There are 6 major nutrients. They are carbohydrates, proteins, vitamins, minerals, fats and water.

**Carbohydrates**

Carbohydrates provide the body with its main source of energy. They are found in foods from plants such as fruits and vegetables, grain products and dry beans and peas. If you don’t eat enough carbohydrates, your body will use other energy producing nutrients, like protein, for energy.

Carbohydrates are broken down into 2 categories, sugar and starches.

1. **Starches:** known as complex carbohydrates and are found in dry beans and peas, potatoes and corn and grain products. Complex carbohydrates must be broken down into sugar so they take longer to digest and you will have energy for a longer period of time.

2. **Sugars:** refined and natural
   a. Refined: sugars that are removed from plants and used for sweeteners (sugar cane or sugar beets). Table sugar and brown sugar are examples.
   b. Natural: sugars that are found in the foods we eat such as:
      - Fructose: found in fruits
      - Maltose: found in grain
      - Lactose: found in milk

Both natural and refined sugars are viewed the same from a health standpoint.

**Proteins:** Used to build and repair body tissues

Proteins are made up of chemical compounds called amino acids. There are 22 amino acids and your body make all but 9. These are known as the “9 essential amino acids”. You need to eat foods with these every day.

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.

Incomplete protein: are lacking one or more essential amino acids. Foods from plant sources supply incomplete proteins. They must be eaten in greater variety so that you can get all 9 amino acids. For example, eating rice with beans will supply all nine…you get some amino acids from the rice and others from the beans.
**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.

Two types of fat:

1. Saturated: raise bad (LDL) cholesterol, which can clog arteries. Found in animal source such as meat, dairy, poultry (skin) and tropical oils (palm and coconut).
2. Unsaturated: help lower cholesterol levels in the blood. Found in vegetable oils such as corn, soybean and safflower oil. Some unsaturated oils (monounsaturated) actually are beneficial because they lower only the bad (LDL) cholesterol. These oils are olive, peanut and canola oils.

Oils that are solid at room temperature like margarine or shortening have been hydrogenated. The process produces trans fats, which are just as bad for you as the saturated fats found in animal sources. (Butter, fatty meat, poultry skin)

**VITAMINS**

Vitamins are needed to keep body tissues healthy and many systems working properly.

There are 2 types of vitamins:

1. Water soluble—these vitamins (B vitamins and vitamin C) dissolve in the water in your body and cannot be stored. Your body eliminates what it doesn’t need. You need a supply of these vitamins every day.
2. Fat-soluble: These vitamins dissolve in the fat in your body. These can be stored and used when needed. These vitamins are A, D, E, and K.

Beta-carotene is a provitamin. Your body converts beta-carotene into Vitamin A. This is found orange and yellow vegetables. (Carrots)

Vitamin D is the sunshine vitamin. Your body makes it when your skin is exposed to sunshine. Milk is fortified with vitamin D, which helps your body absorb calcium.

Vitamin C prevents a disease called scurvy and may help shorten the duration of the common cold. This vitamin comes from citrus fruits (oranges, grapefruit) and other vegetables.

**MINERALS:**

There are 3 types of minerals:

1. Macrominerals—relatively large amounts are needed. (calcium, phosphorus and magnesium) Calcium is very important for bone health. Too little calcium can lead to osteoporosis where bones become weak and porous and break easily. You need about 1200 mg.
a day. One glass of milk will provide you with 300 mg. Other dairy products are also good source of calcium.

2. Electrolytes- maintains body fluid balance. (Potassium, sodium and chloride)

3. Trace minerals – needed in very small amounts, but are just as important. (iron, copper, zinc, iodine and selenium)

**WATER**

- You can live for weeks without food but only a few days without water.
- 50-60% of your body is made up of water

- 80% of your blood is water.
  Your body uses 2 to 3 quarts of water a day. To replace it drink 6 – 8 cups of water each day. You will need more if you exercise or the weather is very hot.

You can get some water from the food you eat. Watermelon and lettuce are about 90% water.

Other nutrients:

Cholesterol: a fat-like substance present in all body cells. It is needed for many body processes. Your body makes all the cholesterol in needs in the liver.

There are 2 kinds:
LDL (low-density lipoproteins)- bad cholesterol because it builds up in the arteries and causes blockages.
HDL (high density lipoproteins)-good cholesterol because it actually picks up the “bad” cholesterol and carries it back to the liver.

Cholesterol is only found in food coming from animal sources. Plant sources do not have cholesterol, ever.

Fiber:
There are 2 types of fiber.

1. Insoluble-does not dissolve in water and helps food move through the large intestine at a normal rate. This helps to prevent constipation.
2. Soluble fiber-dissolves in water, does not contribute to bulk. It appears to lower cholesterol.