

# Lab 1: Digestion

pp. 149-152, 157, 159-163,172

## GOALS:

- Describe the chemical process of starch digestion.
- Explain how iodine and Benedict's reagent indicate whether starch digestion has occurred.
- State how starch digestion is affected by the presence of amylase, temperature and time.
- State characteristics shared by all mammals.
- Determine whether a fetal pig is male or female.
- Identify the following structures and state their function(s):

**Oral cavity structures: teeth, tongue, hard palate and soft palate**

**Pharynx structures: epiglottis, glottis, esophagus and trachea**

## KEY TERMS:

digestion amylase Benedict's reagent test IKI (iodine) test starch maltose teeth hydrolytic/hydrolysis, epiglottis, tongue, glottis, hard palate esophagus soft palate trachea, pharynx oral cavity

### I. Introduction to starch digestion:

- pp. 149-150: read and answer questions.

### II. Starch digestion experiments:

- pp. 150-152 (stop at 12.2): Follow the experimental procedures noting the following:

-CHANGE all "30 minute" times to "20 minute".

-Note that some of the test tubes need to be tested "immediately"

-Skip the "what do you expect" questions at the top of p.151

-Hint: test tubes 1 & 2 have the same contents but test tube 1 is used to test for the presence of starch using iodine and tube 2 is used to test for maltose using Benedict's reagent. Similarly tubes 3 & 4 are a pair and 5 & 6 are a pair.

### III. Review:

- p. 157: Answer questions 1-4 and 15

-A positive IKI (iodine) test changes the solution to the color \_\_\_\_\_ and indicates the presence of \_\_\_\_\_. This tell us that starch digestion \_\_\_has/has not\_\_\_ taken place.

-A positive Benedict's reagent test changes the solution to the color \_\_\_\_\_ and indicates the presence of \_\_\_\_\_. This tell us that starch digestion \_\_\_has/has not\_\_\_ taken place.

### IV. Introduction & external anatomy:

- pp.159-161: Read and follow all procedures to locate structures. Wear gloves and goggles.

### V. Oral cavity and pharynx:

- p. 162: Read and follow all procedures. Wear goggles and gloves.

**Use scissors and blunt probes only.**

- p. 163: Read and follow procedures 1-3 (**SKIP** procedures 4-6).

### VI. Review:

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