Lab 1: Digestion

Starch Digestion by Salivary Amylase pp. 151-153

Goals:

You should be able to

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

Key Terms You Should Know:

- ✓ Digestion
- ✓ Hydrolysis
- ✓ Starch
- ✓ 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/boiling beakers. You DO NOT have to answer the questions.
- Fill in Table 11.1.

Conclusions and 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 ______ and 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?

amylase IKI (iodine) test Benedict's reagent test

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

GOALS:

You should be able to

- 1. State characteristics shared by all mammals.
- 2. Determine whether a pig is male or female.
- 3. Identify the following structures and state their function(s): Umbilical chord Nipples/mammary glands Urogenital openings (on both male and female) Oral cavity structures: Teeth Tongue Hard palate Soft palate Pharynx structures: Epiglottis Glottis
 - trachea

Introduction & External Anatomy

Esophagus

Bottom of p. 159 – 161: Read and follow all procedures to locate structures. • Wear gloves and goggles!

Oral Cavity and Pharynx

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

Review

• P. 172: Answer questions #1-5, 9, 10, 18.