NUTRITION

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What Is Nutrition

- **Nutrient:** A chemical substance in food that helps maintain the body
- **nutrients :** which are substanc in food that body needs to function properly such as in growing, in repairing itself, ar in having supply of energy.
- **-Nutrition:** The study of how your body uses the food that y eat.
- **-Malnutrition:** is the lack of th right proportions of nutrients over an extended period

What is a Nutrient

(A nutrient is a chemical substance in food that helps maintain the body.)

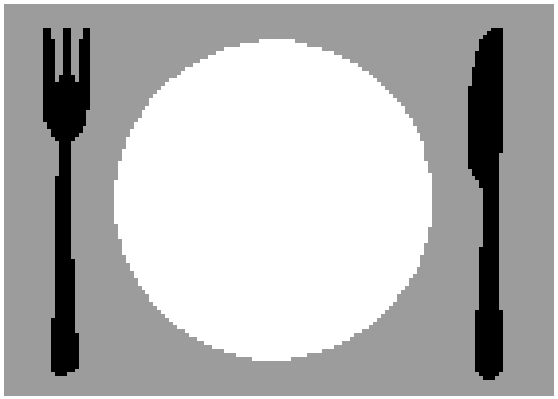
Some provide energy. All help build cells and tissues, regulate bodily processes such as breathing. No single food supplies all the nutrients the body needs to function.

Deficiency Disease: failure to meet your nutrient needs.

Nutrition and Nutrients

There are six types of nutrients:

- Carbohydrates
- Fats
- Proteins
- Vitamins
- Minerals
- Water



CLASSIFICATION OF FOODS

- *Classification by origin:*
  - Foods of animal origin
  - Foods of vegetable origin

- *Classification by chemical composition:*
  - Proteins
    - Fats
    - Carbohydrates
    - Vitamins
    - Minerals

CLASSIFICATION BY FUNCTION

- **Body building foods:**

  -meat, milk, poultry, fish, eggs, pulses etc

- **Energy giving foods:**

  -cereals, sugars, fats, oils etc.

- **Protective foods:**

  -vegetables, fruits, milk, etc

Carbohydrates

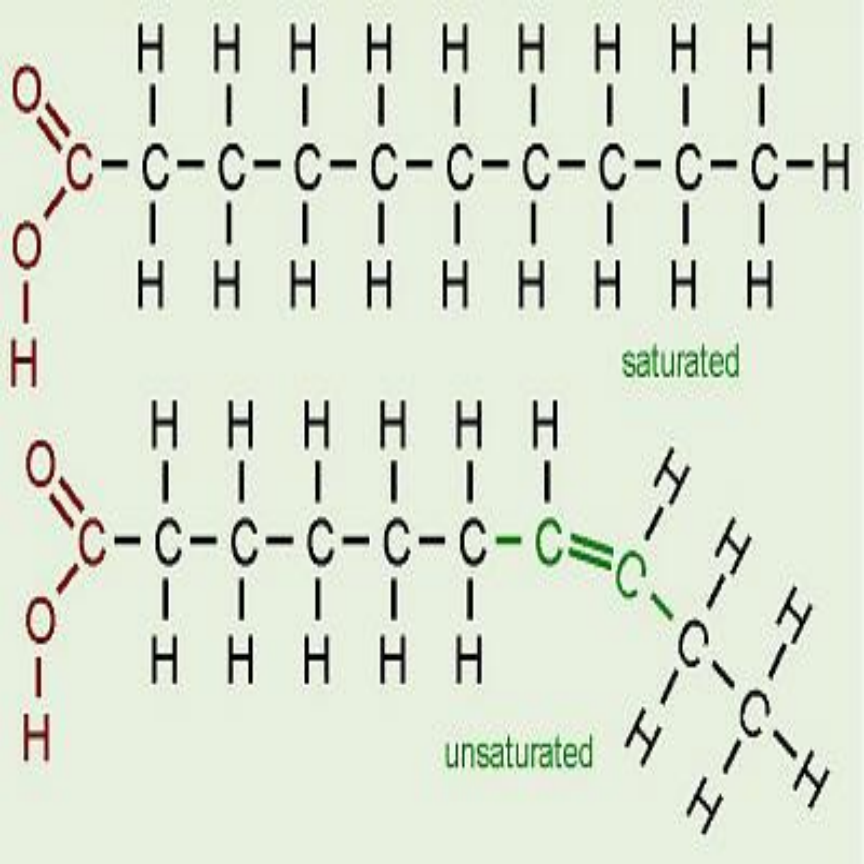
- The body's chief source of energy
- Sugar
  - Simple Carbohydrates
    - Glucose: Blood
    - Fructose: Fruit
    - Galactose: Milk
    - Sucroce: Table sugar
- Starches
  - Complex Carbohydrates
- Fiber

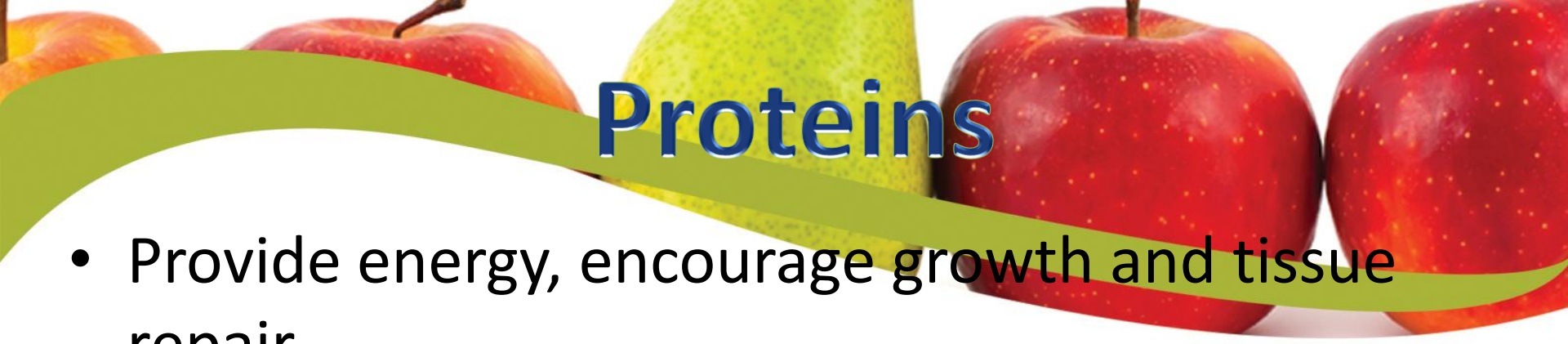
FATS

- Important energy source
  - Lipid family which includes fats and oils
- Hydrogenation: adds hydrogen atoms to unsaturated fatty acids (liquid) turning them into more saturated solid fats
  - Crisco and margarine sticks
- Cholesterol: fatlike substance found in every cell in the body
  - Important… found in skin tissue, produces hormones
  - Two types: Dietary and Blood

Fat Molecules

- Fats are large molecules made up of elements - Carbon, Hydrogen, Oxygen
- Fatty acids found in animal triglycerides are saturated ones
- Fatty acids found in plant triglycerides are unsaturated ones (exception - tropical oils)





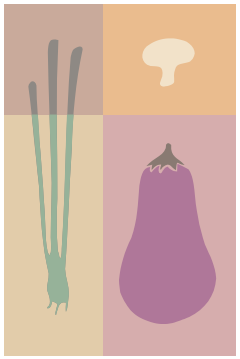
Proteins

- Provide energy, encourage growth and tissue repair
- Made up of small units called amino acids
  - 20 important to the human body: 9 your body can't make and 11 it can
- Complete protein: animal foods and soy
- Incomplete proteins: plant foods
  - Must pair 2 foods together: beans and rice

Vitamins

- Are complex organic substances
  - Normal growth, maintenance, and reproduction
  - Your body cannot produce all vitamins you can get those by eating a nutritious diet.
- Fat-soluble vitamins: carried in fatty parts of foods and dissolve in fats (body stores them in fat... build up can be dangerous)
- Water-soluble vitamins: dissolve in water (body does not store them)

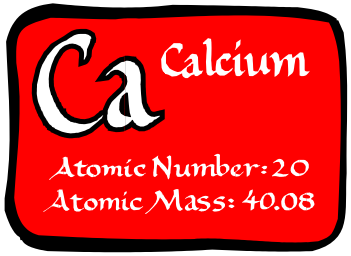
Minerals

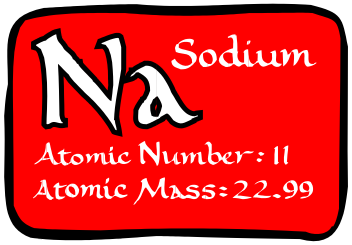


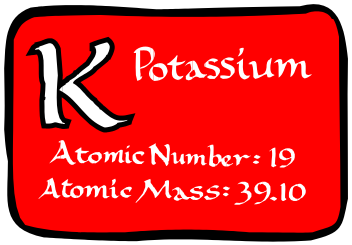
- Minerals are simple substances found in the environment that are essential to the body's functioning.
- Minerals are used to regulate a wide range of body processes, from bone formation to blood clotting, and they are important for the body structure.
- Most minerals are either quickly used or lost in waste products, therefore we must eat mineral-rich foods daily to replenish our supply. Iron is an exception –it tends to be kept and recycled by the body, except when there is a blood loss.

Major Minerals: calcium, phosphorus, magnesium, potassium, sulfur, sodium, and chlorine

- Calcium keeps the nervous system working well and is needed for blood clotting. Osteoporosis is disease caused by calcium deficiency.
- Sodium and potassium help regulate the passage of fluids in and out of cells. Too much sodium in the diet may aggravate high blood pressure or hypertension, increasing the risk of heart attack, stroke or kidney disease. Table salt is one source of sodium in the diet. Most sodium comes in food.
- Deficiency of potassium can lead to muscle weakness and abnormal heart beat.







Trace Minerals: iron, iodine, manganese, zinc, copper, and fluorine

- The majority of the minerals needed for the body to function are only required in very small, or trace amounts.
- Iron is a vital part of hemoglobin – a substance in red blood cells that carries oxygen to all parts of the body. Insufficient iron may cause anemia, a disease in which the body has either too few red blood cells or too little hemoglobin. As result too little oxygen is carried to cells of the body.
- Iodine is needed for the thyroid gland to function properly. The thyroid gland produces hormones that control how quickly chemical reactions occur in our body. Too little iodine – thyroid gland enlarged. The primary sources are seafood and iodized table salt.

Dietary fibre

- Dietary fibre which is mainly non-starch polysaccharide is a physiological important component of the diet. It is found in vegetables, fruits and grains. It may be divided broadly into cellulose and non-cellulose polysaccharides which include hemi-cellulose pectin, storage polysaccharides like inulin, and the plant gums and mucilage. These are all degraded to a greater of lesser extend by the micro flora in the human colon

Water

- Water is found in every cell, in the spaces around the cells, in the fluid tissues of the body, and in body cavities
- Water carries dissolved nutrients throughout our body and assists in all of its functions such as: digesting foods, removing wastes, regulating temperature, and cushioning sensitive parts of our body.
- Each day we lose two to three quarts of water and if this water is not replaced the body can dehydrate.
- When minerals are dissolved, they break apart into ions. The ions formed in body fluids are called electrolytes. These ions play a central role in water balance in the body.


BREAST FEEDING
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Importance of breast feeding

Breastfeeding

- Breastfeeding is the feeding of an infant or young child with breast milk directly from female human breasts (i.e., via lactation) rather than using infant formula from a baby bottle or other container.
- Babies have a sucking reflex that enables them to suck and swallow milk.
- Experts recommend that children be breastfed within one hour of birth, exclusively breastfed for the first 6 months, and then breastfed until age two.