

## LAB 1: DIGESTION

### I. Starch Digestion by Salivary Amylase pp. 149-152 (top)

#### 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*

*hydrolysis*

*starch*

*maltose*

*amylase*

*IKI (iodine) test*

*Benedict's reagent test*

#### **Introduction to Starch Digestion**

Read pages 149 – first ½ of 150. Answer questions.

#### **Experimental Procedure**

Follow Experimental Procedures on pp. 150-151. CHANGE ALL “30 min” times to “20 min”. Note when to do tests “immediately”; perform tests for tubes 1 & 2 at side benches for immediate results. Wear goggles near hot bath/boiling beakers.

Omit the “what to expect” questions.

Fill in Table 12.1 using both iodine and Benedict's test results for the appropriate test tubes (note test tubes 1 & 2 have same contents but you used test tube 1 to test for presence of starch using iodine and test tube 2 to test for maltose using Benedict's – similarly tubes 3 & 4 are pair, 5 & 6 are a pair, and 7 & 8 are a pair).

Answer conclusion questions on top of p. 152

Answer the following laboratory review questions on p. 157:

1, 2, 3, 4, 7, 13, 15.

## 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 structures listed below (see External Anatomy, Oral Cavity & Pharynx sections) and state their function(s).

### **Introduction**

Read p. 159

Obtain a bag, 2 pieces of rope, twist tie, and ID tag from the side bench.

Label tag with your last name, class day & time.

Obtain a pig from your instructor.

### **External Anatomy**

Bottom of p. 160-161: Read and follow all procedures. Wear gloves & goggles!

Know and be able to locate following: tongue, digits, wrist, ankle, elbow, knee, shoulder, hip, umbilical cord, nipples, anus, urogenital papilla (females), scrotal sac (males) and the urogenital opening (located in different places on males and females).

Identify the sex of your pig and write it down on your tag.

Locate a group with the opposite sex to understand how to identify both sexes.

### **Oral Cavity & Pharynx**

Secure your pig using the string (as shown).

p. 162-163:

Read about the oral cavity and then proceed with dissection. Use scissors and probes only.

Wear goggles & gloves!

Observe demonstration for incisions and then follow procedures.

Locate the following items once you have completed the dissection: pharynx, glottis, epiglottis, trachea, esophagus, hard palate, and soft palate.

Use your instruments to explore the oral cavity.

Know what is meant when we say that the pharynx is the *crossroads* for air and food.

### **Review**

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