fatty fish (salmon), egg yolks
- Water Soluble:
 - **Vitamin C:** healthy teeth, gums and bones; heal wounds and fight infection
 - *Examples:* oranges, tomatoes, broccoli
 - **Folic Acid:** essential for normal growth of cells
 - *Examples:* dark-green vegetables, liver, orange juice