


CONCEPT REVIEW
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THE FUNCTIONS OF THE DIGESTIVE SYSTEM

 PAGES 168 TO 172
Complete this concept review handout and keep it as a record of what you have learned.

DEFINITIONS

- Digestion is the transformation of food into nutrients that can be used by the body.

- Mechanical transformation consists of physically breaking down food into smaller particles in preparation for subsequent chemical transformation.

- Chemical transformation breaks down the complex molecules of food into simpler molecules. These changes occur with the help of secretions from the digestive glands.

- Nutrients are food molecules that can be absorbed by the body.

- Absorption is the passage of nutrients from the digestive tract into the blood or lymph.

PROCESSING FOOD IN THE DIGESTIVE SYSTEM

- Ingestion and propulsion of food along the digestive tract
- Digestion of food

- Absorption of nutrients

- Elimination of fecal matter

HOW FOOD TRAVELS ALONG THE DIGESTIVE TRACT

Mechanism	Description	Location
Deglutition	<u>Swallowing</u> _____	<u>Mouth</u> _____
<u>Peristalsis</u> _____	<u>Muscle contractions that propel substances through the digestive tract</u> _____ _____ _____	<u>Esophagus</u> _____ <u>Stomach</u> _____ <u>Small intestine</u> _____ <u>Large intestine</u> _____



DIGESTION

Mechanical transformation

Process	Description	Location
Chewing	<i>The process of crushing and grinding food</i>	<i>Mouth</i>
Churning	<i>Muscle contractions that mix food with secretions from the digestive glands.</i>	<i>Stomach</i> <i>Small intestine</i>

Chemical transformation

Digestive glands and secretions

Digestive glands	Secretions	Location	Targets
Salivary glands	<i>Saliva</i>	<i>Mouth</i>	<i>Starch (complex carbohydrate)</i>
<i>Gastric glands</i>	<i>Gastric juice</i>	<i>Stomach</i>	<i>Proteins</i>
<i>Intestinal glands</i>	<i>Intestinal juice</i>	<i>Small intestine</i>	<i>Proteins, carbohydrates, fats</i>
<i>Pancreas</i>	<i>Pancreatic juice</i>	<i>Small intestine</i>	<i>Proteins, carbohydrates, fats</i>
<i>Liver</i>	<i>Bile</i>	<i>Small intestine</i>	<i>Fats</i>

Nutrients

Nutrients that can be directly absorbed

Water, _____ *vitamins and minerals* _____

Nutrients requiring chemical transformation

Nutrients	Molecules
Proteins	<i>Amino acids</i>
Carbohydrates	<i>Simple carbohydrates (mainly glucose)</i>
Fats	<i>Fatty acids, glycerol</i>