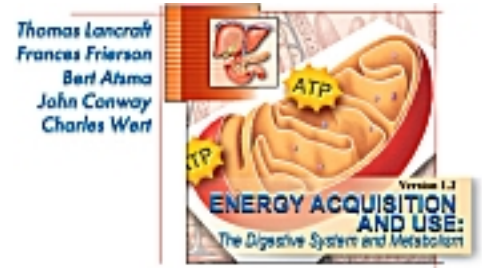


The Carbohydrate Digestion & Absorption

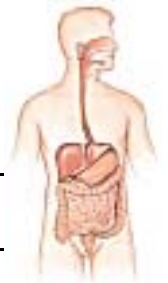
Directions:

- Click the "Contents" button,
- Open the *Digestive System* File,
- Click *Animations*,
- Click *Carbohydrate Digestion & Absorption*



Introduction

1. Generally describe how the following are involved with digestion.



Carbohydrate Digestion

2. a. Where does carbohydrate digestion begin? _____
b. What enzyme and glands are involved? _____



3. How does *salivary amylase* affect starch and glycogen (two complex carbohydrates)?

4. Why are only a few starch or glycogen molecules completely digested to maltose (a simple sugar) by the time they enter the stomach?



5. a. How does the *pancreas* contribute to carbohydrate digestion? _____



- b. Where does pancreatic amylase do its work? How has the pH been adjusted so this enzyme is functional?

- c. How do we digest cellulose (a complex plant carbohydrate)? (Be careful, this is a little tricky.)

6. Where is carbohydrate digestion completed? _____

7. Four brush-border enzymes are involved in completing carbohydrate digestion. Describe what each of them achieve.



Alpha-dextrinase _____

Sucrase _____

Maltase _____

Lactase _____

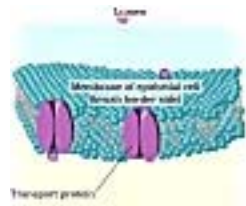
Carbohydrate Absorption

8. a. Specifically, what is absorbed into the blood following carbohydrate digestion?

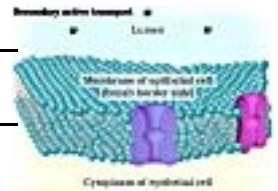


b. Specifically, where does this absorption occur? _____

9. Describe *facilitated transport* of the monosaccharide fructose. _____



10. a. Describe *secondary active transport* of glucose and galactose. _____



b. Facilitated diffusion (transport) finishes glucose and galactose absorption into the blood. Explain.
