**STUDENT HANDOUT**

***CARBOHYDRATES***

Carbohydrates are sugars and starches. These substances are used by your body to create energy. After being eaten, they are broken down into glucose or sugars that are used as fuel. Carbohydrates are often described as simple or complex. Simple sugars are carbohydrates that are made up of only one or two molecules of glucose *(sugar)*.

Simple sugars are found in foods like candies, soft drinks, fruit juices, and fruit. Complex carbohydrates are found in starchy foods like rice, potatoes, tortillas, and bread. Other foods which contain carbohydrates include carrots, corn, and bananas. These complex carbohydrates are made up of many, many molecules of sugar which are bound together.

Although simple sugars and complex carbohydrates are made up of similar molecules, they have different amounts of nutrition. Grains *(rice and wheat),* bananas, carrots, and corn also contain important vitamins, such as Vitamin A, and fiber. Fiber, often referred to as bulk, is the part of the food which cannot be digested. Fiber is important for digestive function, but also helps remove toxic substances and excess cholesterol. Simple sugars from foods that do not contain other nutrients, like candies or soft drinks, also provide energy, but do not meet any of your body’s other nutritional needs.

***PROTEINS***

Proteins are a major component of most tissues including muscles, bodily organs, and cells. Body protein is made from building blocks of amino acids. The human body can make most amino acids and use them to build proteins. However, nine amino acids, called the essential amino acids, cannot be made by the human body. They have to be eaten on a regular basis for your body to maintain itself. Animal sources of protein like meat, fish, dairy products, and eggs contain all nine essential amino acids.

They are often referred to as complete protein. Vegetable or plant sources of protein like beans, nuts, and some grains do not have all nine essential amino acids. Fortunately, plant proteins can be mixed so that all essential amino acids are present in one meal. When beans and corn *(like corn tortillas)* are combined; all the essential amino acids are present. The same is true when beans and wheat, beans and rice, or nuts and wheat are mixed together. So, it is possible to have a completely healthy diet without eating meat. In order to have complete protein with each meal, it is important to get the right mix of vegetable proteins.

Animal and plant sources of protein also contain different amounts of other nutrient classes. Animal protein usually contains a relatively high amount of fat and very little fiber. Plant sources of protein have very little fat and a relatively large amount of fiber. Since fiber is very important in the diet and excess fat can contribute to having heart disease, it may be healthiest to eat small amounts of animal protein in combination with plant proteins. It is also possible to avoid fat by choosing skim or low-fat milk, low-fat cheese or lean meat.

***FATS***

Fats are also necessary for health. Fat is a component of all cell membranes, and is an important source of stored energy in your body. When you can’t avoid skipping a meal, your body uses fat for energy. Unfortunately, the body requires protein at the same time and will use tissue, like muscle to feed itself. Fat in the digestive tract helps your body absorb the fat soluble vitamins. Although fats are important, not all fats are as healthy for you as others. Eating too much saturated fat can increase your cholesterol and raise your risk of heart disease. Saturated fats come from meat, dairy products, and some kinds of vegetable oils called tropical oils *(palm and coconut).* Unsaturated fats do not have as great an effect on cholesterol and do not increase the risk of heart disease as much. These fats are found in fish and in vegetable oils like olive, peanut, and corn oil. In general, it is a good practice to have most of your fat calories come from unsaturated fat. This means eating leaner meat, skim or low-fat milk, and avoiding fried foods. If food has to be cooked with oil, use peanut or corn oil instead of lard.