

Chapter 17

Use with Section 2

ENRICHMENT

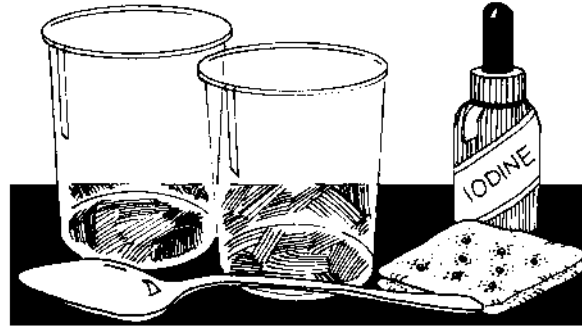
● Your Digestive System

Does digestion begin in the mouth?

The starch you eat is changed to sugar through the process of digestion. Where does this process begin? You can find out by testing for the presence of starch in an unchewed cracker and a chewed cracker.

Materials

2 small clear glasses
tincture of iodine
saltine crackers
spoon
eyedropper
water



Procedure



1. Crumble half a cracker into one of the glasses. Add 2 spoonfuls of water and mix well.
2. Use the eyedropper to add 3 drops of iodine to the mixture. Iodine changes the color of any starchy substance from pale purple to dark purple. **CAUTION:** *Iodine is a poison. Handle with care.* Record the color of this mixture.
3. Put the other half of the cracker into your mouth and chew it for about a minute. Spit the chewed cracker into the other glass. Add 2 spoonfuls of water and mix well.
4. Use the eyedropper to add 3 drops of iodine to the mixture in the second glass. Observe the color of the mixture. Record your observations.

Data and Observations

| Mixture | Color | Starch present? |
|------------------|-------|-----------------|
| unchewed cracker | | |
| chewed cracker | | |

Conclude and Apply

1. Was there a difference in color in the mixtures in the two glasses? Explain. _____

2. Since you know that iodine tests for starch, which cracker had more starch in it, the unchewed cracker or the chewed cracker? _____
3. What enzyme produced by glands in the mouth could have changed the starch in the chewed cracker? _____
4. Is the change in color evidence of chemical digestion or mechanical digestion?
