PEER Life Science Organ Systems Digestion Notes Outline

**Why It Matters**

* The main purpose of the digestive system is to provide the body with \_\_\_\_\_\_\_\_\_\_\_\_ including
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_
* The two main ways that the stomach breaks down proteins into amino acids are \_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_
* \_\_\_\_\_\_\_ is secreted by the liver and helps separate fats so they can be broken down by enzymes and absorbed.
* Insulin is secreted by the \_\_\_\_\_\_\_\_\_\_ and is involved in a disease called \_\_\_\_\_\_\_\_.

**What We Know**

* Food first enters the body through the \_\_\_\_\_\_\_\_\_ where \_\_\_\_\_\_\_\_ begins to break down carbohydrates.
* The \_\_\_\_\_\_\_\_\_ pushes food down into the stomach with muscular contractions.
* Bile is produced by the \_\_\_\_\_ and is stored in the \_\_\_\_\_\_\_\_\_\_\_\_\_.
* The \_\_\_\_\_\_\_\_ helps digest carbohydrates, proteins, and fats as well as regulates blood sugar.
* The \_\_\_\_\_\_\_\_\_ intestine breaks down and absorbs proteins, carbohydrates, and fats. The \_\_\_\_\_\_\_ intestine absorbs moisture from what is left of the food.
* The final storage space before waste is removed is the \_\_\_\_\_\_.
* Food stays in the \_\_\_\_\_\_\_\_\_\_\_\_\_ for 4-6 hours, the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ for 2-4 hours, and the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ for 24-48 hours
* The \_\_\_\_\_\_\_\_\_\_\_ has openings that go into the lungs and to the esophagus/stomach.
* The \_\_\_\_\_\_\_\_\_\_\_ is the structure that covers the opening of the trachea and prevents food from entering the lungs.
* The body has a normal pH of \_\_\_\_. The stomach has a pH of \_\_\_\_.
* The stomach secretes \_\_\_\_\_\_\_\_\_ to protect the lining of the stomach and prevent ulcers.
* The pH of the small intestine is (lower/higher) than the stomach.
* In addition to making bile, the liver:
  + Processes \_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_ absorbed by the small intestine.
  + Breaks down hormones, \_\_\_\_\_\_\_\_, and \_\_\_\_\_\_\_\_\_\_\_
  + Makes the proteins in blood responsible for \_\_\_\_\_\_\_\_\_\_
* The pancreas releases \_\_\_\_\_\_\_\_\_ when blood sugar is high and \_\_\_\_\_\_\_\_\_ when blood sugar is low.
* The large intestine removes \_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_ from solid waste and stores \_\_\_\_\_\_\_\_\_\_\_
* The large intestine has many beneficial \_\_\_\_\_\_\_\_\_ that aid in fermentation and produce vitamin K.

**How We Know**

* A cow’s stomach has \_\_\_\_\_\_\_\_\_ compartments.
* \_\_\_\_\_\_\_\_s in your saliva break down carbohydrates.
* Dr. Beaumont noted that \_\_\_\_\_\_\_\_\_\_\_ were especially degraded by proteins in the stomach.
* The liver is a nutrient \_\_\_\_\_\_\_\_\_ organ that releases stores as needed.
* The gallbladder (is/is not) necessary for life
* The pancreas secretes two hormones into blood
  + \_\_\_\_\_\_\_\_\_\_- triggers cells to absorb sugar into blood
  + \_\_\_\_\_\_\_\_\_\_- triggers cells to release sugar from blood
* There are two ducts that connect the pancreas and the \_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* The \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ collects all of the blood leaving the small intestine and has high amounts of carbohydrates and amino acids.
* Fats from the small intestine are absorbed through \_\_\_\_\_\_\_\_ vessels.
* Blood leaving the large intestine has more \_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_ than the blood entering the large intestine.
* \_\_\_\_\_\_\_\_\_\_ can break down certain foods that humans cannot.
* Vitamin K is needed for normal blood \_\_\_\_\_\_\_\_\_\_

Common Hazards

* Ulcers
  + A lesion in the mucus lining of the stomach or duodenum is called a peptic \_\_\_\_\_\_\_\_\_\_.
  + Causes of ulcers include
    - a \_\_\_\_\_\_\_\_\_\_\_ called *Helicobacter pylori*
    - long term use of \_\_\_\_\_\_\_\_\_\_
    - a disease called Zollinger-Ellison syndrome that causes tumors that release hormones that causes large amounts of \_\_\_\_\_\_\_ to be produced.
* Food Poisoning
  + Symptoms of food poisoning are
    - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
    - \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + Food poisoning can be avoided by
    - \_\_\_\_\_\_\_\_\_\_\_\_ your hands
    - \_\_\_\_\_\_\_\_\_\_\_\_ kitchen tools
    - \_\_\_\_\_\_\_\_\_\_\_\_ fruits and vegetables
    - \_\_\_\_\_\_\_\_\_\_\_\_ food thoroughly
    - Refrigerating leftovers within \_\_\_ hours

Fill in the blanks labeling the digestive system. (Modified from:NIH NIDDK)