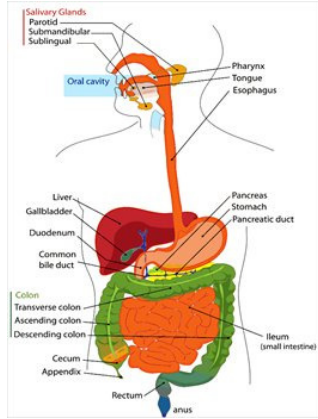


Digestive System



Mar 31-9:15 AM

Nutritional and Digestive Health- Eating for your Future

Watch the video and answer the questions on your sheet of paper. Make sure you put your name on your paper!!

Answers:

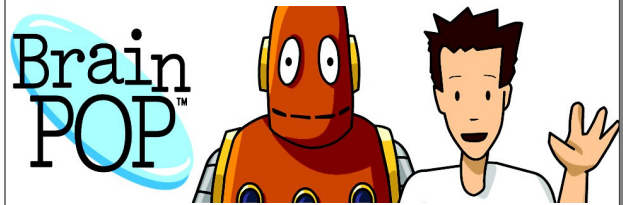
- 1.) 20 times
- 2.) protein
- 3.) 90
- 4.) 280 feet
- 5.) razor blade
- 6.) small intestines
- 7.) eating out

Apr 2-4:49 PM

Warm Up

- 1.) What does your digestive system do? breaks down food and absorbs nutrients
- 2.) What organs do you think help with digestion? stomach, large and small intestines, liver, pancreas
- 3.) Which body system(s) works very closely with the digestive system? excretory, circulatory

Apr 2-4:50 PM



Mar 5-10:29 AM

Important Vocabulary

Write down the definitions as we go. You are to complete the Frayer Model worksheet for homework.

Chemical Digestion- The use of enzymes and chemical processes to break down food during digestion

Mechanical Digestion- The physical actions, such as chewing, that help break down food during digestion

Mar 31-9:23 AM

Peristalsis- Involuntary waves of muscle contraction that keep food moving along in one direction through the digestive system

Absorption- the process by which nutrient molecules pass through the wall of the digestive system into the blood.

Saliva- The fluid released when the mouth waters that plays an important role in both mechanical and chemical digestion

Mar 9-7:38 AM

Esophagus- A muscular tube that connects the mouth to the stomach

Liver- The largest organ in the body; plays a role in many body processes

Small Intestine- The part of the digestive system in which most chemical digestion takes place

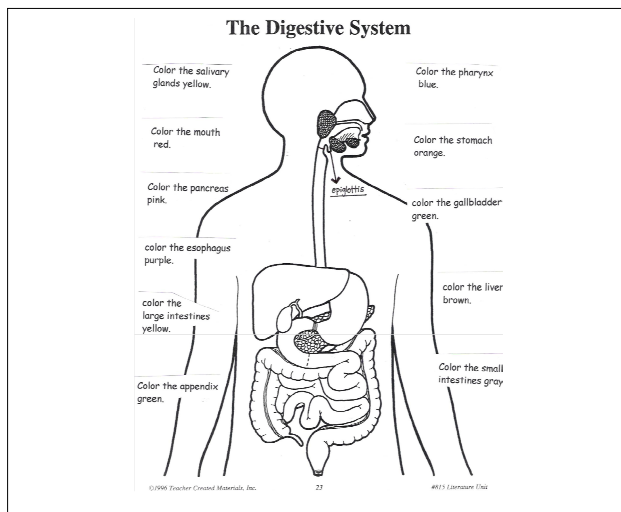
Mar 9-7:38 AM

Let's do some **COLORING!!**

Please get some colored pencils or crayons. You may need to share with your neighbor.

When coloring, you may want to shade differently with similar colors (light vs dark) to allow for more color variations.

Apr 2-5:33 PM



Apr 2-5:49 PM

WARM UP

Have your vocab and coloring sheet out for me to check!

- 1.) From beginning to end, how long do you think the digestive system is in an adult? -about 5 meters (20 feet) in a live person
- 2.) Why does it need to be so long? -to allow for maximum digestion of food and absorption of nutrients
- 3.) How many centimeters are in a meter? -100cm = 1m

Mar 12-2:22 PM

On the back of your coloring paper, list the path of digestion in the order that it occurs. Where does digestion start and where does it end?

The correct path is:

mouth --> pharynx --> esophagus (throat) --> stomach --> small intestines --> large intestines --> rectum --> anus

Apr 2-5:51 PM

- Of the organs in the diagram, which ones do you think food DOES NOT directly pass through? These organs will help with digestion, but food does not actually go through them.
- Since food doesn't pass through them, what do they do?
- What about the appendix?
- Which digestive organ do you think you can live without?
- salivary glands, liver, gall bladder, and pancreas
- They secrete enzymes or fluids that help to further break down food so it can be digested easier or more thoroughly
- it is NOT a digestive organ because it has no function at all in the body
- most of them, but the gallbladder is the easiest to live without

Apr 2-5:56 PM

**"How Long is the Digestive System?"
LAB**

- In groups of 4, please obtain the following items:
- 1 Lab sheet per person
 - Index cards labeled with organs
 - Ruler
 - String that is 2 meters long
 - 6 small pieces of tape

When your group has all the required materials, start working through the directions on your lab sheet. Answer all questions on the lab sheet; you may discuss questions with your group.

The digestive tract is about 20-30 feet in the average adult male.

Apr 2-4:52 PM

Weekend Homework!

Mar 12-3:20 PM

WARM UP!

- 1.) How does food get down your esophagus?
- 2.) What do you think is the difference between mechanical and chemical digestion? Give examples to support your answer.
- 3.) What is metabolism?

Mar 23-8:03 AM

Here is a short video about the Digestive System!

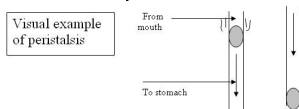


- 1.) What are some organs that work in the digestive system? liver, stomach, intestines
- 2.) What are some examples of how the food is broken down? chewed, churned, mixed with saliva and stomach acid
- 3.) How long do you think digestion usually takes? 24-48 hours

Apr 2-5:28 PM

Your food does not fall through your digestive system by gravity. *Food is pushed through your digestive system by peristalsis.*

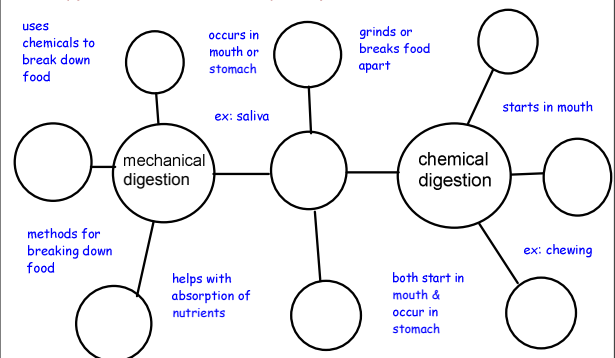
It works in your esophagus, stomach and intestines. The muscles relax and contract in order to push the food forward. Peristalsis even allows us to swallow when we lie upside down!



Apr 3-3:41 PM

Mechanical vs Chemical Digestion

Copy the Double Bubble map into your notebook and then fill it out!!



Apr 3-3:54 PM

Metabolism:

-the rate that your body turns food into energy.

- People can have a slow or fast metabolism. Each person's caloric intake varies, but on average you can assume that each person needs 2,000 calories per day. By interpreting a nutritional food label, each person can keep up with the number of calories they eat each day along with the vitamins and nutrients they consume.

Apr 3-4:11 PM

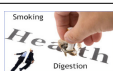
Calculate your own Basal Metabolic Rate (BMR)

This gives you the number of calories you should eat in one day to maintain your current weight and still be healthy. If you wanted to gain weight you would eat more and if you wanted to lose weight you would eat less. Remember, you are still growing and developing so your number is constantly changing.

Take your weight and divide by 2.2, then multiply that by 24.

Apr 3-4:15 PM

How does smoking, along with other lifestyle choices, affect our digestive system?



Cigarette smoking harms the body by raising cholesterol levels and blood pressure, as well as increasing the risk of cancer. Smoking destroys certain vitamins and creates the need for other specific nutrients. Other research shows that smokers have an increased risk of heart disease (including stroke, chest pain and palpitations), cancer, emphysema, fatigue, loss of vitamins and nutrients, premature aging, gastrointestinal disorders, osteoporosis, sinus congestion and throat irritation. According to medical reports, colds, flu and laryngitis last much longer for those who smoke. Normally, saliva - which contains antioxidants - provides a protective buffer in the lining of the mouth for the enzymes that fight and neutralize harmful substances. New research shows that the chemicals in tobacco smoke destroy these enzymes, leaving a corrosive mix that damages the cells of the mouth, and can eventually turn these cells cancerous."

Reference: <http://www.jrussellhealth.com/smokdig.html>

Apr 3-3:44 PM

Does gum really stay in your stomach for 7 years???



Apr 2-6:24 PM

SMART Technologies

Click and reveal

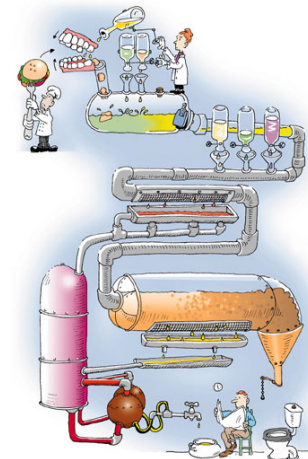
Drag and drop

Choose the activity by selecting 'Click and reveal' or 'Drag and drop'

Apr 2-6:04 PM

Warm Up

Examine the picture and explain what each section or process you see might represent.



Mar 10-3:04 PM

DIGESTIVE TRACT

Absorption takes place in the stomach, small intestinal tract and the large colon. You can see the absorption veins leading from the tracts and back to the liver. These veins are blue on this diagram.

After food has been filtered by the liver, it move into the hepatic portal which takes it to the heart to feed your blood cells.

After absorption, the food is taken directly to the liver, via the portal vein, to be cleansed.

The waste product from the liver is sent to the gall bladder for disposal by being stored as bile until new food passes from the stomach to the duodenum.

Once food is detected in the duodenum, bile is added to break food down into a liquid, ready for absorption.

The pancreas also secretes enzymes into the duodenum at the same time that bile is added to help break down food.

Soluble fibre absorbs the waste from the liver as well as cholesterol from new food therefore preventing these undesirable from being re-absorbed in the intestinal tracts...

Insoluble fibre does not break down into a paste until it reaches the large intestinal tract. Here is where it encourages the growth of the colon's natural flora.

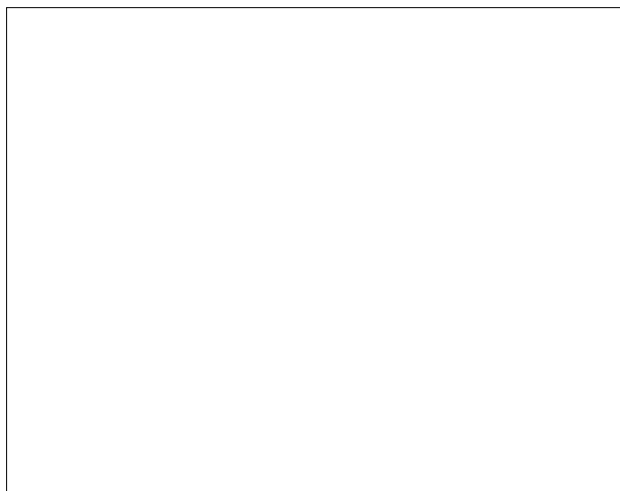
Diagram provided by Know Your Body, The Atlas of Anatomy, Published by Ullyses Press, 1999.

Mar 10-3:05 PM

Vocab Quiz!!

- 1.) The physical breaking down of food during digestion.
- 2.) The muscular tube through which food travels before reaching the stomach.
- 3.) The organ where the most nutrients from foods are absorbed.
- 4.) When chemicals produced by the body break down food.
- 5.) The force or contractions that push food downward.
- 6.) Found in the upper right abdomen and it produces bile.
- 7.) Fluid released to help with digestion.
- 8.) The process in which nutrients pass through the walls of your digestive system.

Apr 3-3:22 PM



Mar 12-2:29 PM

Let's See If You Can Beat The Clock!

Materials: 1 straw, 1 bead, your skills and strength

- 1.) Which digestive organ does the straw represent? • esophagus
- 2.) How long do you think food spends in the esophagus? • ~ 10 secs
- 3.) What force or contractions pushes food downward? • peristalsis
- 4.) What would be happening if we experienced reversed peristalsis? • vomiting

When I tell you to "go" (and start the timer), you put the "food" bead into the "esophagus" straw. Immediately begin to push the bead through the straw and out the other end using your fingers. Remember, food only stays in the esophagus for about 10 seconds, so that is all you've got!

Apr 3-3:29 PM

Raw Egg Multi-Day Lab

Since this lab is going to take a few days, mark a page in your notebook so that you can return to it easily. On that page, copy the following chart.

Day	Observations

Apr 2-6:09 PM

Raw Egg Multi-Day Lab

Materials:

- clear container
- Vinegar
- raw egg

Procedures:

- Day 1: I am going to place your raw egg into a container full of vinegar. Write down your observations and your hypothesis about what will happen to the egg over time.
- Next Class: Write down your observations about the egg into your chart each time you come to class. After a few days of observations, you should be able to see what is happening to the egg. Compare this experiment to what happens in your stomach.

Apr 2-6:14 PM

Raw Egg Multi-Day Lab

Post Lab Questions:

- 1.) Why do you think it is necessary for the acid to be strong?
- 2.) What doesn't the acid eat through the stomach lining?

Answers:

- 1.) It dissolves and breaks down food particles and it kills germs or bacteria that may enter your digestive system
- 2.) There is a thick layer of mucus that lines the stomach and protects the body from its own acid, occasionally the acid can eat through and cause a stomach ulcer

Apr 2-6:21 PM

Mar 17-7:49 PM