Digestive System

The goal of the digestive system is to digest and absorb food nutrients and water, also to eliminate wastes. The digestive system contains muscular walls (smooth involuntary muscles) that move food and wastes in the direction of mouth to anus. This is accomplished through rhythmic muscular contractions known as peristalsis. Enzymes are powerful chemicals produces by cells in the digestive tract. Enzymes break down food into individual molecules that are small enough to absorb.

Mouth, Teeth and Tongue: mechanical breakdown of food, mix with saliva, start of digestion

Esophagus: moves food to stomach (peristalsis)

Stomach: mechanical and chemical digestion, low pH due to hydrochloric acid (HCl) made by the walls of the stomach. Coated in layer of mucus designed to protect the stomach from digesting itself. The stomach absorbs some water, sugar and alcohol and other drugs.

Duodenum: first portion of the small intestine, specialized to neutralize stomach acid and add new enzymes added from the walls of the duodenum, the pancreas and the liver.

Small Intestine: chemical and mechanical digestion, neutralization of stomach acid, most absorption occurs here (carbohydrates, fats, proteins, vitamins and minerals). 10 m long with a surface area of 30 m square.

Large Intestine: processes wastes, absorb water, forms feces (poop!)

Rectum and Anus: responsible for stool formation and control

Liver: blood leaving the digestive tract that has absorbed food, travels through the liver first. The liver filters and regulates stores of food energy. The liver also regulates and purifies wastes from the blood all the time. Also produces bile, used to help digest fats.

Pancreas: produces several digestive enzymes (add to the contents of the duodenum through the pancreatic duct). Also produces insulin – necessary for sugar regulation (diabetes)

Gale Bladder: temporary storage place for bile produced by the liver. Sometime a gale bladder becomes ill and is removed.