**What are the three sections of the small intestine and what role does each section play in digestion or absorption?**

Duodenum: Connects to the stomach. Alkaline mucus neutralizes the acid. Chemical secretion from the pancreas, liver, and gallbladder mix with the chyme to make it easier to digest. Bile from the liver and gallbladder mix with the chyme to break down the lipids. Then pancreatic juice breaks down the carbs, proteins, lipids, fats, triglycerides into glycerol and fatty acids that can be absorbed into the bloodstream.

Jejunum: The cell lining in the jejunum called the villi is responsible for absorbing the nutrients from the food during digestion. The nutrients are passed into the bloodstream to be carried to different parts of the body for cell metabolism and growth.

Ileum: attaches to the colon and is the final section of the small intestine. It absorbs vitamin B12, bile salts, and products of digestion that aren’t absorbed by the jejunum.

**What is the pH within the small intestine and how is this pH maintained?**

Duodenum contains pH of 6. Jejunum pH level is about from 7 to 9; lastly, 7.4 in the Ileum. Sodium bicarbonate released by the pancreas to maintains pH levels.

**Where do bile and pancreatic enzymes enter the small intestine?**

Bile and pancreatic enzymes enter the small intestine through the duodenum.

**How does food move through the intestines?**

Through the process of peristalsis. Organs contain a layer of muscle that contracts and pushes the food through.

**What enzymes act inside the small intestine and what are the functions of these enzymes?**

Proteolytic enzymes, including trypsin and chymotrypsin, are secreted from the pancreas and leave proteins into smaller peptides to move throughout the body. Another enzyme is Carboxypeptidase which is a pancreas brush border enzyme which splits one amino acid at a time.

**What is the function of the large intestine in relation to digestion?**

The function is to absorb water from remaining food matter and move feces to the next bowel system and make the stools solid. Vitamin K2 produce by bacteria being absorb into the body.

**What are the three sections of the large intestine and what roles does each play in digestion or absorption?**

Cecum: holds the appendix (can become inflamed). Absorb fluid and salt.

Colon: Has 3 parts (ascending, transverse, and descending). In the ascending and transverse, salts and fluids are absorbing from ingested foods and produce mucus to help move feces more easily into the rectum.

Rectum: Feces wait to be excreted outside of the body.

**How does the large intestine help maintain a water balance in the body?**

The large intestine helps maintain water balance by absorbing water out of food when the body needed.