What is the Human Digestive System?

Worksheet

The digestive system converts food into absorbable nutrients through ingestion, digestion, propulsion (swallowing and peristalsis), absorption, and defecation-a process taking 24-72 hours from mouth to colon.

Questions

1. Which enzyme begins digestion in the mouth?

A) Pepsin
B) Trypsin
C) Amylase
D) Lipase

2. Where does most nutrient absorption occur?

A) Stomach
B) Small intestine
C) Large intestine
D) Esophagus

3. What is the role of bile?

A) Digest proteins
B) Emulsify fats
C) Absorb water
D) Kill bacteria

4. How long does the entire digestive process typically take?

A) 2-4 hours
B) 12-24 hours
C) 24-72 hours
D) 1 week

5. Name the three main enzymes of digestion and where they work.

6. Why does food take longer to digest after a fatty meal?

7. What is peristalsis and why is it important?

8. Define: What are the six main stages of digestion?

9. Define: What is chyme?

10. Define: Name the three accessory organs of digestion.

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Answer Key

1. C) Amylase - Amylase in saliva breaks starch into maltose. Pepsin works in the stomach; trypsin and lipase in the small intestine.

2. B) Small intestine - The small intestine's villi and microvilli have a huge surface area for absorption of amino acids, glucose, fatty acids, and vitamins.

3. B) Emulsify fats - Bile (from the liver/gallbladder) emulsifies (breaks up) large fat droplets into smaller ones for easier digestion by lipase.

4. C) 24-72 hours - From ingestion to defecation, food usually takes 24-72 hours to pass through the entire digestive tract.

5. 1. Amylase (saliva, mouth) - breaks starch into maltose. 2. Pepsin (stomach) - breaks proteins into peptides. 3. Trypsin (pancreatic enzyme, small intestine) - further breaks proteins into amino acids.

6. Fats are harder to digest and slow gastric emptying (movement of food from stomach to small intestine). Fats require more bile and lipase enzymes. The stomach may retain fatty food for 4-6 hours vs. 2-3 for carbohydrates.

7. Peristalsis = rhythmic, wave-like muscle contractions in the esophagus and intestines. It propels food forward even if you are upside down. Without it, food would not reach the stomach and intestines.

8. 1. Ingestion, 2. Digestion (mechanical & chemical), 3. Propulsion (swallowing & peristalsis), 4. Digestion (continued), 5. Absorption, 6. Defecation.

9. The semi-liquid paste formed in the stomach after mechanical and chemical digestion of food.

10. Liver, pancreas, and gallbladder.

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