

Lab 1: Digestion

I. Starch Digestion by Salivary Amylase pp. 151-153

GOALS:

You should be able to.....

- ★ Describe the chemical process of starch digestion.
- ★ Explain how iodine and Benedict's reagent indicate whether starch digestion has occurred.
- ★ State how the digestion of starch is affected by the following:
 1. presence of amylase
 2. temperature
 3. time

Key Terms You Should Know:

- | | |
|--------------|---------------------------|
| ✓ digestion | ✓ amylase |
| ✓ hydrolysis | ✓ IKI (iodine) test |
| ✓ starch | ✓ Benedict's reagent test |
| ✓ maltose | |

Introduction to Starch Digestion

- ☐ Read pp.151-first ½ of p. 152. Answer questions.

Experimental Procedure

- ☐ Follow Experimental Procedures on pp. 152-153. CHANGE ALL "30 min" times to "20 min". Note when to do tests "immediately". Wear goggles near hot bath/ boiling beakers. You do NOT have to answer the questions.
- ☐ Fill in Table 11.1.

Conclusions & Review

1. A positive IKI (iodine) test changes the solution to the color _____ and indicates the presence of _____. This tells us that starch digestion **has/ has not** taken place.
2. A positive Benedict's reagent test changes the solution to the color _____ indicates the presence of _____. This tells us that starch digestion **has/ has not** taken place.
3. In which tubes did starch digestion occur? _____ These tubes were the control for the experiment.
4. What experimental variable was changed in Tubes 1 & 2?

How did this variable affect the digestion of starch?

5. What experimental variable was changed in Tubes 5 & 6? _____
How did this variable affect the digestion of starch?

6. What experimental variable was changed in Tubes 7 & 8? _____
How did this variable affect the digestion of starch?

7. Name three conditions that must be met for starch digestion to occur.

II. Fetal Pig Dissection: External Anatomy, Oral Cavity, & Pharynx

GOALS:

You should be able to.....

- ★ State characteristics shared by all mammals.
- ★ Determine whether a pig is male or female.
- ★ Identify the following structures and state their function(s):

umbilical cord

nipples/mammary glands

urogenital opening (on both male & female)

oral cavity structures:

teeth

tongue

hard palate

soft palate

pharynx structures:

epiglottis

glottis

esophagus

trachea

Introduction & External Anatomy

- ☐ Bottom of p.159-161: Read and follow all procedures to locate structures. Wear gloves & goggles!

Oral Cavity & Pharynx

- ☐ p. 162: Read and follow all procedures. Wear goggles & gloves! Use scissors and probes only.
- ☐ p. 163: Read and follow procedures #1-3

Review

- ☐ p. 172: Answer questions #1-5, 9, 10, 18

