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# CHAPTER 21 – Nutrition and Digestion

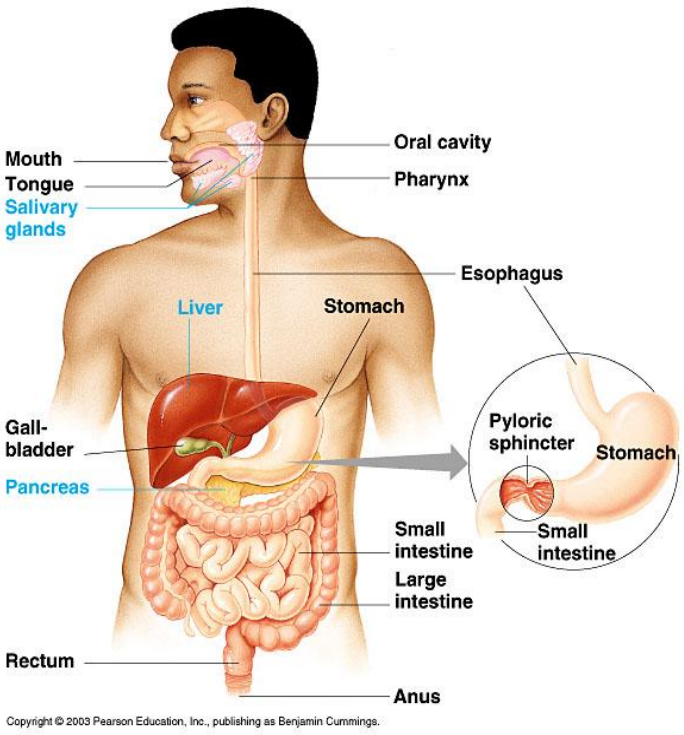
Chapter Reading Guide

## 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**.



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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.

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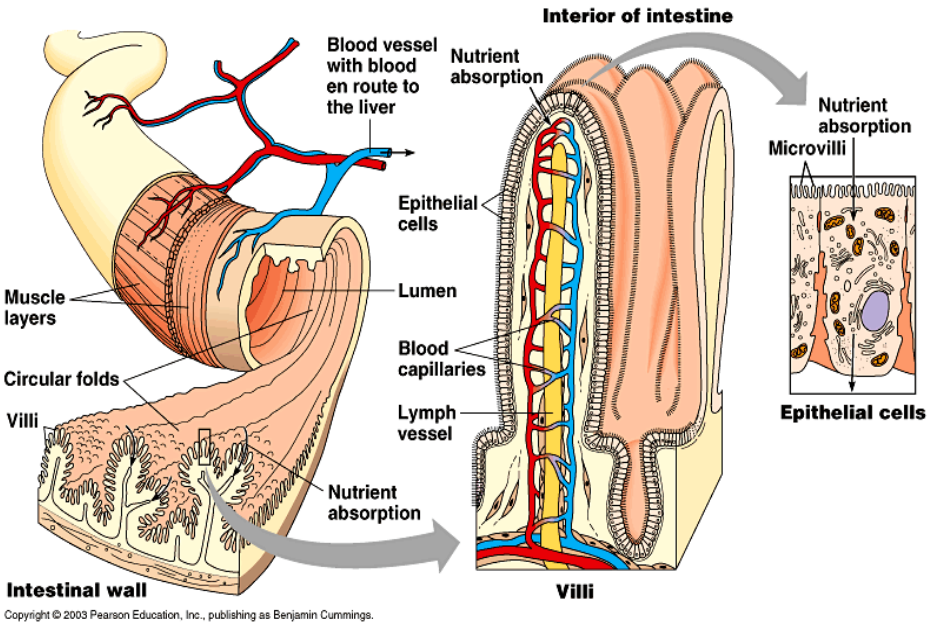
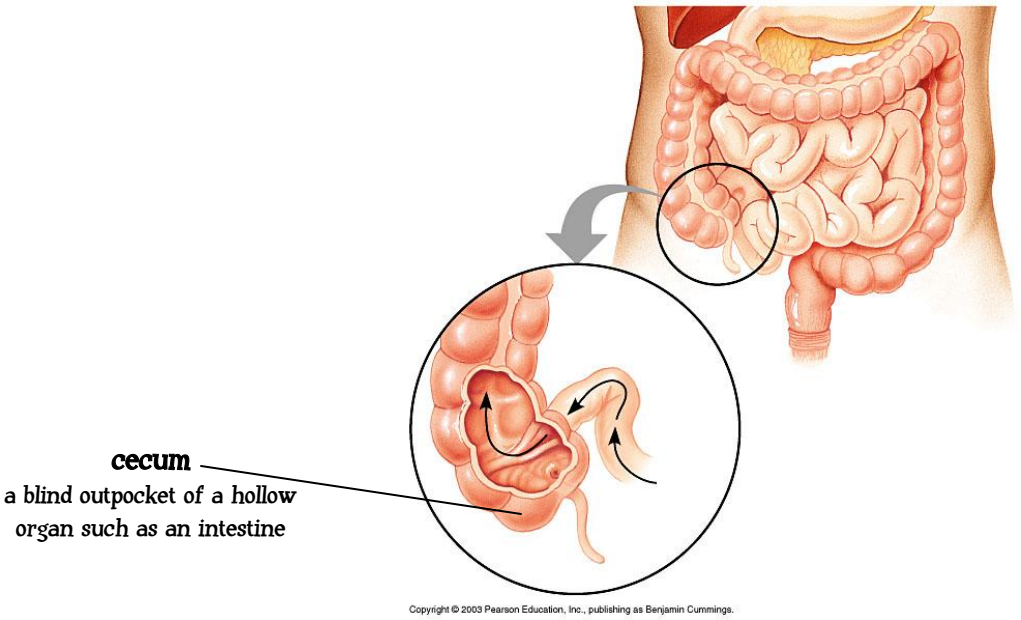
**8.** Describe the different types of chemical digestion that occur in the small intestine. **Explain how the structure of the small intestine promotes nutrient absorption.**




**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.

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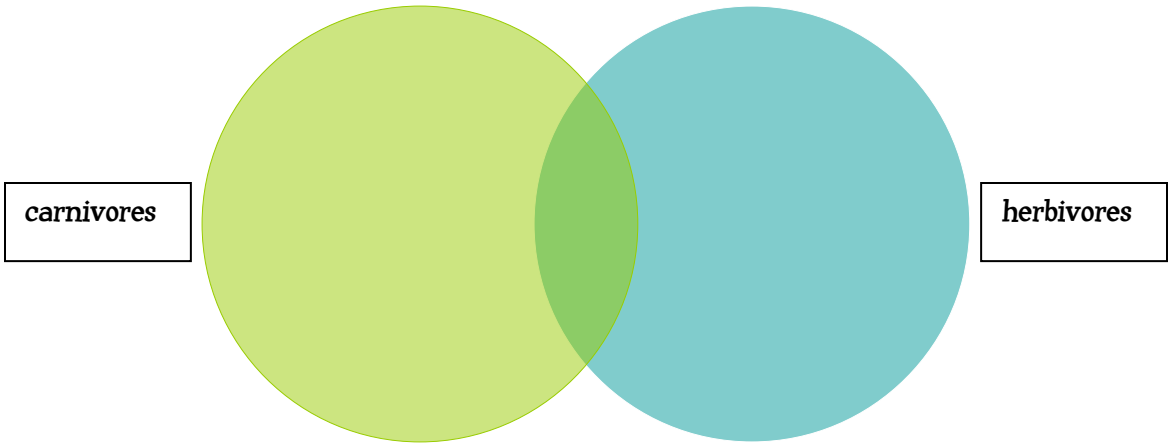
Diets and Digestive Adaptations

**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.