

Aim: Swbat understand how amazing our bodies are through the lens of the digestive system.

Do Now: What do we Know about the Digestive system?

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Fun Facts

- The average person produces 2 pints of saliva every day. That is 32 ounces, or 2 cans of soda
- The muscles in your esophagus act like a giant wave. That is what moves food or drinks down to your stomach. This wave action is called peristalsis
- The second part of your small intestine is called the jejunum. That's just fun to say!

- Enzymes in your digestive system are what separate food into the different nutrients that your body needs.
- The gut-brain axis is the close bond that exists between the digestive system and your brain. Emotions (including stress) and brain disorders affect how your body digests food.
- Your body can move your food through the digestive system even while you are standing on your head. It is not connected to gravity because it works with muscles.

- You know those laundry detergents you hear advertised that have enzymes to remove stains? Some of those enzymes are the same as those found in your digestive system.
- The small intestine is about 22-23 feet long while the large intestine is only about 5 feet long.
- Ever wonder why it smells bad when you pass gas? It is because it is produced by fermented bacteria and then mixed with air.

- Platypuses do not have stomachs.
- Stomach growling is called borborygmia and happens all the time, but it is just louder when your stomach is empty because there is no food to muffle it.
- The stomach has the ability to stretch and hold up to 4 pounds of food at one time.
- Aerobic exercise is the best type of exercise to keep your digestive tract in shape.

- When you are first born, you don't have any of the healthy bacteria your system needs to digest food.
- Gastro mechanical distress symptoms can be caused by only slightly more than 1 cup of a carbonated beverage.
- You burp to release extra air that you swallow if you eat fast, drink carbonated drinks, or smoke.

- Hiccups can be caused by a change in temperature that happens suddenly.
- The amount of saliva you produce increases when you throw up to protect your teeth from the acid in your stomach that will come up.
- The longest attack of constant hiccups lasted 68 years.

The start of the process - the mouth:

- The digestive process begins in the mouth. “Chemical vs Mechanical”
- Food is partly broken down by the process of chewing
- and by the chemical action of salivary enzymes (these enzymes are produced by the salivary glands and break down starches into smaller molecules).

On the way to the stomach: the esophagus

- After being chewed and swallowed, the food enters the esophagus. The esophagus is a long tube that runs from the mouth to the stomach.
- It uses rhythmic, wave-like muscle movements (called peristalsis) to force food from the throat into the stomach.
- This muscle movement gives us the ability to eat or drink even when we're upside-down.

In the stomach

- The stomach is a large, sack-like organ that churns the food and bathes it in a very strong acid (gastric acid).
- Food in the stomach that is partly digested and mixed with stomach acids is called chyme.

In the small intestine -

- After being in the stomach, food enters the duodenum, the first part of the small intestine. It then enters the jejunum and then the ileum (the final part of the small intestine).
- In the small intestine, bile (produced in the liver and stored in the gall bladder), pancreatic enzymes, and other digestive enzymes produced by the inner wall of the small intestine help in the breakdown of food.
- **The end of the process** - Solid waste is then stored in the rectum until it is excreted via the anus.

In the large intestine -

- In the large intestine, some of the water and electrolytes (chemicals like sodium) are removed from the food.
- Many microbes (bacteria like *Bacteroides*, *Lactobacillus acidophilus*, *Escherichia coli*, and *Klebsiella*) in the large intestine help in the digestion process.
- Food goes from the cecum (the appendix is connected to the cecum) → ascending colon → transverse colon → descending colon → the sigmoid colon.

Rectum/Anus

Solid waste is then stored in the rectum until it is excreted via the anus.