**The Digestive System**

The digestive system performs two functions. The first is to break food into nutrients. The second is to get the nutrients into the blood. Then the circulatory system transports them to your cells.

Parts of the digestive system:

**Salivary glands, esophagus, stomach, small intestines, large intestines, liver, gall bladder, pancreas**

Digestion begins as you chew your food. Glands in your mouth produce saliva. Saliva moistens food and begins to break down starchy foods into sugars.

When you swallow, food passes through your esophagus and goes to your stomach. Gastric juices produced by the stomach, contain acid and chemicals that break down proteins.

Partly digested food then goes to the small intestines. **This is where digestion of food into nutrients is completed by chemicals produced in the small intestines. The small intestines are where the nutrients enter your blood.**

Undigested food goes to the large intestines where water and minerals diffuse into the blood and wastes are removed from the body.

The liver produces bile, which breaks down fats that can be digested more easily. The gall bladder is where bile is stored until needed.

The pancreas produces a fluid that neutralizes stomach acid and chemicals that help finish digestion. The pancreas also produces insulin the helps the body regulate sugars.

**The Excretory System**

Wastes must be removed from the blood. The respiratory system gets rid of carbon dioxide waste. Other wastes must also be removed from the blood. That is the function of the excretory system.

Cell wastes include carbon dioxide and ammonia. Ammonia is carried by the blood to the liver, where it is changed to urea. From the liver, urea is carried by the blood to the kidneys. The kidneys are located behind the liver and the stomach. As blood flows through capillaries in the kidneys, urea and water diffuse into tubes called nephrons.

Urine, which is urea and water, flows from the kidneys through tubes called ureters. The ureters empty into a muscular organ called the bladder. The bladder is able to expand and can comfortable hold about 16 ounces of urine for a few hours. When the bladder is full, urine leaves the body through a channel called the urethra.

**Organs of the Excretory System**

* **Lungs** - removal of excess carbon dioxide
* **Liver** - produces urea and uric acid as a by-product of the breakdown of proteins
* **Skin** - removal of excess water, salt, urea and uric acid
* **Urinary System** - kidneys filter the blood to form urine, which is excess water, salt, urea and uric acid