



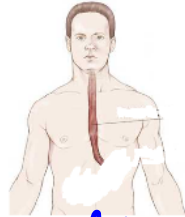

Digestive System Notes

Digestive System: System that moves & breaks down food
 Digestion: process of breaking down food into USABLE material
 Nutrients: important substances that enable the body to grow, and maintain homeostasis
 Ex: grow, and maintain homeostasis ex) protein
Peristalsis: wave like contractions of smooth muscles that pushes food through the digestive system
 water (carbohydrates, fats)

Two Types of Digestion


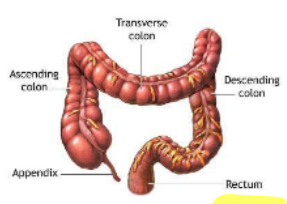
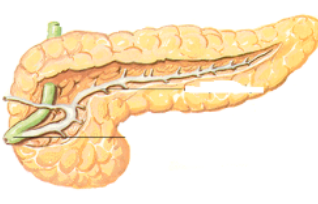
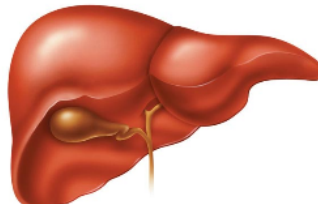

- Mechanical Digestion:** result in a physical change, changes shape and size of food
 Ex: Teeth chew food into smaller substances
- Chemical Digestion:** result in a chemical change, or the chemical composition of the substance changes. It involves some kind of Chemicals → enzymes
 Ex: Saliva in the mouth begins to break down the food

Digestive Process

	Mouth	<ul style="list-style-type: none"> *food enters the body *the <u>teeth begin mechanical digestion</u> by chewing and grinding *<u>saliva begins chemical digestion</u> by softening food 	
	Esophagus	<ul style="list-style-type: none"> *tube that connects mouth to stomach *<u>peristalsis</u> (smooth muscle contractions) move food down throat *food takes 8 seconds to reach stomach, liquids take 2 seconds 	
	Stomach	<ul style="list-style-type: none"> *J-shaped organ *<u>strong muscles mechanically digest food</u> by mashing and pounding *<u>produces acids to chemically digest food</u> *<u>its lining is replaced about every three days</u> because of strong acids *food material is sent on to small intestine *can hold between 1 and 4 liters after eating 	

mucus

chyme

<p>Small Intestine</p>	<ul style="list-style-type: none"> *chemicals from pancreas, liver, and gallbladder break down nutrients *absorbs most of nutrients that were broken down by digestion *villi (finger-like structures) absorb proteins, carbohydrates, and fats *remaining food material is sent on to large intestine *in adults, it is usually 23 feet long 	 <p>increase surface area to increase absorption of nutrients</p>
<p>Large Intestine</p>	<ul style="list-style-type: none"> *absorbs water *most of the remaining solids will be compacted, stored, and then expelled as waste through the rectum *in adults, it is usually 5 feet long 	
<p>Pancreas*</p> <p>*food material does not actually pass through this gland organ</p>	<ul style="list-style-type: none"> *located between stomach and small intestine *lowers acidity in small intestine *produces chemicals needed for breaking down and absorbing food substances *in adults, it is usually 6 inches long 	
<p>Liver*</p> <p>*food material does not actually pass through organ</p>	<ul style="list-style-type: none"> *largest internal organ *filters blood *stores nutrients for later use *produces bile which helps break down fats *breaks down medicines *in adults, it usually weighs about 3 pounds 	
<p>Gallbladder*</p> <p>*food material does not actually pass through this organ</p>	<ul style="list-style-type: none"> *tiny pear-shaped sac *connected to liver *bile produced in liver is stored here *releases concentrated bile into small intestine 	

Label the following: mouth, esophagus, stomach, small intestine, large intestine, gallbladder, liver, pancreas, rectum

