



**ACROSS**

- 5 Gastric \_\_\_\_\_ is a strong acidic liquid, pH 1 to 3 in humans, released by gastric glands in the lining of the stomach. Its main components are digestive enzymes pepsin and rennin, hydrochloric acid, and mucus.
- 7 \_\_\_\_\_ is the rhythmic contraction of smooth muscles to propel contents through the digestive tract.
- 8 The \_\_\_\_\_ intestine, commonly referred to by its Greek name, the colon, is the last part of the digestive system: the final stage of the alimentary canal in vertebrate animals.
- 9 In the gastrointestinal tract, the \_\_\_\_\_ is the layer of loose connective tissue that supports the mucosa, as well as joins the mucosa to the bulk of underlying smooth muscle.
- 11 \_\_\_\_\_ is a digestive protease released by the chief cells in the stomach that functions to degrade food proteins into peptides.
- 17 \_\_\_\_\_ acid is one of the main secretions of the stomach, an acid solution consisting mainly of hydrochloric acid, and small quantities of potassium chloride and sodium chloride.
- 18 The \_\_\_\_\_, or cholecyst, is a pear-shaped organ that stores

- about 50 ml of bile until the body needs it for digestion.
- 20 \_\_\_\_\_ glands are glands that secrete their products into ducts.
- 23 The \_\_\_\_\_ is a hollow jointed tube about 25-30 cm long connecting the stomach to the jejunum.
- 25 Pancreatic \_\_\_\_\_ is produced by the pancreas, containing a variety of enzymes including trypsinogen, chymotrypsinogen, elastase, carboxypeptidase, pancreatic lipase, and amylase.
- 27 The \_\_\_\_\_, also known as the buccal cavity or the oral cavity, is the orifice through which an organism takes in food and water.
- 28 The \_\_\_\_\_ is the final section of the small intestine.
- 29 The gastrointestinal \_\_\_\_\_ is the system of organs within multicellular animals that takes in food, digests it to extract energy and nutrients, and expels the remaining waste.
- 32 \_\_\_\_\_ is the name given to glycoside hydrolase enzymes that break down starch into glucose molecules.
- 34 Released from the gall bladder, \_\_\_\_\_ acids serve multiple functions including elimination of cholesterol from the body, elimination of catabolites from the liver, and emulsifying lipids and fat soluble vitamins in the intestine.

- 35 \_\_\_\_\_ is a peptide hormone of the gastrointestinal system responsible for stimulating the digestion of fat and protein.
- 36 In addition to being the largest gland in the human body, producing bile for example, the \_\_\_\_\_ plays a major role in metabolism.
- 37 \_\_\_\_\_ cells are the stomach epithelium cells which secrete gastric acid and intrinsic factor.

**DOWN**

- 1 \_\_\_\_\_ is the process of metabolism whereby a biological entity processes a substance in order to chemically and mechanically convert the substance for the body to use.
- 2 \_\_\_\_\_ is a bitter, yellow or green alkaline fluid secreted by hepatocytes from the liver with components including cholesterol, lecithin, bilirubin, biliverdin, sodium glycocholate and sodium taurocholate.
- 3 A gastric \_\_\_\_\_ cell is a cell in the stomach that releases pepsinogen and rennin.
- 4 A \_\_\_\_\_ is a round mass of organic matter moving through the digestive tract.
- 6 The \_\_\_\_\_ is the central of the three divisions of the small intestine and lies between the duodenum and the ileum.
- 10 \_\_\_\_\_, known scientifically as deglutition, is the reflex in the human body that makes something pass from the mouth, to the pharynx, into the esophagus, with the shutting of the epiglottis.
- 11 The \_\_\_\_\_ duct is a duct joining the pancreas to the common bile duct.
- 12 The \_\_\_\_\_ is the part of the neck and throat situated immediately posterior to the mouth and nasal cavity, and cranial, or superior, to the esophagus, larynx, and trachea.
- 13 \_\_\_\_\_ is a science that examines the relationship between diet and health.
- 14 A \_\_\_\_\_ is a nutrient that is an organic compound required in tiny amounts for essential metabolic reactions in a living organism.
- 15 \_\_\_\_\_ is the liquid substance found in the stomach before passing through the pyloric valve and entering the duodenum.
- 16 Intestinal \_\_\_\_\_ are tiny, finger-like structures that protrude from the wall of the intestine.
- 19 The \_\_\_\_\_ is another name for the large intestine.
- 21 The \_\_\_\_\_ or gullet is an organ in vertebrates which consists of a muscular tube through which food passes from the pharynx to the stomach.
- 22 \_\_\_\_\_ or chewing is the process by which food is mashed and crushed by teeth.
- 24 Dietary \_\_\_\_\_s are the chemical elements required by living organisms, other than the four elements carbon, hydrogen, nitrogen, and oxygen which are present in common organic molecules.
- 26 A \_\_\_\_\_ is an essential human nutrient. In foods of animal origin, the major form of this vitamin is retinol, but all forms have a beta-ionone ring to which an isoprenoid chain is attached.
- 27 The \_\_\_\_\_ are structures that increase the surface area of cells by approximately 600 fold, thus facilitating absorption and secretion.
- 30 The \_\_\_\_\_ intestine is where the majority of digestion takes place, the part of the gastrointestinal tract (gut) between the stomach and the large intestine which includes the duodenum, jejunum, and ileum.
- 31 A \_\_\_\_\_ is a substance used in an organism's metabolism or physiology which must be taken in from the environment.
- 33 \_\_\_\_\_ is the watery and usually frothy substance produced in the mouths of humans and some animals.