

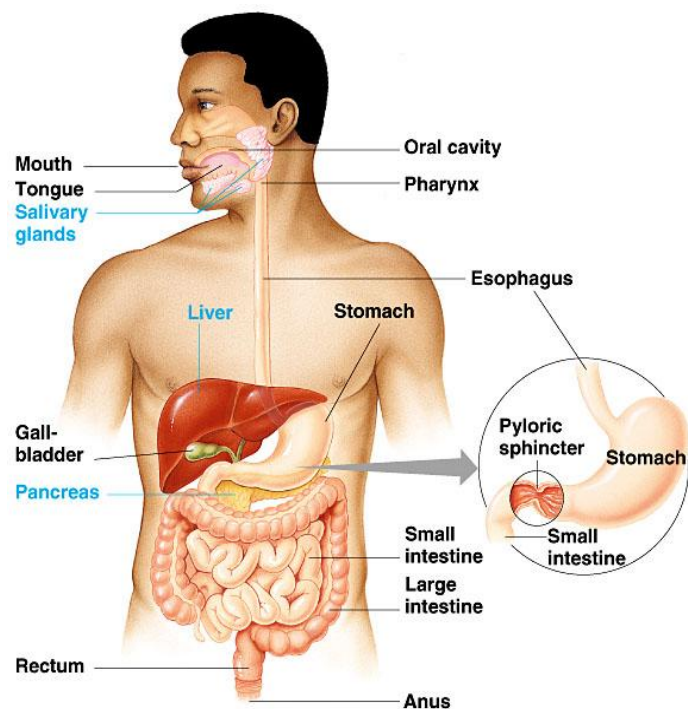
CHAPTER 21 - Nutrition and Digestion
Chapter Reading Guide

Obtaining and Processing Food

1. Define and distinguish between *carnivores*, *herbivores*, *omnivores*, *suspension feeders*, *fluid feeders*, and *bulk feeders*.

2. Compare the structure and function of a gastrovascular cavity and an alimentary canal. Describe the specialized digestive systems of an earthworm, grasshopper, and bird.

3. Describe the main components of the human alimentary canal and the associated digestive glands.



Human Digestive System

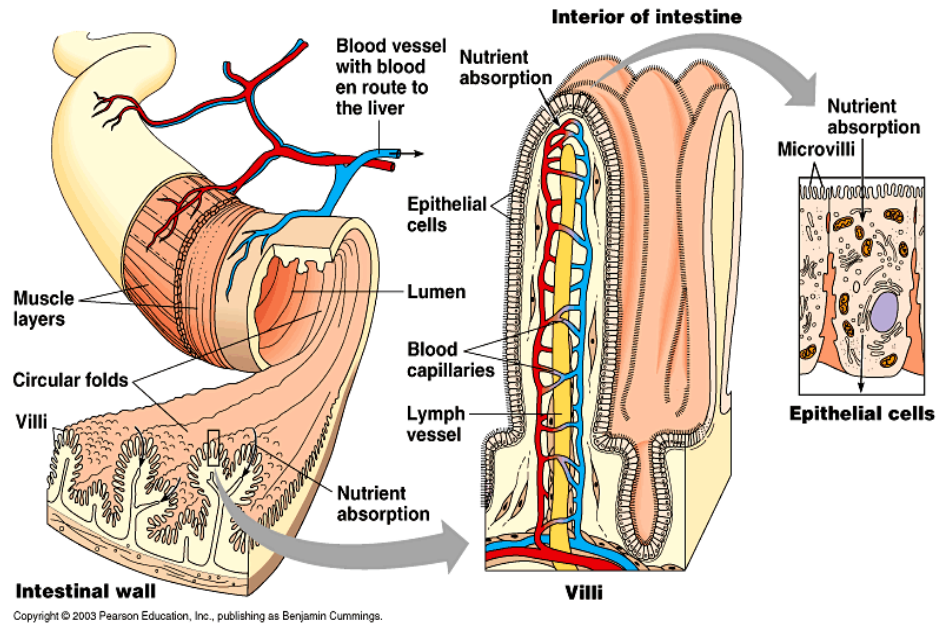
4. Describe the functions of the molecules in saliva and the roles of the tongue and teeth in digestion.

5. Explain how swallowing occurs and how food is directed away from the trachea.

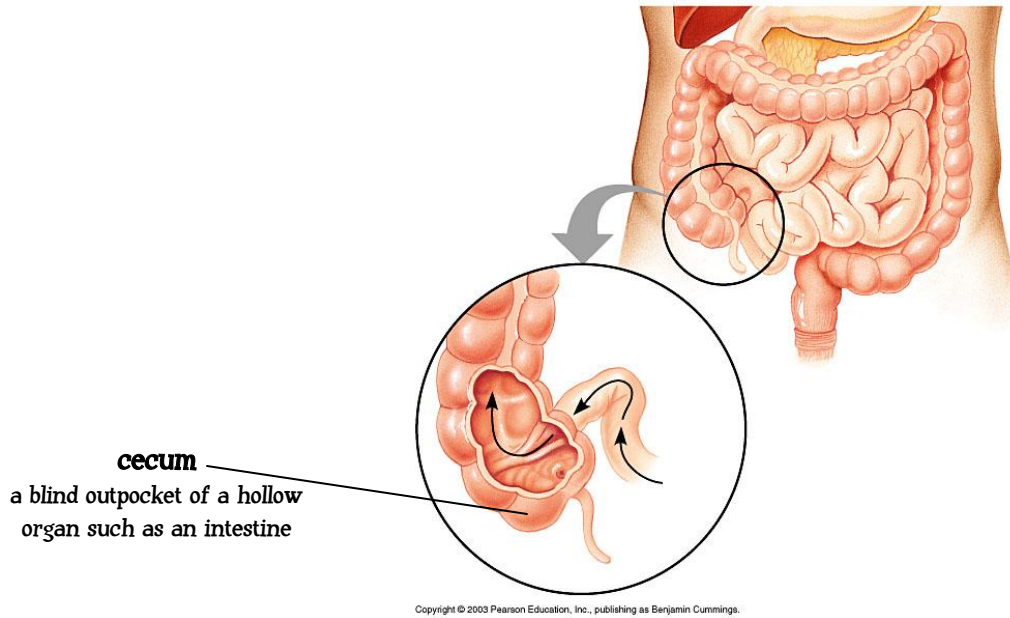
6. Explain how the structure of the esophagus functions to propel food.

7. a) Relate the structure of the stomach to its functions. **b)** Describe the functions of the secretions of the stomach. **c)** Explain the causes of heartburn and why the stomach does not digest itself.

8. Describe the different types of chemical digestion that occur in the small intestine. **Explain how the structure of the small intestine promotes nutrient absorption.**



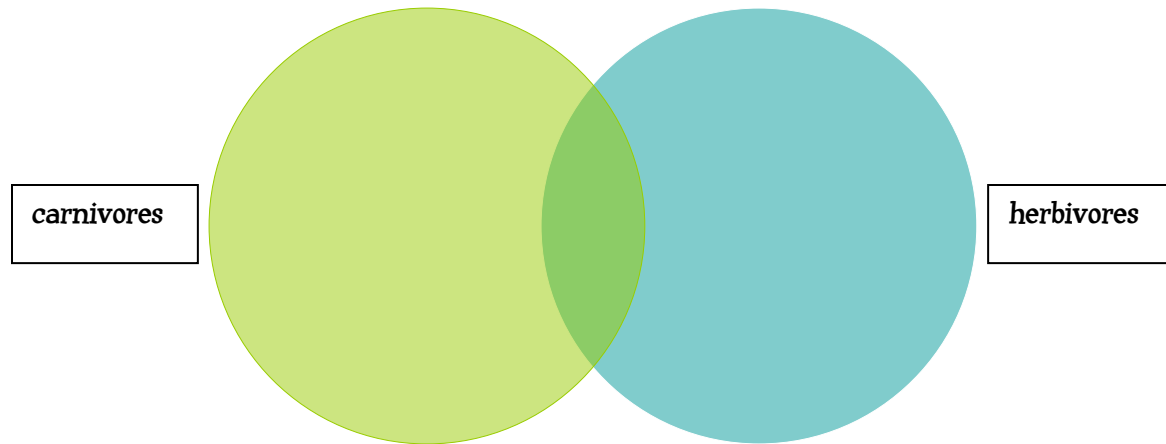
9. Describe the structure and functions of the large intestine and rectum. **Begin by labeling the diagram below with name of the structures and their various functions.**



10. Note the causes of constipation and diarrhea.

Diets and Digestive Adaptations

11. Compare and contrast the digestive tracts of carnivores and herbivores.



12. Describe the cellulose digesting specializations of the digestive tracts of a koala and cow.

Nutrition

13. Define "*basal metabolic rate*", explain how it is measured, and note how energy is obtained and stored in the body.

14. Define a vitamin and distinguish between water-soluble and fat-soluble vitamins.

15. Explain how diet can influence the risks of cardiovascular disease and cancer.