

STUDY GUIDE - DIGESTIVE SYSTEM

Physical change - a change in size, shape or state of matter (solid, liquid, gas)
- ex.- tearing or wrinkling paper, breaking wood, forming ice

Chemical change - a change where something new is created, signs of a chemical change taking place are heat, light, smoke, odor
-ex.- wood burning, marshmallow toasting

Be able to distinguish between physical and chemical changes

Human Digestion:

Mouth - physical: chewing or biting food - forms bolus
- chemical: salivary amylase - starts digestion of carbohydrates

Esophagus - connects mouth to stomach
- secretes mucus to help food move

Stomach - physical: churning of stomach muscles - forms chyme
- chemical: pepsin - starts to digest proteins
Hydrochloric acid (HCl) - kills bacteria

Small intestine -
From pancreas - lipase - digests fats (lipids)
From liver (makes bile) to gall bladder (stores bile) - breaks fats apart
-chemical: peptidase - finishes protein digestion
maltase - converts other sugars to glucose

Large intestine - forms and collects feces
- removes excess water

Rectum/Anus - where solid wastes exit the body

Feces (solid wastes):

cellulose
dietary fiber
bacteria
water
mucus

Be able to label the diagram of the human digestive system

STUDY GUIDE - DIGESTIVE SYSTEM

Other Vocabulary:

- bolus** - ball of chewed food
- peristalsis** - muscular movement that pushes food through digestive tract
- chyme** - semi-liquid mass created by the churning of the stomach muscles on food
- sphincter muscle** - ring of muscle between esophagus and stomach
- ulcer** - open wound or sore in lining of stomach due to high acid content
- villi** - finger-like projections lining the small intestine that increases the surface area for absorption
- absorption** - the passing of nutrients through the wall of the small intestine into the bloodstream
- epiglottis** - the flap of tissue that covers over the opening to the trachea during the swallowing of food
- uvula** - the flap of tissue that covers the opening to the nasal passage when swallowing food
- dorsal** - back
- ventral** - front

Worm Vocabulary:

- prostomium** - worm's upper lip
- ganglia** - mass of nerve tissue that functions as the worm's brain
- pharynx** - connects the mouth to the esophagus
- esophagus** - muscular tube connecting the pharynx to the crop
- crop** - organ that stores food for digestion
- gizzard** - organ that digests food by a grinding action
- intestine** - connects the gizzard to the anus, largest organ in the earthworm
- aortic arches** - structures that function as the earthworm's hearts (5 of them)
- dorsal blood vessel** - blood vessel that runs the length of the worm along its back
- ventral blood vessel** - blood vessel that runs the length of the worm along its front
- ventral nerve cord** - nerve cord that runs the length of the worm along its front
- clitellum** - wide band that secretes a cocoon of mucus to deposit eggs into
- ovary** - female structure that produces the eggs
- testes** - male structure that produces the sperm
- seminal vesicles** - organs that store sperm
- seminal receptacles** - organs that receive sperm
- nephridia** - structures that excrete the liquid wastes
- setae** - hair-like bristles on ventral side of worm, help worm move

Be able to label the diagram of the worm

Be able to compare the digestive systems of the worm, frog and human

STUDY GUIDE – SAMPLE QUESTIONS

_____ Which enzyme starts the digestion of proteins in the stomach?

- A. pepsin B. amylase C. lipase

_____ What is the muscular movement that pushes food through the digestive tract called?

- A. villi B. setae C. peristalsis

_____ Which organ is primarily responsible for the physical digestion of food?

- A. stomach B. mouth C. small intestine

_____ Which of the following would physically break apart the fats in corn oil?

- A. saliva B. lipase C. bile

_____ What prevents food from going into the trachea?

- A. esophagus B. epiglottis C. pharynx

Describe how oxygen and digested nutrients reach the cells in the earthworm.

Compare and Contrast: Describe two similarities and two differences of the digestive systems between human and worm or human and frog.

WORM OR FROG ?

	HUMAN	<hr/>
Similarity #1		
Similarity #2		
	HUMAN	<hr/>
Difference #1		
Difference #2		



