

NUTRIENT STUDY GUIDE

Exam Wednesday, September 18th

Nutrition - is the *study* of how the body uses the food we eat.

Nutrient - is a *chemical* substance in the body that helps maintain the body.

Nutrient Deficiencies - not getting enough nutrients can lead to deficiency diseases.

There are *six major* nutrients –

1. Carbohydrates
2. Proteins
3. Vitamins
4. Minerals
5. Fats
6. Water

1. Carbohydrates - Provides the body with its *main* source of energy.

Carbohydrates are broken down into 2 categories, *complex and simple*.

1. ***Complex Carbohydrates:***

1. Starches – breads, pasta, rice, potatoes, and corn
2. Dietary Fiber – fruits, vegetables, whole grains, nuts, and seeds

2. ***Simple Sugars:***

1. Refined - sugars that are removed from plants and used for sweeteners, table sugar and brown sugar
2. Natural - sugars found in fruits, vegetables, and milk products

2. Proteins - Builds and repairs body tissues.

Proteins are made up of chemical compounds called *amino acids* and broken down into two groups, *complete and incomplete*.

1. ***Complete protein*** - supplies *all the essential amino acids*. These come from animal sources such as meat, fish, poultry, eggs and dairy products. *Unfortunately, these products also contain saturated fat and cholesterol.*
2. ***Incomplete protein*** - are *lacking one or more essential amino acids*. These come from plants, nuts, and legumes.

3 Fats - Fats are essential to your diet for healthy skin and normal growth. They also carry the fat-soluble vitamins (A, D, E, & K). Fats are used for stored energy and broken down into two groups, *fatty acids and cholesterol*.

1. **Fatty Acids** -

1. **Saturated Fat** – found in animal and dairy products, raises LDL – which clogs arteries
2. **Polyunsaturated** – found in olive, coconut, peanut oils, decreases LDL
3. **Monounsaturated** – found in corn and vegetable oils, decreases LDL and increases HDL

2. **Cholesterol** –

1. **Low density lipoproteins – LDL** - "bad cholesterol"
2. **High density lipoproteins – HDL** - "good cholesterol"

4 Vitamins - Vitamins are essential to keep body tissues healthy and many systems working properly. Vitamins are not sources of energy. There are two types of vitamins, *water – soluble and fat – soluble*.

1. **Water – Soluble** - dissolves in the water and cannot be stored. Your body eliminates what it doesn't need. You need a supply of these vitamins every day.

Vitamin C - found in most fruits and vegetables, especially citrus fruits, strawberries, mangoes, and peppers. Vitamin C helps to maintain a healthy immune system and skin.

Thiamine - found in legumes, fish, lean meats, whole grain, and fortified breads and cereals. Thiamine makes energy out of carbohydrates.

Riboflavin - found in lean meats, eggs, leafy green vegetables, nuts, legumes, fortified breads and cereals, and dairy products. Riboflavin is used for general body growth and energy.

Niacin - found in dairy products, poultry, fish, lean meats, nuts, legumes and eggs. The body needs niacin for healthy skin and for converting the foods you eat to energy.

Folate - found in leafy green vegetables such as spinach, fruits like oranges and strawberries, legumes and whole grains. Folate makes red blood cells and breaks down the proteins we eat.

2. **Fat – Soluble** - dissolves in the fat in your body. These can be stored and used when needed. These vitamins are A, D, E, and K.

Vitamin A – promotes growth, keeps skin and mucus membranes healthy, and prevents night blindness. Found in dark green and yellow fruits and vegetables.

Vitamin D – builds strong bones and teeth. Found in egg yolks, milk products, and from the sun.

Vitamin E – Acts as an antioxidant to protect cell membranes. Found in eggs, salad oils, and whole grain cereals.

Vitamin K – Prevents blood clot. Found in proteins, organ meats, and egg yolks.

5. **Minerals** – Minerals can be broken down into two groups, **macro minerals and trace minerals**.

1. ***Macro minerals*** - relatively large amounts are needed per day.

Calcium – builds strong bones and teeth. Found in dairy products and leafy green vegetables.

Magnesium – Helps cells use energy nutrients. Found in beans, dark green vegetables, and whole grains.

Sodium, Chlorine, Potassium – Controls osmosis, maintains acid – base balance in the body. Sodium and Chlorine found in table salt. Potassium found in bananas.

2. ***Trace minerals*** – needed in very small amounts, but are just as important.

Fluorine – helps prevent teeth decay. Found in toothpaste.

Iodine – promotes normal function of thyroid gland. Found in table salt, saltwater fish, and shellfish.

Iron – helps cells use oxygen. Found in dried beans and fruits, egg yolk, lean meats, and whole grains.

Zinc – helps wounds heal and promotes normal growth. Found in legumes, meats, poultry, seafood, and whole grains.

6. **Water** – Water is essential for life. It aids digestion and cell growth and maintenance, facilitates chemical reactions, lubricates joints and cells, and regulates body temperature.