**Digestion Notes (PLO C1 and C2)** Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

An animal’s digestive system depends on the animal’s diet. Regardless, the key to digestion in surface area. When this is maximized, with the help of mechanical digestion, chemical digestion if more efficient.

**Swallowing:** occurs in the **pharynx**. During swallowing the soft palate (**uvula**) covers the nasopharynx and the **\_epiglottis\_** covers the glottis (the opening to the larynx -voice box))

Saliva is secreted as you chew.

It is full of enzymes to

help break down your food to

prepare it for absorption

**Peristalsis** – rhythmic **\_contractions\_** (of muscles) that moves **\_food\_\_**along. Found in the **\_\_esophagus, stomach, small intestine and large intestine\_\_\_\_\_.**

At this point your food is called bolus .

**Stomach:**

* thick walls, contains **\_gastric pits\_** that lead to **\_gastric glands**
* Mechanical digestion is achieved by the rugae
* the folds disappear as the stomach grows to **\_1\_L** max capacity
* **gastric juice** produced by the gastric glands contains **pepsinogen\_\_** (the precursor for pepsin) (enzyme), **\_hydrochloric acid\_\_\_,water** and **\_\_mucus\_\_**).
* Hydrochloric acid causes the pH of the stomach to be pH = **2\_** and helps to break down the food in the stomach along with **pepsin\_\_\_\_\_**.
* **\_\_mucus\_** protects the walls from the **\_acid\_\_\_** (HCl)
* **\_alcohol\_\_**, **\_\_aspirin\_\_** and **\_glucose** are absorbed into your blood stream here.
* empties in about **2-6** hours and the food is now called **\_\_chyme\_\_**
* The chyme travels through the **\_phyloric\_\_\_** sphincter into the small intestine

**Small intestine:** – takes part in **chemical\_\_**digestion- with the release of **\_enzymes\_** that break down **\_carbs\_,** **\_proteins** and **\_nucleic acids\_**.

Also, takes part in **\_\_physical\_\_** digestion – through continued **\_\_peristalsis**.

The first section of the small intestine is called the duodenum where there is a great deal of secretion and absorption.

**Villi:** Finger like **\_\_projections\_** on the **\_wall\_** of the small intestine, increase the **\_surface area\_** available for absorption of **\_nutrients\_\_\_**.

**Microvilli:** **\_microscopic\_\_** extensions that produce enzymes (such as peptidase and maltase) and absorb **\_\_nutrients\_\_\_\_**.

Glucose, amino acids and nucleic acids are absorbed into the **\_blood\_\_** capillaries

Fats including Glycerol and fatty acids are absorbed into the **\_\_lacteals** and enter the **\_\_lymphatic\_\_** system



**Bile**: made in the **\_liver\_\_,** stored in the **\_gall bladder\_**, secreted through the **\_\_common bile duct\_** into the **\_small intestine\_\_\_**. The bile emulsifies **\_fat\_** – breaks it down into fat **\_droplets\_\_\_.**

**Pancreas**: produces **\_pancreatic juice\_** which consists of **\_\_sodium bicarbonate**, pancreatic amylase, trypsinogen (the precursor for trypsin), nuclease and lipase.

**Large Intestine:** The beginning portion is called the cecum. The main role of the large intestine is to remove water and bile salts. contains anaerobic (live without **\_\_oxygen)**  bacteria which break down food and produce **\_\_vitamins\_\_** and other molecules which can be **\_absorbed\_\_**.