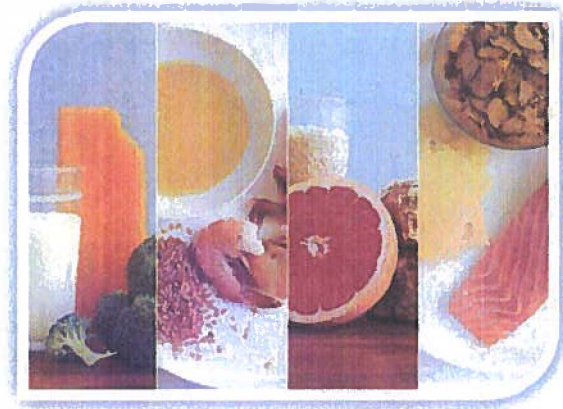


## WHAT ARE NUTRIENTS?

- Nutrients are substances found in food
- Nutrients provide nourishment to your body
- 6 main types of nutrients:

- carbohydrates
- fats
- proteins
- vitamins
- minerals
- water



BrainPOP: nutrition



## Academy of Nutrition and Dietetics

According to a 2015 Academy of Nutrition and Dietetics survey of health professionals with experience in Central America, populations in developing areas of this region lack basic knowledge of biology and physiology. Beginning with a discussion of basic health concepts and then explaining how nutrition affects our bodies is a good strategy.

### Explaining Organ Functions

- Lungs: provide oxygen to blood
- Heart: circulates blood throughout the body
- Stomach: helps digest food
- Intestines: absorb nutrients from food
- Liver: removes toxins from blood and processes nutrients from food
- Kidneys: filter blood of waste and extra fluid

### Explaining Nutrition

Nutrition is how food affects the health of the body. Food is essential—it provides vital nutrients for survival, and helps the body function and stay healthy. Food is comprised of macronutrients including protein, carbohydrate and fat that not only offer calories to fuel the body and give it energy but play specific roles in maintaining health. Food also supplies micronutrients (vitamins and minerals) and phytochemicals that don't provide calories but serve a variety of critical functions to ensure the body operates optimally.

### Explaining Macronutrients: Protein, Carbohydrate and Fat

**Protein:** Found in beef, pork, chicken, game and wild meats, fish and seafood, eggs, soybeans and other legumes included in traditional Central America cuisine, protein provides the body with amino acids. Amino acids are the building blocks of proteins which are needed for growth, development, and repair and maintenance of body tissues. Protein provides structure to muscle and bone, repairs tissues when damaged and helps immune cells fight inflammation and infection.

**Carbohydrates:** The main role of a carbohydrate is to provide energy and fuel the body the same way gasoline fuels a car. Foods such as corn, chayote, beans, plantains, rice, tortilla, potatoes and other root vegetables such as yucca, bread and fruit deliver sugars or starches that provide carbohydrates for energy.

Energy allows the body to do daily activities as simple as walking and talking and as complex as running and moving heavy objects. Fuel is needed for growth, which makes sufficient fuel especially important for growing children and pregnant women. Even at rest, the body needs calories to

## SELF-HEALING AND DIS-EASE PREVENTION

perform vital functions such as maintaining body temperature, keeping the heart beating and digesting food.

**Fat:** Dietary fat, which is found in oils, coconut, nuts, milk, cheese, meat, poultry and fish, provides structure to cells and cushions membranes to help prevent damage. Oils and fats are also essential for absorbing fat-soluble vitamins including vitamin A, a nutrient important for healthy eyes and lungs.

### Explaining Micronutrients: Vitamins and Minerals

Vitamins and minerals are food components that help support overall health and play important roles in cell metabolism and neurological functions.

**Vitamins** aid in energy production, wound healing, bone formation, immunity, and eye and skin health.

**Minerals** help maintain cardiovascular health and provide structure to the skeleton.

Consuming a balanced diet including fruits, vegetables, dairy, protein foods and whole or enriched grains helps ensure the body has plenty of nutrients to use. Providing a few examples of specific micronutrient functions can enhance the effectiveness of nutrition education:

- **Vitamin A** helps the eyes to see
- **Calcium and magnesium** help muscles and blood vessels relax, preventing cramps and high blood pressure
- **Vitamin C** helps wounds heal and the body's ability to fight off germs
- **Iron** helps the blood transport oxygen throughout the body and prevents anemia

### Explaining the Concept of Nutrients as Building Blocks

Building blocks include protein for growing babies in utero, for child and adolescent growth, and for repairing damaged skin, blood, and other body parts in adults who aren't growing. Some parts of the body are replaced regularly, like blood and skin, so even adults are building new body parts regularly. Calcium is also a building block for building bones. Iron is a building block for blood. Since blood cells only last a few months, the body constantly needs more iron and protein to make new blood.

### Using Metaphors to Explain Nutrition

According to registered dietitian nutritionists with experience teaching nutrition in developing areas of Central America, metaphors and simple concepts are useful in teaching basic nutrition. An example of this could be conveying foods rich in carbohydrate as "go" foods, protein-rich foods as "grow" foods and colorful produce as "glow" foods. Health educators should emphasize that good nutrition requires eating at least one serving of these three types of food at each meal:

<b>Foods</b>	<b>Simple Concept of Function</b>
Carbohydrate-rich foods	Fuel
Protein-rich foods	Building blocks

## SELF-HEALING AND DIS-EASE PREVENTION

Fruits and Vegetables      Helpers and protectors

### Additional Resources

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