

Sec.: _____ Name: _____

Experiment: Head Region Of The Digestive System (B. Science 10-38-2b)

Purpose: To learn parts of the digestive system of the head region.

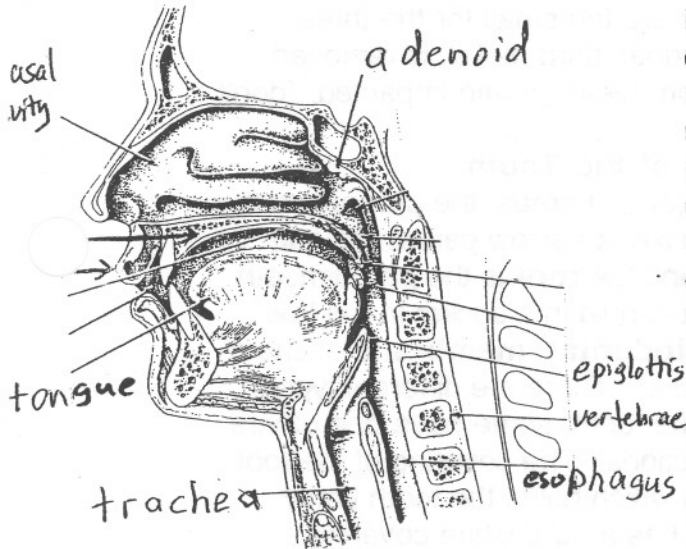
Materials: head model (Mh401)
tooth model (Ca105) 10% sugar 10 % vinegar
3% NaCl 0.001 % quinine sulfate
cotton swabs

Methods:

Part A: Mouth Anatomy

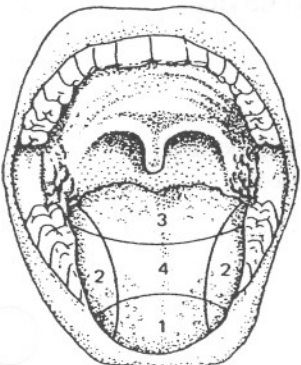
Locate on yourself then on the diagrams the following parts printed in bold. Label the diagrams and be ready for a quiz.

Your mouth is for sensation and speech, but it's primary purpose is to get food ready for digestion. The **hard palate** is the roof of the mouth. It is a bony structure covered with membranes. The **soft palate** is behind the hard palate extending back to the top of the throat and extend laterally to the sides of the tongue. The **uvula**, is a knob at the end of the soft palate, and can be seen in a wide open mouth. The back of the mouth open into a muscular cavity called **pharynx**, which also opens into the **nasal cavity**. The soft palate is what extends into the pharynx and partially separates mouth and nasal cavity. The **cheek** is the side of the mouth, located on them are many **mucous glands**. Mucous is a lubricating secretion which mixes with food in **mouth** to help soften food to ease chewing and swallowing. The front of the cheek lining turns outward to form the **lips**.



Part B: Location of Taste Buds

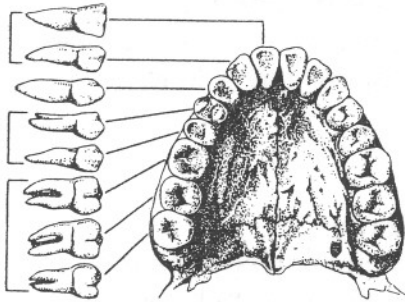
1. Notice the four areas of the tongue to be tested. Rinse your mouth with water & pat your tongue dry with a clean paper towel.
2. Have your lab partner dip a clean cotton swab into the 10% sugar solution. Extend your tongue, and your lab partner will touch each area (one at a time) with the sugar solution. You can determine whether you perceive the "sweet" taste. **CAUTION: Dip the cotton swab into the 10% sugar solution only once.** Use the same swab to test each area of the tongue. When the areas have been tested, discard the swab to prevent contamination of other solutions. In the chart in results, record the



"numbers" of the areas (see figure) of your tongue in which you can perceived the sensation of sweetness.

- Rinse out your mouth, and wipe your tongue dry with a paper towel. With a new cotton swab, repeat the testing process with 10% vinegar. Record this in results table
- Repeat step three with salt solution, and later with quinine sulfate (a bitter taste).

	sugar	vinegar	salt	quinine sulfate "bitter"
location:				

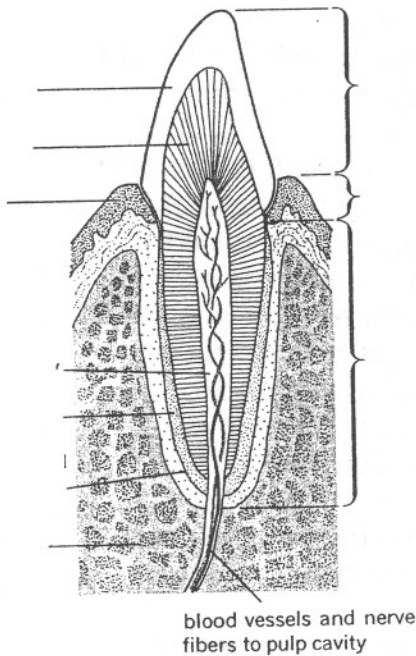


Part C: The Different Teeth of the Mouth:

There are 4 different types of teeth, which are arranged the same for top and bottom, and for each side of the mouth. We will examine the lower jaw and on the right hand side first. The first two teeth, the **incisors** are flat and have sharp edges for cutting food. Next to the incisors, at the corner of your lips is a large cone-shaped tooth called **canine**, or **cuspid**. Behind the canine tooth are the two **premolars** or **bicuspids**. Next are the three **molars** that you will have by adulthood. The two sets of molars have flat surfaces for grinding and crushing. Some jaws are too small for the three molars so a wisdom tooth, third molar, is removed. Sometimes the wisdom teeth remain impacted, (don't come to surface).

Part D: The Parts of the Tooth

The tooth has three general areas; the part above the gum is called the **crow**n, a narrow part at the gum line is called **neck**, and the **root** is the part beneath the surface. The root is held in a socket in the **jaw bone**. A fibrous **periodontal membrane** anchors it firmly in the jaw socket. There are different type roots depending on the tooth; some have one others have up to four projections. The covering of the root is called **cementum** which holds the tooth firmly together. The crown has a hard white covering called **enamel**. If we cut the tooth lengthwise, you can see the **dentine** inside the **enamel** and **cementum**. Dentine is softer than these protective layers. It forms the bulk of the tooth. The **pulp cavity** lies inside the dentine area. The pulp cavity contains blood vessels and nerve fibers.



Discussion:

1. We need to make conscious choices of what we eat or drink. Some reason that alcohol tastes good and is not that bad. Comment on God's attitude towards getting drunk by quoting portions of each text.

Prov. 20:1

Isaiah 5:11,22

Luke 21:34

Rom. 13:13

Gal. 5: 19-21

Eph. 5:18