***The Digestive System***

***The Body Needs Energy and Materials***

* Nutrients are important substances that enable the body to move, grow, and maintain homeostasis. 4 types of nutrients:
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ IS a nutrient: more than half your body is made of it!
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is used in the body for growth and repair, and cells of muscles, bones, and skin are made of protein.
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ provide cells with energy.
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ stores energy.

***The Digestive System Moves and Breaks Down Food***

* Before your body can use nutrients, they must be broken down into smaller substances.
* \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ is the process of breaking down food into usable materials by moving and breaking it down.
* Material is moved from the esophagus to the stomach by wavelike contractions of smooth muscles called \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* The body breaks down food in two ways: physically and chemically.
* Mechanical Digestion
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ changes = mechanical changes, which break food down into smaller pieces.
  + Your teeth chew your food so you’re able to swallow it.
  + Your stomach breaks down food mechanically by mashing it during peristalsis.
* Chemical Digestion
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ changes actually change food into different substances.

***The Path of Digestion***

* Mouth and Esophagus
  + Both mechanical and chemical digestion occur in the mouth.
  + Teeth break down food into smaller pieces (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_).
  + Salivary glands release saliva, softening food (\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_).
  + Tongue pushes food to back of mouth and down throat while swallowing.
  + Food travels down the esophagus to the stomach.
  + Peristalsis moves solid food from throat to stomach in 8 seconds, liquid foods in 2.
* Stomach
  + Strong \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ in the stomach mix and mash food particles.
  + Chemicals in the form of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are used to break down food.
    - These are so strong they could eat through the stomach itself.
    - The stomach’s lining is replaced \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ to prevent this.
* Small Intestine
  + Partially digested food moves from the stomach to the small intestine.
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are released by the assisting organs and they break down nutrients.
  + Most of the nutrients broken down during digestion are absorbed here.
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ are found throughout the small intestine that contain folds that absorb \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ from proteins, fats, and carbohydrates and send them to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ system.
* Large Intestine
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and some other nutrients are absorbed from the digested material.
  + Most of the solid material remaining is \_\_\_\_\_\_\_\_\_\_\_\_\_, which is compacted and stored.
  + Eventually this waste is eliminated through the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

***Assisting Organs***

* Although not in the “digestive tract”, the liver, gallbladder and pancreas all play an important role in digestion by producing or concentrating important \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.
* Liver
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ internal organ of the body
  + Located in the abdomen just above your stomach
  + You can survive losing a large portion of your liver, but it is still important
  + Filters blood, cleansing it of harmful substances, and stores unneeded nutrients for later
  + Breaks down golden yellow substance (\_\_\_\_\_\_\_\_\_\_\_\_), which breaks down \_\_\_\_\_\_\_\_\_
  + Breaks down medicines and produces important proteins
* Gallbladder
  + Tiny sac connected to the \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
  + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ produced in the liver is stored here until sent to small intestine
* Pancreas
  + Located between the stomach and small intestine
  + Produces chemicals needed as materials move between these two organs
  + Lowers the \_\_\_\_\_\_\_\_\_\_\_ in the small intestine and breaks down proteins, fat and starch
  + Without these chemicals you would die of \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_, even with plenty of food