DIGESTIVE SYSTEM CLASS NOTES

Digestion

- Breakdown of _____food and the _____ of nutrients in the bloodstream.

Metabolism

- Production of _____ for _____and _____cellular activities.

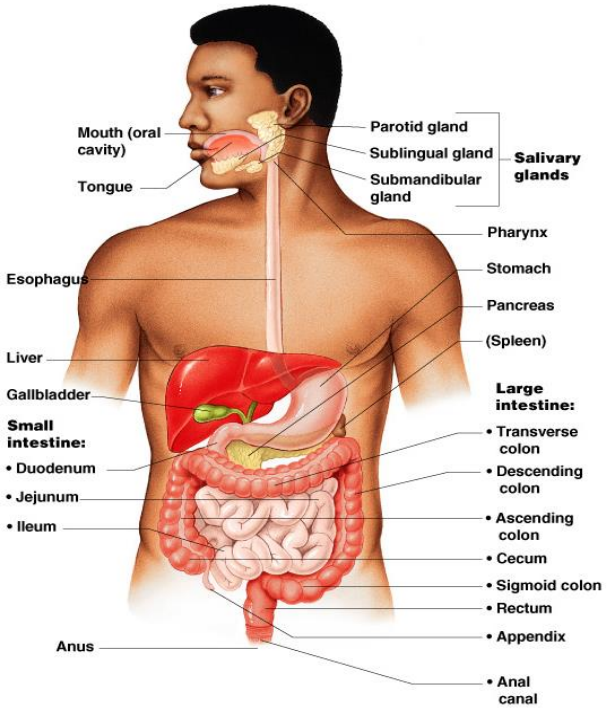
The digestive system is composed of the

_____canal which is a continuous

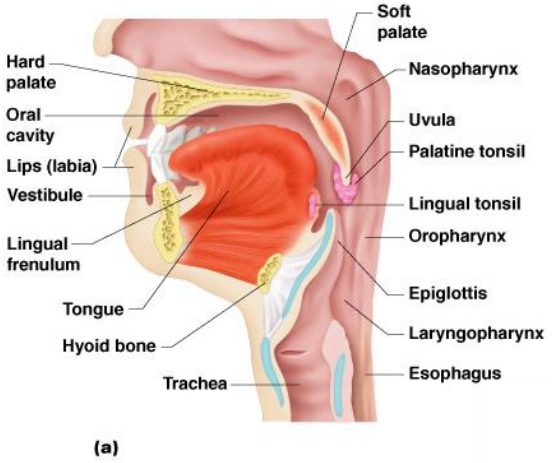
_____tube along with several

_____organs. The organs along the

alimentary canal include:



THE MOUTH



- The lips _____ the anterior opening.
- The hard palate forms the _____ roof of the mouth.
- The soft palate forms the _____roof of the mouth.
- Uvula is the _____projection of the soft palate.
- The oral cavity is the area contained by the _____.
- The tongue is a _____extension aiding in _____ and _____ of food.
- Tonsils

In the mouth, mastication (_____) of food, mixing masticated food with _____,

Initiation of swallowing by the _____ and allowing for the sense of _____.

In the pharynx, it serves as a passageway for _____and _____. Food is propelled to the _____ by two muscle layers:

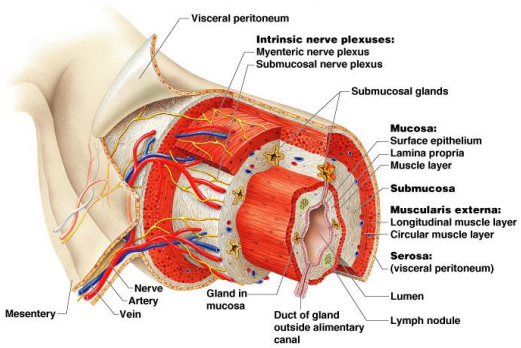
◦_____ inner layer

◦_____outer layer

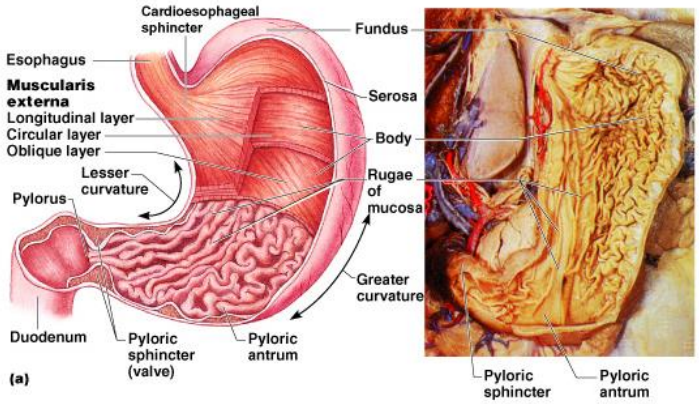
–Food movement is by alternating contractions of the muscle layers (_____)

The esophagus runs from the _____ to the _____and moves food by _____.

The submucosa contains blood vessels, _____ and lymphatics.



The stomach is located on the _____side of the abdominal cavity. Food enters through the _____ and exit through the _____.



The stomach is a _____for food and it is where food begins to _____. The chemical digestion of _____begins here. The processed food is called _____that will be delivered to the _____.

Simple columnar epithelium

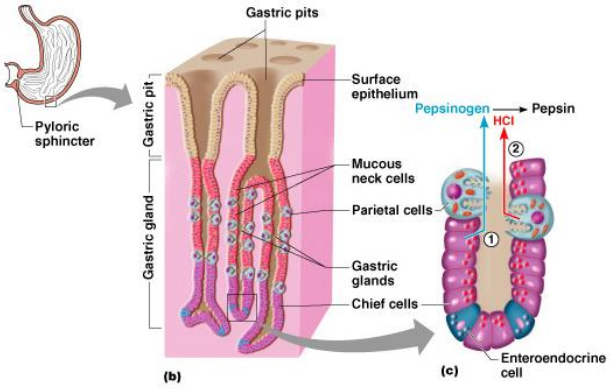
◦Mucous neck cells – produce a sticky _____ mucus

◦Gastric glands – secrete _____ juice

◦Chief cells – produce _____-digesting enzymes (pepsinogens)

◦Parietal cells – produce _____ acid

◦Endocrine cells – produce _____



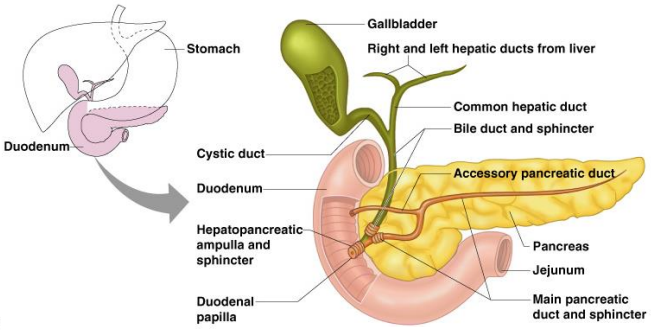
The small intestines are the body's major _____organ. It is the site of nutrient absorption into the _____

The subdivisions of the small intestines include:

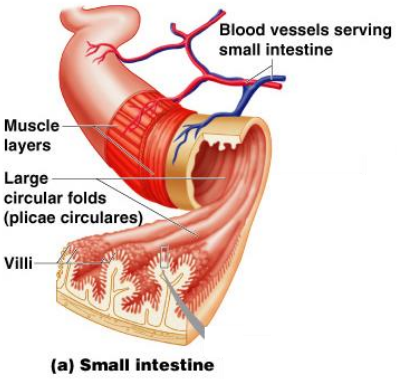
- Duodenum
  - ◦Attached to the _____
  - ◦Curves around the head of the pancreas
- Jejunum
  - ◦Attaches anteriorly to the duodenum
- Ileum
  - ◦Extends from jejunum to _____.

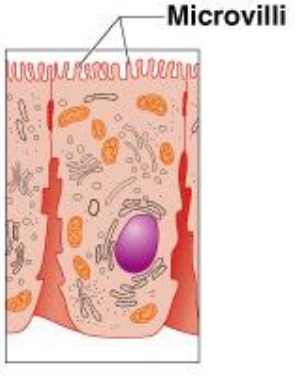
The source of the enzymes needed come from the _____and the _____.

Bile enters from the _____.



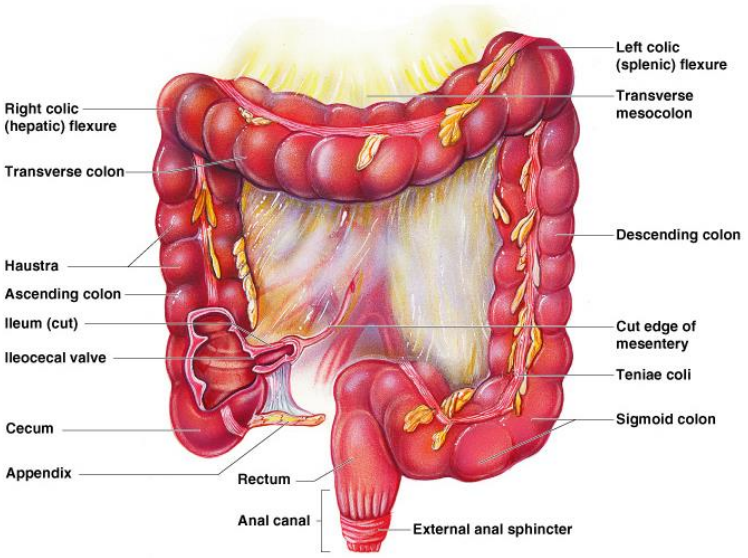
The villi of the small intestines is where all of the action is. The also increase the _____.





Absorptive _____ and blood _____ are present.

The large intestines are _____ in diameter but _____than the small intestines. It frames the internal _____.



Its function is to absorb _____ and eliminates _____food as _____. There is no _____here. _____ cells produce mucus as a lubricant.

Cecum – saclike first part of the large intestine

Appendix

- ◦Accumulation of lymphatic tissue that sometimes becomes inflamed (_____)
- ◦Hangs from the _____

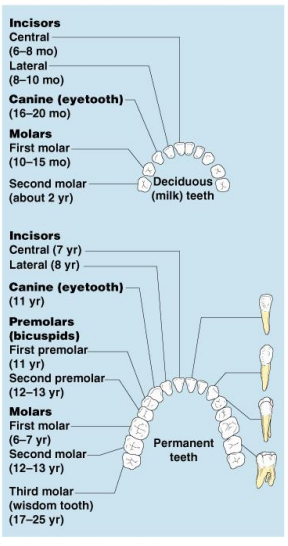
The structures of the large intestines include: _____, _____ and the _____

ACCESSORY ORGANS

The accessory organs of the digestive system include:

The salivary glands produce _____. Saliva is a combination of _____ and _____ which helps form food into a _____. It contains _____ to begin the digestion of _____.

The role of the teeth is to _____ food. Humans have two sets of teeth, the_____ teeth or baby/milk teeth. 20 of them are formed by age _____.



The pancreas produces digestive enzymes that break down _____ categories of food into the duodenum.

Alkaline fluid introduced with enzymes neutralizes acidic chyme

Endocrine product of the pancreas

◦Insulin

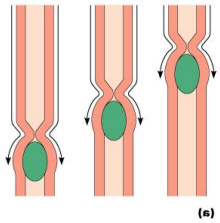
The liver is the _____ gland in the body and produces _____ It is located on the right side of the body under the _____. Connected to the _____ via the common hepatic duct.

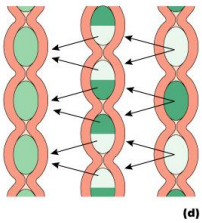
The gall bladder stores _____ from the liver by way of the cystic duct. Bile is introduced into the duodenum in the presence of _____ food. Gallstones can cause blockages.

- _____ – getting food into the mouth
- _____ – moving foods from one region of the digestive system to another

Peristalsis – alternating waves of contraction

Segmentation – moving materials back and forth to aid in mixing





Mechanical digestion

◦Mixing of food in the mouth by the _____

◦Churning of food in the _____

Chemical Digestion

◦_____ break down food molecules into their building blocks

◦Each major food group uses different _____

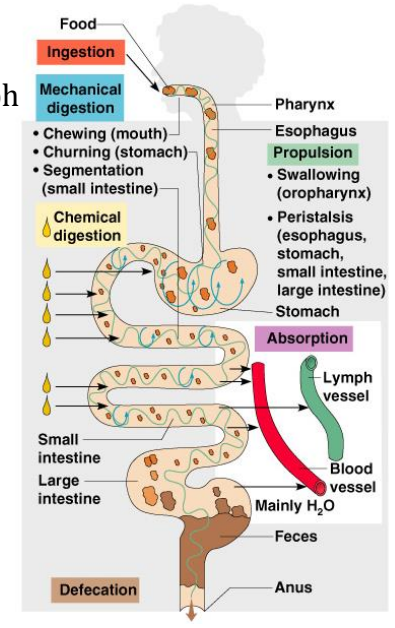
The processes of the digestive system are:

Absorption

◦End products of digestion are absorbed in the _____ or lymph

Defecation

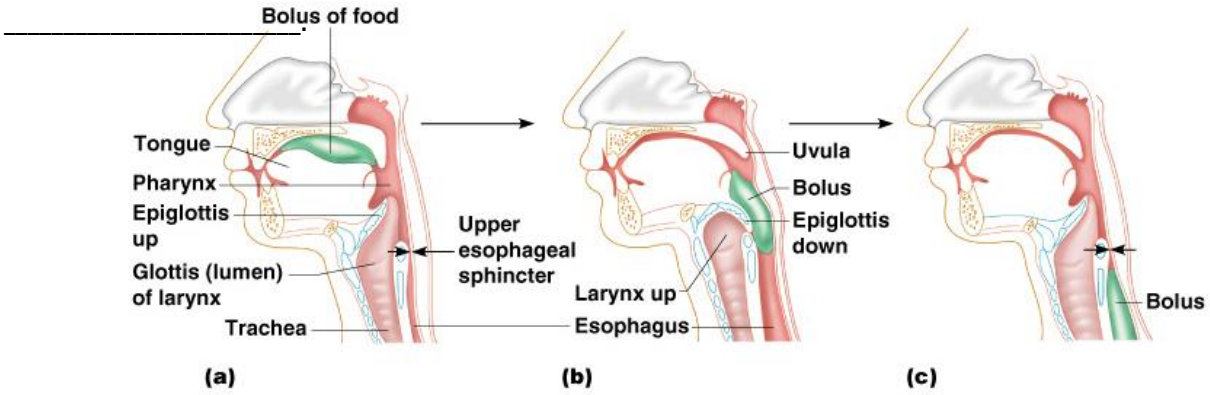
◦Elimination of indigestible substances as _____



The pharynx and the esophagus have _____ digestive function. They only serve as passageways to the _____.

Swallowing or the _____phase is voluntary and occurs in the mouth.

The food is formed into a _____ and forced down by the



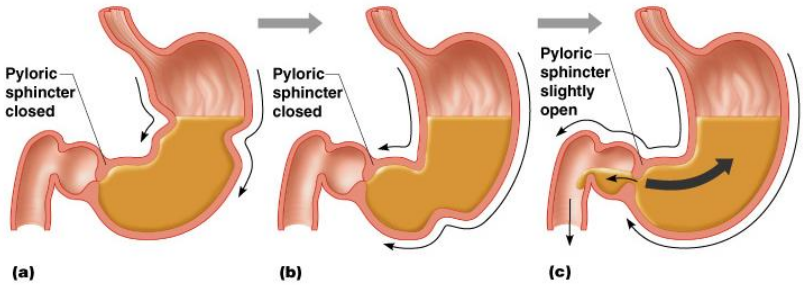
In the stomach, _____acid helps digest food chemically. The environment has to be acidic because it activates _____ to _____ for protein digestion. This also helps kill _____.

Protein digestion enzymes

- ◦Pepsin – an active _____ digesting enzyme
- ◦Rennin – works on digesting _____ protein

The only absorption that occurs in the stomach is of _____ and _____

The stomach empties in _____hours.



Digestion in the small intestines uses lipase to digest _____ from the pancreas. Nucleic acids are digested with _____. The alkaline content helps _____ the acidic environment.

Two hormones that stimulate the release of pancreatic juices are _____ and _____

Water is absorbed along the small intestines. _____helps move things along.

In the large intestines, _____ digestive enzymes are produced. Resident _____ digest remaining nutrients

- ◦Produce some vitamin ____and _____

◦Release _____—

Water and vitamins K and B are _____. Remaining materials are eliminated via feces

Mass movements

◦Slow, powerful movements

◦Occur _____ to _____ times per day

Presence of feces in the rectum causes a defecation reflex

◦Internal anal sphincter is relaxed

◦Defecation occurs with relaxation of the voluntary (external) anal sphincter

DEVELOPMENTAL ASPECTS

- The alimentary canal is a continuous tube by the_____ week of development
- —Digestive glands bud from the mucosa of the alimentary tube
- —The developing fetus receives all nutrients through the _____
- —In newborns, feeding must be frequent, peristalsis is inefficient, and vomiting is common
- —Teething begins around age _____months
- —Metabolism _____ with old age
- —Middle age digestive problems
  ◦Ulcers
  ◦Gall bladder problems
- Activity of digestive tract in old age
  ◦Fewer digestive juices
  ◦Peristalsis _____
  ◦Diverticulosis and cancer are more common