

LABORATORY EXERCISE 49 ORGANS OF THE DIGESTIVE SYSTEM

Figure Labels

Fig. 49.1

- | | |
|----------------|--------------------|
| 1. Lip | 5. Palatine tonsil |
| 2. Hard palate | 6. Tongue |
| 3. Soft palate | 7. Vestibule |
| 4. Uvula | |

FIG. 49.2

- | | |
|----------------------------------|--|
| 1. Parotid gland | 5. Tongue |
| 2. Masseter muscle | 6. Sublingual gland |
| 3. Submandibular gland | 7. Submandibular duct (Wharton's duct) |
| 4. Parotid duct (Stenson's duct) | |

FIG. 49.3

- | | |
|-----------|---------------|
| 1. Enamel | 4. Crown |
| 2. Dentin | 5. Gingiva |
| 3. Root | 6. Root canal |

FIG. 49.5

- | | |
|---|--------------------|
| 1. Pharyngeal tonsils (adenoids) | 7. Lingual tonsils |
| 2. Opening of auditory tube (eustachian tube) | 8. Epiglottis |
| 3. Nasopharynx | 9. Laryngopharynx |
| 4. Oral cavity | 10. Esophagus |
| 5. Palatine tonsils | 11. Trachea |
| 6. Oropharynx | |

FIG. 49.6

- | | |
|----------------------|---|
| 1. Esophagus | 6. Pyloric region |
| 2. Cardiac region | 7. Lower esophageal sphincter (cardiac sphincter) |
| 3. Pyloric sphincter | 8. Fundic region |
| 4. Duodenum | 9. Body region |
| 5. Pyloric canal | 10. Rugae |

FIG. 49.7

- | | |
|---|---|
| 4 | 1 |
| 2 | 3 |
| 5 | 7 |
| 6 | |

FIG. 49.9

- | | |
|--------------------------|---|
| 1. Liver | 6. Hepatopancreatic sphincter (sphincter of Oddi) |
| 2. Hepatic duct (common) | 7. Common bile duct |
| 3. Gallbladder | 8. Pancreas |
| 4. Cystic duct | 9. Pancreatic duct |
| 5. Duodenum | |

FIG. 49.10

5
2
3

8
1
9

7
11
10

6
4



Critical Thinking Application Answer

The small intestine, which is much longer than the large intestine and contains villi, provides more surface area for absorption than the large intestine.

Laboratory Report Answers

PART A

- | | | | |
|------|------|-------|-------|
| 1. d | 5. j | 9. f | 13. a |
| 2. m | 6. n | 10. i | 14. c |
| 3. g | 7. l | 11. o | 15. b |
| 4. h | 8. k | 12. e | |

PART B

- | | |
|--|----------------------|
| 1. nasopharynx | 7. trachea |
| 2. oropharynx | 8. esophageal hiatus |
| 3. laryngopharynx | 9. Mucus |
| 4. nasopharynx | 10. 25 |
| 5. constrictors | |
| 6. Soft palate is raised, hyoid bone and larynx are elevated, tongue is pressed upward against the soft palate, longitudinal muscles of pharyngeal wall contract pulling the pharynx upward, esophagus is opened, and a peristaltic wave forces food into the esophagus. | |

PART C

- | | |
|---|--|
| 1. cardiac, fundic, body, and pyloric regions | 8. gastrin |
| 2. pyloric sphincter | 9. chyme |
| 3. mucous, chief, and parietal cells | 10. The stomach receives food from the esophagus, mixes it with gastric juice, initiates the digestion of protein, does limited amount of absorption, and moves food (chyme) into the small intestine. |
| 4. chief cells | |
| 5. parietal cells | |
| 6. pepsin | |
| 7. intrinsic factor | |

PART D

- | | | | |
|------|------|------|-------|
| 1. d | 4. e | 7. k | 10. h |
| 2. b | 5. a | 8. c | 11. j |
| 3. f | 6. g | 9. i | |

PART E

- | | |
|---|--|
| 1. duodenum, jejunum, ileum | 3. lacteal |
| 2. A mesentery supports and suspends organs. It contains blood vessels, lymphatic vessels, and nerves that supply the organs. | 4. intestinal glands (crypts of Lieberkühn) |
| | 5. peptidases, sucrase, maltase, lactase, lipase, enterokinase (only 5 of 6 needed to answer the question) |

6. ileocecal sphincter (valve)
7. vermiform appendix
8. The small intestine receives secretions from the pancreas and liver, completes digestion of nutrients, absorbs the products of digestion, and transports the residues to the large intestine.
9. The large intestine absorbs water and electrolytes, and forms and stores feces.

LABORATORY EXERCISE 50

CAT DISSECTION: DIGESTIVE SYSTEM

Laboratory Report Answers

PART A

1. The major salivary glands (parotid, submandibular, and sublingual) in the human and the cat occupy similar locations.
2. The jaw of the cat has six incisors, two canines, six premolars, and two molars; the jaw of the human has four incisors, two canines, four premolars, and six molars.
3. The cat's canine teeth are adapted for stabbing and holding prey whereas its rear molars are adapted for cutting meat.
4. The uvula is missing in the cat.
5. The transverse ridges help to hold food.
6. Many of the papillae on the cat's tongue have spiny projections that help the cat to clean its fur. These are lacking on the human tongue.

PART B

1. The peritoneum is the membrane that lines the abdominal cavity and covers the abdominal organs. Double-layered folds in this membrane form the mesentery that supports the abdominal organs.
2. The inner lining of the stomach is folded to form many ridges called rugae.
3. The cat's liver has five lobes; the human liver has four.
4. The cat's pancreas is relatively smaller than that of the human and it is double-lobed. One lobe lies along the duodenum, and the other extends behind the stomach toward the spleen.
5. The appendix is missing in the cat.