

CHAPTER 6	Digestive System Vocabulary	BLM 6.4.1A
ANSWER KEY	Building 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>	enzyme in saliva that breaks down starch into simpler sugars
<i>carbohydrase</i>	enzyme that catalyses the hydrolysis of carbohydrates
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>	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
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>	a muscular ring between the esophagus and the stomach that controls the movement of food into and out of the stomach
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>	stomach hormone that stimulates the secretion of hydrochloric acid and the inactive precursor molecule of pepsin from glands in the stomach
homeostasis	<i>the tendency of the body to maintain a relatively constant internal environment</i>
<i>lipase</i>	enzyme that catalyzes the hydrolysis of triglycerides into glycerol and fatty acids
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>	protein molecule that acts as a catalyst to increase the rate of a reaction

Digestive System Vocabulary Building Answer Key

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>
<i>gastrin</i>	stomach hormone that stimulates the secretion of hydrochloric acid and the inactive precursor molecule of pepsin from glands in the stomach
<i>pepsin</i>	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>
<i>protease</i>	enzyme that hydrolyzes the peptide bonds that link amino acids in proteins and peptides
<i>substrate</i>	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>
<i>peptide bond</i>	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>
<i>pyloric sphincter</i>	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
<i>small intestine</i>	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
<i>large intestine</i>	portion of the digestive system comprised of the caecum, colon, rectum, and anal canal; main function is to concentrate and eliminate waste materials