Exercise 38 anatomy of the digestive system

Science, Anatomy

R E V I E W NAME _____ LAB TIME/DATE _____ S H E E T EXERCISE 38 Anatomy of the Digestive System General Histological Plan of the Alimentary Canal 1. The general anatomical features of the alimentary canal are listed below. Fill in the table to complete the information. Subdivisions of the layer (if applicable) Wall layer mucosa submucosa muscularis externa serosa or adventitia Major functions epithelium, lamina propria, (not applicable) ecretion, absorption protection protection, vascular supply for mucosa churning, mixing protection, anchoring circular and longitudinal (not applicable) Organs of the Alimentary Canal 2. The tubelike digestive system canal that extends from the mouth to the anus is known as the canal or the digestive tract. it has an innermost layer that runs obliquely alimentary 3. How is the muscularis externa of the stomach modified?

_____

_____ How does this modification relate to the function of the stomach? lets the stomach ix, churn and movefoodalong trac while breaking it down and mixing it in gastric juices

_____

_____ squamous cells in the esophagus to columna 4. What transition in epithelial type exists at the gastroesophageal junction? in the gastric mucosa

_____

_____ simple columnar absorb. How do the epithelia of these two organs relate to their specific functions? Stratified squamous protect

_____

_____ 5. Differentiate between the colon and the large intestine. large intestine extend from the ileocecal valve to the anus, bu the colon is divided into the ascending, descending, sigmoid colon

_____

_____ 259 6. Match the items in column B with the descriptive statements in column A. Column A l y o c n w h d b s h p i v e j x b v k t r u f z y a g , t 1. 2. 3. 4. , v 6. 7. structure that suspends the small intestine from the posterior body wall fingerlike extensions of the intestinal mucosa that increase the surface area for absorption large collections of lymphoid tissue found in the submucosa of the small intestine deep folds of the mucosa and submucosa that extend completely or partially around the ircumference of the small intestine 5. regions that break down foodstuffs mechanically mobile organ that manipulates food in the mouth and initiates swallowing conduit for both air and food y , 8. three structures continuous with and representing modifications of the peritoneum the “ gullet”; no digestive/absorptive function Column B a. b. c. d. e. f. g. h. i. j. k. l. anus appendix circular folds esophagus frenulum greater omentum hard palate haustra ileocecal valve large intestine lesser omentum mesentery 9. 10. olds of the gastric mucosa 11. 12. 13. sacculations of the large intestine projections of the plasma membrane of a mucosal epithelial cell valve at the junction of the small and large intestines m. microvilli n. o. p. q. r. s. t. u. v. oral cavity parietal peritoneum Peyer’s patches pharynx pyloric valve rugae small intestine soft palate stomach 14. primary region of food and water absorption 15. membrane securing the tongue to the floor of the mouth 16.

absorbs water and forms feces 17. 18. 19. 20. 21. 22. 23. 24. 25. 26. 27. 28. rea between the teeth and lips/cheeks wormlike sac that outpockets from the cecum initiates protein digestion structure attached to the lesser curvature of the stomach organ distal to the stomach valve controlling food movement from the stomach into the duodenum posterosuperior boundary of the oral cavity location of the hepatopancreatic sphincter through which pancreatic secretions and bile pass serous lining of the abdominal cavity wall principal site for the synthesis of vitamin K by microorganisms region containing two sphincters through which feces are expelled from the body bone-supported anterosuperior boundary of the oral cavity . tongue x. y. z. vestibule villi visceral peritoneum 260 Review Sheet 38 7. Correctly identify all organs depicted in the diagram oral cavity paratoid gland mouth sublingual gland pharynx submanibulargland esphogus gall bladder liver hepatic portal region cystic duct bile duct hepatic pancreatic sphincter accessory pancreatic duct hepatic flexure jejunum ascending colon ileum rectum illiocecal vavle anal canal cecum appendix anus transverse colon decsending colon sigmond colon pancreas cardiac sphincter pyllitic sphincter Review Sheet 38 261 8. You have studied the histological structure of a number of organs in this laboratory.

Three of these are diagrammed below. Identify and correctly label each. (a) _____(b) _____(c) _____

Accessory Digestive Organs 9. Correctly label all structures provided with leader lines in the diagram of a molar below. (Note: Some of the terms in the key for question 10 may be helpful in this task.) enamel dentin crown pulp cavity gum Neck periodontal ligament Bone root cementum rooteneal Blood

vessels and nerves in pulp 262 Review Sheet 38 10. Use the key to identify each tooth area described below. c b e f j p g j a 1. isible portion of the tooth in situ 2. material covering the tooth root 3. hardest substance in the body 4. attaches the tooth to bone and surrounding alveolar structures 5. portion of the tooth embedded in bone 6. forms the major portion of tooth structure; similar to bone 7. produces the dentin 8. site of blood vessels, nerves, and lymphatics 9. entire portion of the tooth covered with enamel ; the number of permanent teeth is Key: a. b. c. d. e. f. g. h. i. j. 32 anatomical crown cementum clinical crown dentin enamel gingiva odontoblast periodontal ligament pulp root . 20 11.

In the human, the number of deciduous teeth is 2, 1, 2, 3 12. The dental formula for permanent teeth is 2 2, 1, 2, 3 Explain what this means. 2 incisors, 1 canine, 2 premolars and 3 molars on upper teeth. 2 incisors, 1 canine, 2 premolars and 3 molars on upper teeth. multiple by 2 2, 1, 0, 2 What is the dental formula for the deciduous teeth? 2, 1, 0, 2 13. What teeth are the “ wisdom teeth”? the third set of molars 2 20 14. Various types of glands form a part of the alimentary tube wall or duct their secretions into it. Match the glands listed in column B with the function/locations described in column A. Column A a f 1. 2. . 4. produce(s) mucus; found in the submucosa of the small intestine produce(s) a product containing amylase that begins starch breakdown in the mouth produce(s) a whole spectrum of enzymes and an alkaline fluid that is secreted into the duodenum produce(s) bile that it secretes into the duodenum via the bile duct Column B a. b. c. d. e. f. duodenal glands gastric glands intestinal crypts liver pancreas salivary glands e d b c 5. produce(s) HCl and pepsinogen 6. found in the mucosa of

the small intestine; produce(s) intestinal juice 15. Which of the salivary glands produces a secretion that is mainly serous? ublingual salviary gland Review Sheet 38 263 16. What is the role of the gallbladder? store bile bile duct , 17. Name three structures always found in the portal triad regions of the liver. portal venule and poral arteriole 18. Where would you expect to find the Kupffer cells of the liver? What is their function? inside sinusoid walls they line the sinus' and remove bacteria plasma protiens 19. Why is the liver so dark red in the living animal? 20. The pancreas has two major populations of secretory cells—those in the islets and the acinar cells. Which population serves the digestive process? acinar cells 264 Review Sheet 38