

CHAPTER 6	Digestive System Vocabulary Building Answer Key	BLM 6.4.1A
ANSWER KEY		

Answers are shown in italics.

accessory organs	<i>the pancreas, liver, and gall bladder; called “accessory” because their role in the process of digestion is vital, but they are not physically part of the digestive tract</i>
<i>amylase</i>	<i>enzyme in saliva that breaks down starch into simpler sugars</i>
<i>carbohydrase</i>	<i>enzyme that catalyses the hydrolysis of carbohydrates</i>
catalyst	<i>chemical that speeds up a chemical reaction but is not used up in the reaction</i>
hydrolysis	<i>chemical reaction in which the addition of a water molecule cleaves a macromolecule into subunits; one hydrogen atom from water is attached to one subunit and a hydroxyl group is bonded to the other subunit, breaking a covalent bond in the macromolecule</i>
chyme	<i>thick liquid formed by mixing food with gastric juice in the stomach</i>
digestive tract	<i>in animals, a long tube that extends from the mouth to the anus, through which food moves and is broken down into simpler compounds that are used for energy, growth, and cell repair</i>
bolus	<i>smooth, lump-like mass of food rolled by the tongue to aid swallowing</i>
macromolecule	<i>a large, complex assembly of organic molecules; four categories of macromolecules are carbohydrates, lipids, proteins, and nucleic acids</i>
<i>liver</i>	<i>organ found in the abdomen that performs hundreds of functions as an accessory organ of the digestive system, including the secretion of bile to digest fats; other functions include plasma protein production, blood detoxification, and glycogen storage</i>
disaccharide	<i>sugar that can be hydrolyzed into two monosaccharide subunits; examples include maltose and sucrose</i>
monosaccharide	<i>simple sugar that cannot be hydrolyzed into simpler sugars; for example glucose, fructose, and galactose</i>
<i>esophageal sphincter</i>	<i>a muscular ring between the esophagus and the stomach that controls the movement of food into and out of the stomach</i>
dehydration synthesis	<i>chemical reaction that results in the formation of a covalent bond between two subunit molecules by the removal of an –OH (hydroxyl) group from one subunit and a hydrogen atom from the other subunit; essentially, a molecule of water (H₂O) is removed</i>
gall bladder	<i>organ that stores bile produced by the liver</i>
<i>gastrin</i>	<i>stomach hormone that stimulates the secretion of hydrochloric acid and the inactive precursor molecule of pepsin from glands in the stomach</i>
homeostasis	<i>the tendency of the body to maintain a relatively constant internal environment</i>
<i>lipase</i>	<i>enzyme that catalyzes the hydrolysis of triglycerides into glycerol and fatty acids</i>
bioavailability	<i>the amount of a nutrient that can be absorbed from a source, rather than the total amount actually in the source</i>
<i>enzyme</i>	<i>protein molecule that acts as a catalyst to increase the rate of a reaction</i>

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pancreas	<i>small gland in the abdomen that secretes digestive enzymes into the small intestine, as well as bicarbonate to neutralize hydrochloric acid from the stomach; also secretes the hormone insulin</i>
inhibitor	<i>molecule that attaches to an enzyme and reduces its ability to bind substrate; two classes are competitive and non-competitive inhibitors</i>
gastrin	stomach hormone that stimulates the secretion of hydrochloric acid and the inactive precursor molecule of pepsin from glands in the stomach
pepsin	protein-digesting enzyme secreted in the stomach; remains inactive until hydrochloric acid is present
peristalsis	<i>wave-like series of muscular contractions and relaxations of the circular and longitudinal muscles that surround the various parts of the digestive tract; aids the movement of food through the digestive tract</i>
polysaccharide	<i>complex carbohydrate consisting of many simple sugars linked together; examples include starch, cellulose, and glycogen</i>
protease	enzyme that hydrolyzes the peptide bonds that link amino acids in proteins and peptides
substrate	substance upon which an enzyme acts
triglyceride	<i>high-energy organic molecule composed of one glycerol molecule and three fatty acid molecules; main component of fats and oils</i>
villus (villi)	<i>finger-like projection along the ridges of the small intestine; increases surface area to aid in the absorption of nutrients</i>
essential amino acid	<i>refers to the any of the nine of twenty amino acids that must come from the diet because the human body cannot synthesize them</i>
nucleic acid	<i>macromolecule formed from a long chain of nucleotide subunits, each consisting of a five-carbon simple sugar, a nitrogen-containing base, and a phosphate group; two types include DNA and RNA</i>
peptide bond	bond between the amino group of one amino acid and the carboxyl group of another in a protein
protein	<i>organic macromolecule assembled from subunits of amino acids</i>
segmentation	<i>a process by which some physical digestion occurs in the small intestine; chyme sloshes back and forth between segments of the small intestine that form when bands of circular muscle briefly contract</i>
pyloric sphincter	muscular ring that acts as a valve between the stomach and the first part of the small intestine (duodenum), controlling the passage of food out of the stomach
small intestine	length of the digestive tract comprised of the duodenum, jejunum, and ileum; main function is to complete the digestion of macromolecules and to absorb their component subunits
large intestine	portion of the digestive system comprised of the caecum, colon, rectum, and anal canal; main function is to concentrate and eliminate waste materials