

Digestive System Packet

This packet is now over 100+ pages.



DIGESTIVE SYSTEM



Swallowing and Choking

Each year nearly _____ people choke to death, most were kids.

You can tell someone is choking when...

1. they can't _____
2. they have difficulty _____
3. they can't _____ forcefully
4. their _____, lips and nails turn _____
5. they lose _____

The Red Cross recommends give _____ back blows and _____ abdominal thrusts. The abdominal thrust is also known as the _____ Maneuver.

The Mayo Clinic describes how to do abdominal thrusts this way:

- Stand behind the person. Wrap your arms around the waist. Tip the person forward slightly.
- Make a fist with one hand. Position it slightly above the person's navel.
- Grasp the fist with the other hand. Press hard into the abdomen with a quick, upward thrust — as if trying to lift the person up.
- Perform a total of 5 abdominal thrusts, if needed. If the blockage still isn't dislodged repeat the five-and-five cycle.

Stole by Sam! in the [Homeschool Den](http://homeschoolden.com)



Common Foods Kids Choke On

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____

Each year nearly 3,000 people choke to death, most were kids.

You can tell someone is choking when...

1. they can't talk
2. they have difficulty breathe
3. they can't cough forcefully
4. their skin, lips and nails turn blue
5. they lose consciousness

The Red Cross recommends give 5 back blows and 5 abdominal thrusts. The abdominal thrust is also known as the Heimlich Maneuver.

More information from the Mayo Clinic:

<http://www.mayoclinic.com/health/first-aid-choking/FA00025>

Common Foods Kids Choke On:

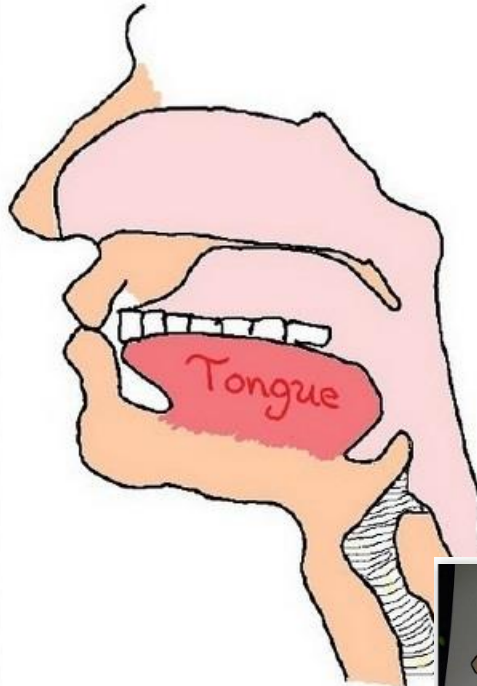
- | | |
|---------|---------------|
| logs | hard candy |
| s | apples |
| s | peanut butter |
| mallows | nuts |

rn

next page:

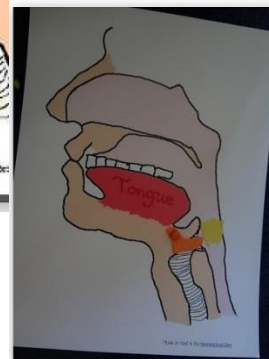
the epiglottis on another paper. Put a brad through it and place it on the picture below to show how the epiglottis moves to close off the trachea.

Stole by Sam! in the [Homeschool Den](http://homeschoolden.com)

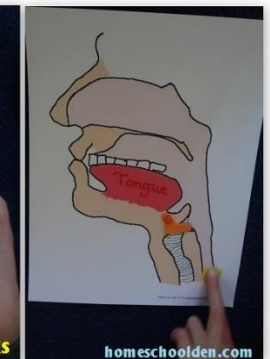


Stole by Sam!

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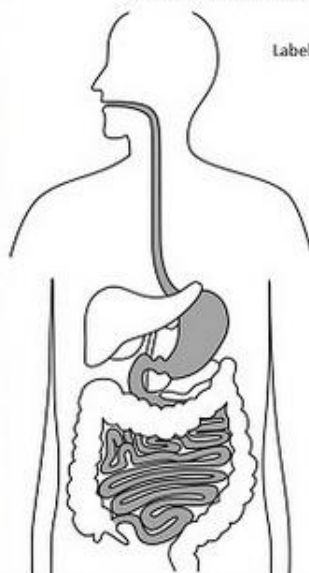
How the epiglottis works



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THE DIGESTIVE SYSTEM:

THE STOMACH AND INTESTINES



Label the following:

mouth
esophagus
stomach
small intestine
large intestine
rectum
anus
liver
gall bladder
pancreas

Digestive Tract

Cut different colors of yarn the following lengths. Color code your paper to match the length of the yarns you cut.

Trace your body on a large sheet of butcher paper and lay your digestive tract out on the paper:

Mouth = 4 inches

Esophagus = 10 inches

Stomach = 8 inches

Small Intestine = 23 feet

Large Intestine = 5 feet

Rectum = 5 inches

Digestive Functions

Mouth

*Much of the leftover water is absorbed in this section

Esophagus

*Secretes and sends bile to the small intestine, stores nutrients, prevents poisons from going to the rest of the body, plus many other functions

Stomach

*The tube that connects the mouth to the stomach. Smooth muscles that line this tube contract and relax in such a way that food is moved along.

Small Intestine

*Stores bile until it is needed

Large Intestine

*The final portion of the large intestine.

Rectum

*Chews the food and adds saliva, breaking food into smaller pieces.

Liver

*Produces important enzymes such as insulin. Secretes digestive enzymes that assist in the absorption of nutrients in the small intestine.

Gall Bladder

*Muscles in the wall squeeze the food around to mix it. Food breakdown continues.

Pancreas

*More enzymes are added and food nutrients are absorbed and passed along into the blood.

THE DIGESTIVE SYSTEM

After you chew and swallow, the food lump (bolus) passes through the esophagus.

Stomach:

In the stomach the food breakdown continues. Muscles in the stomach wall squeeze (churn) the food.

Gastric juice in the walls of the stomach secretes strong enzymes.

These chemicals are especially good at breaking down proteins into smaller chains of amino acids. A layer of thick mucus (mucin lining) protects the stomach from its own acid. That's why the stomach doesn't digest itself.



Stomach/Acid's Function:

1. kills badgered line
2. acid kills bacteria. Bacteria can't live in an acidic environment and so the harmful bacteria are killed.
3. help to activate production of iron and thiamine

As acid liquid splashed through the system makes a gragling noise. That's why your stomach _____.

When air in the stomach comes back up through the esophagus and out your mouth, we call it a _____.

Small Intestine:



The food mass turns (turns) into a pasty mixture that passes into the small _____. The small intestine adds substances to the stomach acid that make it harmless to the delicate lining of the small intestine. In the small intestine still more enzymes are added and the undigested food is broken down into absorbable _____.

At the end of the small intestine most nutrients have been _____. What remains is mostly _____ and other _____.

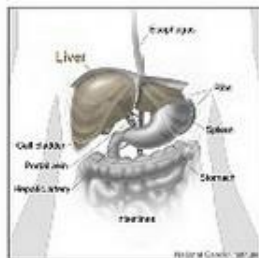
Indigestible matter. This mass passes into the large intestine or _____. In the colon, most of the _____ is absorbed.

Bacteria in the large intestine makes _____ as a waste product. The gas can get released as the most unfortunate times _____.

Food does not physically pass through every organ. Some organs are known as accessory organs.

The Liver:

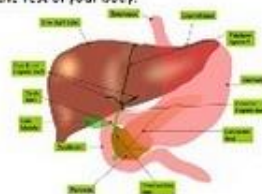
All the blood from your intestines goes to your _____ first. Nutrients, vitamins and minerals go through your liver to get processed. The liver either _____ them or lets them through.



The liver secretes and sends _____ to the small intestine to help with the breakdown of _____. It's main role is to _____ bile which means to break them into _____ droplets so the body can use them as nutrients.

Activity: add a couple droplets of cooking oil to water. Add a dropper full of dishwashing detergent to one of the cups and stir. What happens to the oil droplets?

The liver keeps poisons, such as _____ from going to the rest of your body.



Gall bladder: _____ is stored in a small sac called the gall bladder until needed.

Pancreas: produces important hormones including _____. Secretes pancreatic juice, a _____ enzyme that assists in the absorption of nutrients and digestion in the intestine.

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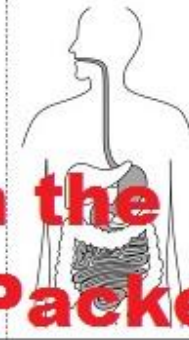
Also included in the Digestive System Packet:

Lapbook/Notebook Pieces

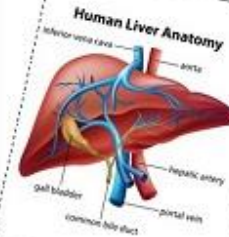
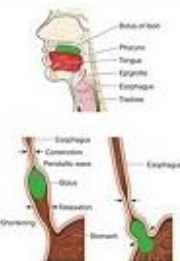
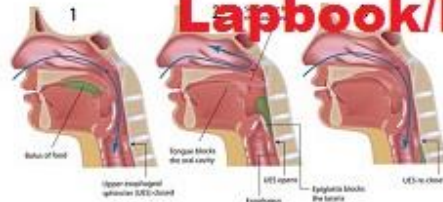
Available at homeschoolen.com

LAPBOOK OR NOTEBOOKING PIECES

Cut on the page below and fold along the dotted line. Diagrams can go on the inside or outside of the booklet. Glue the back into a lapbook or onto paper to insert into your science notebook.



Swallowing



The Salivary Glands



Small Intestine, Liver, Gall Bladder & Pancreas, Large Intestine Notebook Pages

Small Intestine

Name: _____

The _____ is responsible for the chemical and mechanical breakdown of food.

Small Intestine

The small intestine is very important for _____ It is the longest portion of the digestive tract.

The _____ is the first and shortest segment of the small intestine. It is about _____ to _____ inches (15 to 38 cm) long.

It receives partially digested food (known as _____) from the stomach.

Anatomy of Small Intestine

In this segment many different enzymes mix from the stomach, liver, gallbladder and pancreas.

It receives gastric chyme from the _____ together with digestive juices from the _____ (digestive enzymes) and the _____ (bile).

The _____ is the second part of the small intestine. It is around _____ to _____ feet (average 15 meters) in length.

Most of the _____ present in food are absorbed by _____ passed on to the blood for further absorption.

The entire wall of the jejunum is also folded into microscopic finger-like ridges known as _____ that form larger pockets and further increase the surface area of the jejunum.

Each epithelial cell on the surface of the jejunum contains microscopic folds of cell membrane called microvilli that create tiny pockets and increase the contact between the cells and chyme.

The _____ feet (15 meters) long. There is no absolute point at which the jejunum ends and the ileum begins.

The ileum absorbs mainly vitamins _____ and minerals that were not absorbed in the jejunum. These vitamins are absorbed in the _____ portion of the ileum.

Almost 90% of the nutrients present in digested food have been absorbed by the time it reaches the large intestine.

Liver, Gall Bladder and Pancreas

Name: _____

The liver is the body's _____ largest organ. (The _____ is the largest organ.)

The liver performs many essential functions related to _____ metabolism, immunity, and the storage of _____ within the body.

The _____ ligament is the line of attachment that divides the liver into its two parts - the left and right lobes.

The _____ duct leads to the duodenum. A muscle sphincter contracted until bile is needed, so bile backs up in the bile duct into the cystic duct and down into the _____ where it is stored.

The gall bladder stores and builds the _____ that is produced in the liver until it is needed for digesting fatty foods in the duodenum.

The pancreas functions as two _____ in _____

- an exocrine gland that is composed of "exocrine" cells that produce enzymes to help with the digestion of food
- an endocrine gland, the endocrine cells secrete hormones, such as insulin and glucagon, into the blood stream, and these hormones in _____

As part of the digestive system, the pancreas secretes _____ lipids, carbohydrates, and nucleic acids in food. Pancreatic juice contains _____ and _____ and _____ to control bile.

The pancreatic duct joins the pancreas to the duodenum.

Pancreatic juice is a mixture of _____ enzymes. The bicarbonate ions present in pancreatic juice help protect the intestinal wall and to create the proper environment.

Large Intestine or Colon

Name: _____

The large intestine consists of four regions: the _____ and _____.

The cecum is a sac-like structure used to refer to the entire large intestine. It is about _____ feet long (1.5 meters). It has a _____ inner wall. The primary task of the large intestine is to absorb _____ and _____ while converting digested food into feces.

The _____ is the beginning of the large intestine with the partially digested food from the small intestine to form feces.

Extending from the cecum is a small, worm-shaped pouch of some called the _____ It is about _____ inches long and about a quarter of an inch in diameter.

In the _____ colon, enzymes from the small intestine complete the digestive process. Bacteria produce _____ vitamins. The internal wall absorbs water, vitamins and minerals from the feces. Much of the water absorption takes place in the _____ colon.

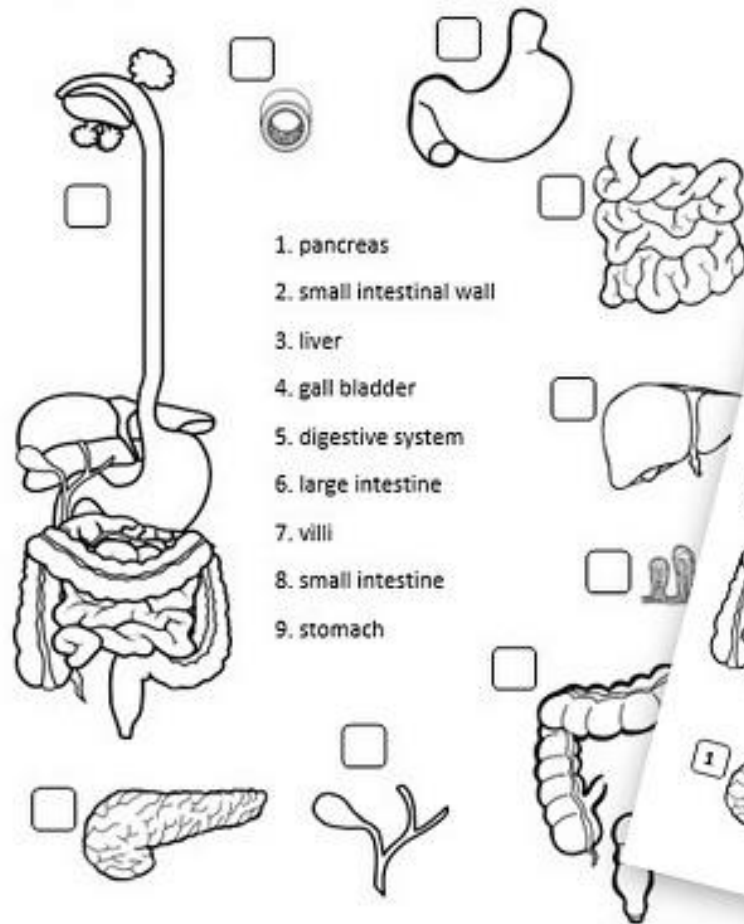
From this water along into the descending colon where _____ and nutrients continue to be absorbed. Then the feces moves into the S-shaped _____ colon. Feces are stored in the sigmoid colon until they are ready to be eliminated from the body.

The _____ is the final segment of the large intestine. It stores fecal matter until the body is ready to eliminate it through the anus. The anus is the active part the feces passes through as it leaves the body.

The Large Intestine

The Digestive System Parts

Name: _____

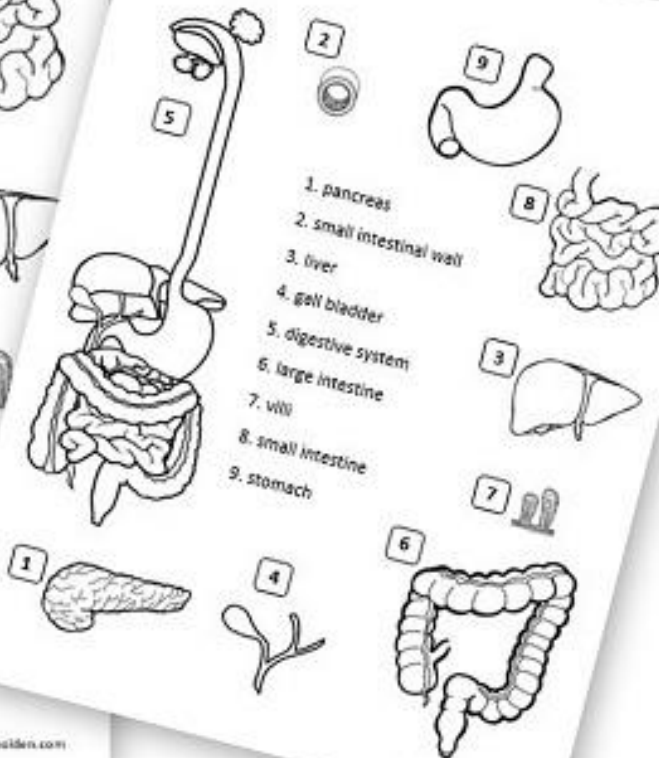


1. pancreas
2. small intestinal wall
3. liver
4. gall bladder
5. digestive system
6. large intestine
7. villi
8. small intestine
9. stomach

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The Digestive System Parts

Answers



1. pancreas
2. small intestinal wall
3. liver
4. gall bladder
5. digestive system
6. large intestine
7. villi
8. small intestine
9. stomach

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Digestive Functions

Chews the food and adds saliva, breaking food into smaller pieces.

The tube that connects the mouth to the stomach. Smooth muscles that line this tube contract and relax in such a way that food is moved along.

liver

Stores bile until it is needed.

small intestine

Muscles in the wall squeeze the food around to mix it. Food breakdown continues.

pancreas

Much of the leftover water is absorbed in this section.

The final portion of the large intestine.

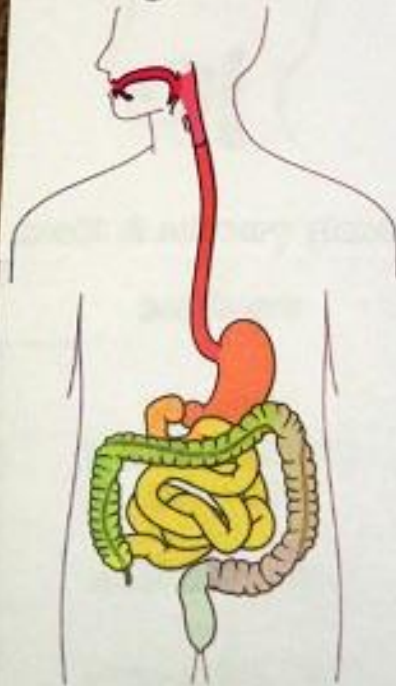
More enzymes are added and food nutrients are absorbed and passed along into the blood.

Produces important enzymes such as insulin. Secretes digestive enzymes that assist in the absorption of nutrients in the small intestine.

Secretes and sends bile to the small intestine, stores nutrients, prevents poisons from going to the rest of the body, plus many other functions.



Digestive System Flap Book



mouth & salivary glands

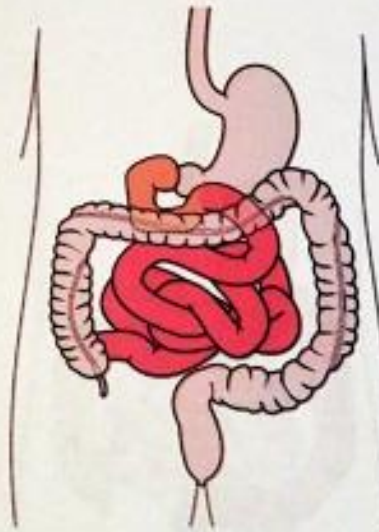
esophagus

stomach

liver, gall bladder,
pancreas

small intestines

large intestines

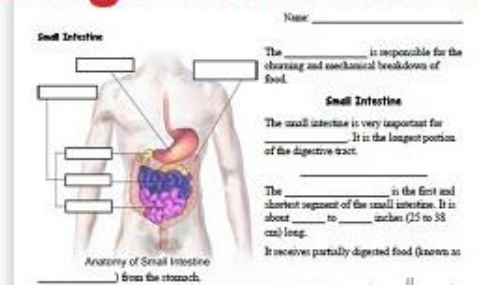


small intestines

large intestines



Small Intestine, Liver, Gall Bladder & Pancreas, Large Intestine Notebook Pages



In this segment many different enzymes mix from the stomach, liver, gallbladder and pancreas.

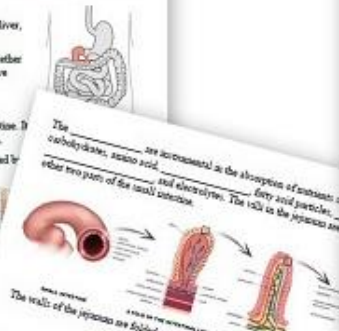
It receives gastric chyme from the _____ together with digestive juices from the _____ (digestive enzymes) and the _____ (bile).

The _____ is the second part of the small intestine. It is about _____ feet (average 15 meters) in length.

Most of the _____ present in food are absorbed here passed on to the ileum for further absorption.

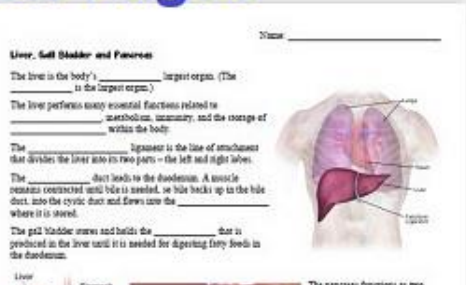
The entire wall of the jejunum is also folded into microscopic finger-like ridges known as _____ that form larger pockets and further increase the surface area of the jejunum.

Each epithelial cell on the surface of the jejunum contains microscopic folds of cell membrane called microvilli that create tiny pockets and increase the contact between the cells and chyme.



The _____ is the third and last part of the small intestine. It is _____ feet (3.5 meters) long. There is no absolute point at which the jejunum ends and the ileum begins.

The ileum absorbs mainly vitamins _____ and minerals that were not absorbed in the jejunum. These vitamins are absorbed in the last portion of the ileum.



As part of the digestive system, the pancreas secretes _____ lipids, carbohydrates, and nucleic acids in food. Functioning as _____ and glucagon to control the _____

The pancreatic duct joins the pancreas to the common _____

Pancreatic juice is a mixture of water, _____ enzymes. The bicarbonate ions present in pancreatic juice serve to protect the intestinal wall and to create the proper environment _____

Large Intestine or Colon

The large intestine consists of five regions: the _____ and _____.

The cecum is sometimes used to refer to the entire large intestine. It is about _____ feet long (1.5 meters). It has a _____ wall. The primary task of the large intestine is to absorb _____ and _____ while converting _____ digested food into feces.

The _____ is the beginning of the large intestine. It is _____ with the partially digested food from the small intestine to form feces.

Extending from the cecum is a small, worm-shaped pouch of tissue called the _____.

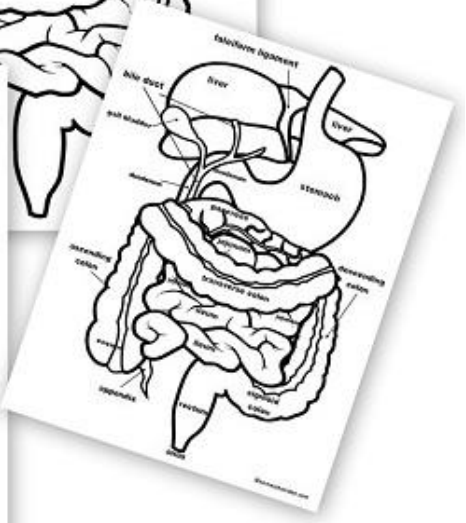
It is about _____ inches long and about a quarter of an inch in diameter.

In the _____ colon, enzymes from the small intestine complete the digestive process. Bacteria produce _____ vitamins. The intestinal wall absorbs water, vitamins and nutrients from the feces.

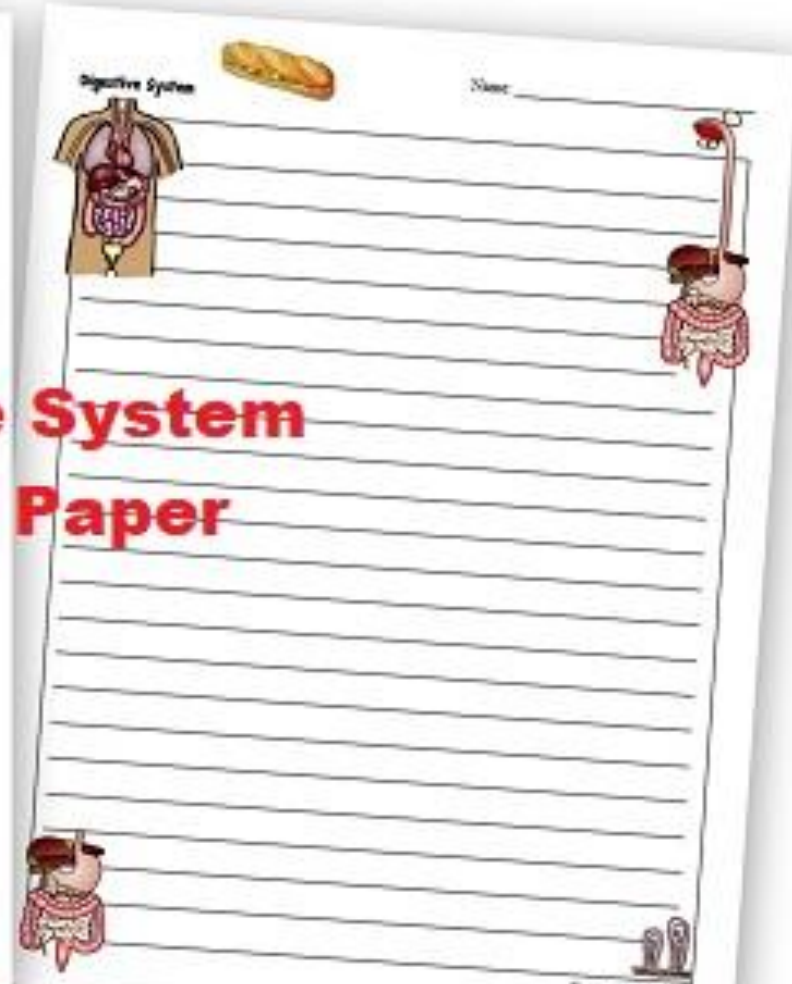
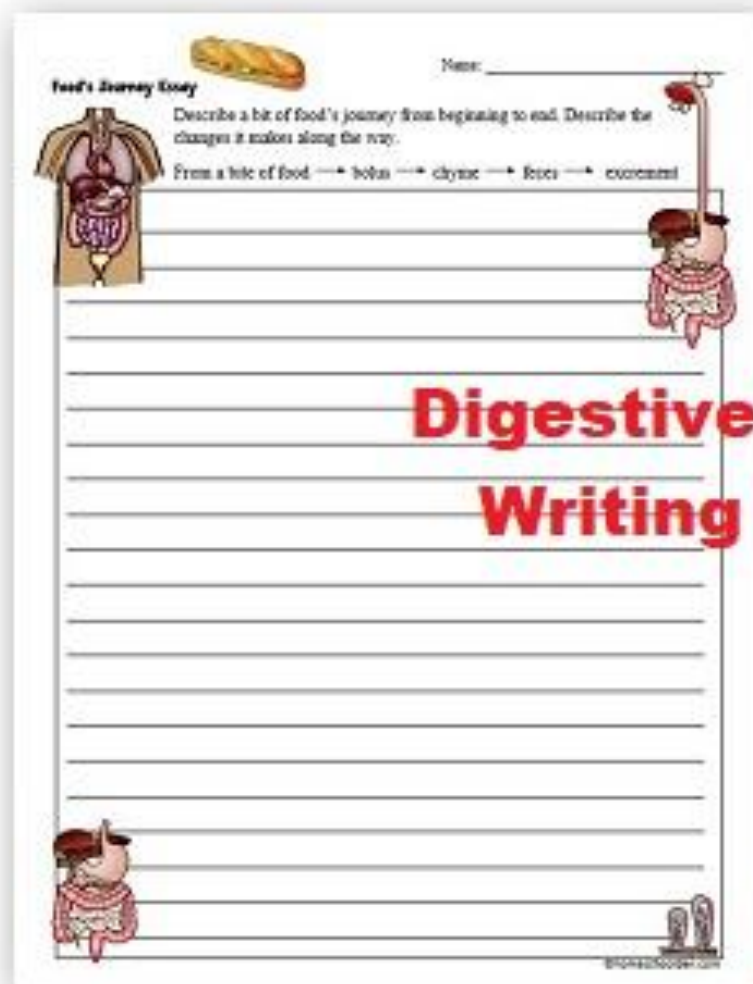
Much of the water absorption takes place in the _____ colon.

Feces then moves along into the descending colon where _____ and nutrients continue to be absorbed. Then the feces moves into the S-shaped _____ colon. Feces are stored in the sigmoid colon until they are ready to be eliminated from the body.

The _____ is the final segment of the large intestine. It stores fecal matter until the body is ready to eliminate it through the anus. The anus is the orifice that the feces passes through as it leaves the body.



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Digestive System Writing Paper

There's a section on vitamins and fiber.

Fiber & our Digestive System



Fiber & our Digestive System

There are two main types of fiber: soluble and insoluble. Soluble fiber dissolves in water and forms a gel-like substance. It helps to lower cholesterol and regulate blood sugar. Insoluble fiber does not dissolve in water and adds bulk to the stool, helping to prevent constipation.

Soluble Fiber — found in oats, beans, lentils, and fruits like apples and citrus. It helps to lower cholesterol and regulate blood sugar.

Insoluble Fiber — found in wheat bran, corn bran, and vegetables like cauliflower and green beans. It adds bulk to the stool and helps prevent constipation.

Both types of fiber are important for a healthy digestive system. They help to keep the digestive tract moving and prevent constipation. Fiber also helps to lower cholesterol and regulate blood sugar.

High Fiber Foods

| | |
|------------|---|
| avocado | 1/2 cup sliced: 12 grams per cup Nutrients: Monounsaturated Fat, Potassium, Vitamin E, Fiber |
| berries | 1/2 cup: 4 grams per cup Nutrients: Vitamin C, Fiber, Potassium, Manganese |
| coconut | 1/2 cup shredded: 19 grams per cup Nutrients: Fiber, Manganese, Potassium, Magnesium |
| artichokes | 1/2 cup sliced: 10 grams per cup Nutrients: Vitamin C, Fiber, Potassium, Magnesium, Phosphorus |
| peas | 1/2 cup: 8 grams per cup Nutrients: Vitamin A, C, K, B6, Thiamin, Magnesium, Protein |

High Fiber Foods (page 2)

| | |
|------------|---|
| okra | 1/2 cup sliced: 5 grams per cup Nutrients: Vitamin A, C, E, K, Fiber, Magnesium, Potassium |
| artichokes | 1/2 cup sliced: 10 grams per cup Nutrients: Vitamin C, Fiber, Potassium, Magnesium, Phosphorus |
| peas | 1/2 cup: 8 grams per cup Nutrients: Vitamin A, C, K, B6, Thiamin, Magnesium, Protein |
| a seeds | 1/2 cup: 12 grams per cup Nutrients: Fiber, Magnesium, Potassium, Magnesium |
| inoa | 1/2 cup: 12 grams per cup Nutrients: Fiber, Magnesium, Potassium, Magnesium |

High Fiber Foods

| | |
|------------|---|
| avocado | 1/2 cup sliced: 12 grams per cup Nutrients: Monounsaturated Fat, Potassium, Vitamin E, Fiber |
| Asian pear | 1/2 cup: 5 grams per cup Nutrients: Vitamin C, K, Omega-3 fatty acids, Potassium |
| berries | 1/2 cup: 4 grams per cup Nutrients: Vitamin C, Fiber, Potassium, Manganese |
| coconut | 1/2 cup shredded: 19 grams per cup Nutrients: Fiber, Manganese, Potassium, Magnesium |
| figs | 1/2 cup: 12 grams per cup Nutrients: Fiber, Potassium, Magnesium, Copper, B6 |
| artichokes | 1/2 cup sliced: 10 grams per cup Nutrients: Vitamin C, Fiber, Potassium, Magnesium, Phosphorus |
| peas | 1/2 cup: 8 grams per cup Nutrients: Vitamin A, C, K, B6, Thiamin, Magnesium, Protein |

High Fiber Foods (page 2)

| | |
|-----------------|---|
| okra | 1/2 cup sliced: 5 grams per cup Nutrients: Vitamin A, C, E, K, Fiber, Magnesium, Potassium |
| squash | 1/2 cup sliced: 5 grams per cup Nutrients: Vitamin A, B6, C, Thiamin, Potassium, Magnesium, Fiber, Phosphorus |
| Brussel sprouts | 1/2 cup: 5 grams per cup Nutrients: Vitamin C, Calcium, Magnesium, Potassium |
| turnips | 1/2 cup: 5 grams per cup Nutrients: Fiber, Potassium, Magnesium, Phosphorus |
| black beans | 1/2 cup: 12 grams per cup Nutrients: Protein, Thiamin, Magnesium, Manganese, Phosphorus, Fiber |
| chickpeas | 1/2 cup: 12 grams per cup Nutrients: Protein, Copper, Potassium, Magnesium, Omega-3 fatty acids, Omega-6 fatty acids |
| lima beans | 1/2 cup: 12 grams per cup Nutrients: Vitamin B12, B6, Copper, Magnesium, Protein, Phosphorus, Potassium |

High Fiber Foods (page 3)

| | |
|------------|---|
| split peas | 1/2 cup: 12 grams per cup Nutrients: Protein, Iron, Potassium, Magnesium, Omega-3 fatty acids |
| lentils | 1/2 cup: 12 grams per cup Nutrients: Protein, Iron, Potassium, Magnesium, Omega-3 fatty acids, Bifidus |
| nuts | 1/2 cup: 12 grams per cup Nutrients: Protein, Vitamin E, Magnesium, Omega-3 fatty acids, Bifidus |
| walnuts | 1/2 cup: 12 grams per cup Nutrients: Protein, Magnesium, Copper, Omega-3 fatty acids, Omega-6 fatty acids, Potassium |
| flax seeds | 1/2 cup: 12 grams per cup Nutrients: Protein, Magnesium, Thiamin, Phosphorus, Magnesium, Copper, Omega-3 fatty acids |
| chia seeds | 1/2 cup: 12 grams per cup Nutrients: Protein, Calcium, Phosphorus, Magnesium, Omega-3 fatty acids, Omega-6 fatty acids |
| quinoa | 1/2 cup: 12 grams per cup Nutrients: Iron, B6, Magnesium, Protein |

What do vitamins do? What can happen if you are deficient in a particular vitamin?

For Fat Soluble Vitamins

| Vitamin | What It Does | Food | Deficiency Problems | |
|------------------|---|---|---|--|
| Vitamin A | <ul style="list-style-type: none"> Helps with weight & healthy vision. Helps keep the immune system healthy. Keeps skin healthy. Helps with growth of body organs (like bones). Helps create strong bones and teeth. | liver, oranges, yellow fruits, leafy vegetables (like kale), carrots, pumpkin, spinach, fish, milk, butter, eggs, carrots | <ul style="list-style-type: none"> Visual impairment Night blindness Poor growth Dry skin | |
| Vitamin D | <ul style="list-style-type: none"> Helps bones grow strong. Helps the body absorb the mineral calcium. | cod liver oil, salmon, egg yolk, milk, butter, fish, mushrooms | <ul style="list-style-type: none"> Affects concentration and decision making Risk of mood disorders Bleeding Bone weakness Tiredness | |
| Vitamin E | <ul style="list-style-type: none"> Protects the lungs against pollution damage. Helps maintain healthy red blood cells and muscle tissue. Helps keep the heart healthy. Helps keep protect against cancer. | sweet potatoes, nuts, peanut butter, spinach, sunflower seeds, avocados | <ul style="list-style-type: none"> Loss of muscle coordination Impaired vision Vagina destruction Red blood cell destruction | |
| Vitamin K | <ul style="list-style-type: none"> Helps blood clot. Helps bones keep healthy. | leafy green vegetables like spinach, collards, cauliflower, radishes, meat, eggs | <ul style="list-style-type: none"> Hemorrhaging <p>Often caused by being on medications for an extended time.</p> | |

Water Soluble Vitamins

| Vitamin | What It Does | Food | Deficiency Problems | |
|--------------------|---|--|---|--|
| Folate | <ul style="list-style-type: none"> Helps make new cells. Helps prevent heart disease. | chickpeas, asparagus, lentils, corn flakes, beans, tomato juice, lentils, avocados, leafy | <ul style="list-style-type: none"> Poor immune function Diarrhea Mental disorders Poor growth | |
| Vitamin B1 | <ul style="list-style-type: none"> Helps our body use the fat and sugar we eat for energy. Helps keep our skin healthy. | turkey, chicken breast, ground, mushrooms, lentils, cheese, liver, meat, fish, eggs, wheat, asparagus, spinach, lentils | <ul style="list-style-type: none"> Diarrhea Skin problems Mental deterioration | |
| Biotin | <ul style="list-style-type: none"> Helps convert the food we eat to the energy we need. | dairy products - milk, beef, bananas, almonds, popcorn, green beans, liver, broccoli, asparagus, spinach, lentils | <ul style="list-style-type: none"> Eye disorders Cracks at the corner of the mouth Brittle tongue | |
| Riboflavin | <ul style="list-style-type: none"> Helps convert the food we eat to the energy we need. | peas, asparagus, pork, oatmeal, brown rice, quinoa, tomato juice, watermelon, chicken breast, sunflower seeds, lentils, potatoes | <ul style="list-style-type: none"> Weakness Tingling of the hands and feet Poor coordination | |
| Thiamine | <ul style="list-style-type: none"> Helps make red blood cells. Helps our body use fat and protein we eat for energy. | turkey, vegetables, two peas, spinach, lentils, tomato juice, bananas, watermelon, chicken breast, sunflower seeds | <ul style="list-style-type: none"> Change in mood - irritability, anxiety Confusion Fatigue Sore tongue | |
| Vitamin B6 | <ul style="list-style-type: none"> Helps maintain the health of nerve cells. Helps make new cells. | liver, fish, poultry, milk, cheese, eggs | <ul style="list-style-type: none"> Chronic fatigue Anemia Poor nerve function | |
| Vitamin B12 | <ul style="list-style-type: none"> Protects cells from damage. Helps keep bones and skin healthy. Helps help prevent cancer and heart disease. | oranges, strawberries, peaches, liver, broccoli, spinach | <ul style="list-style-type: none"> Braining Stomach pain Tiredness, weakness Vitamins Sore muscles | |
| Vitamin C | | | | |

- Protects the lungs against pollution damage.
- Helps maintain healthy red blood cells and muscle tissue.
- Helps keep the heart healthy.
- Helps help protect against cancer.

- Helps convert the food we eat to the energy we need.
- Helps with weight & healthy vision.
- Helps keep the immune system healthy.
- Keeps skin healthy.
- Helps with growth of body organs (like bones).
- Helps create strong bones and teeth.

- Helps bones grow strong.
- Helps the body absorb the mineral calcium.
- Helps bones are with.
- Helps prevent heart disease.
- Clearer lungs.
- Anemia.
- Poor nerve function.

For Fat Soluble Vitamins

| Vitamin | What It Does | Food | Deficiency Problems | |
|------------------|---|---|---|--|
| Vitamin A | <ul style="list-style-type: none"> Helps with weight & healthy vision. Helps keep the immune system healthy. Keeps skin healthy. Helps with growth of body organs (like bones). Helps create strong bones and teeth. | liver, oranges, yellow fruits, leafy vegetables (like kale), carrots, pumpkin, spinach, fish, milk, butter, eggs, carrots | <ul style="list-style-type: none"> Visual impairment Night blindness Poor growth Dry skin | |
| Vitamin D | <ul style="list-style-type: none"> Helps bones grow strong. Helps the body absorb the mineral calcium. | cod liver oil, salmon, egg yolk, milk, butter, fish, mushrooms | <ul style="list-style-type: none"> Affects concentration and decision making Risk of mood disorders Bleeding Bone weakness Tiredness | |
| Vitamin E | <ul style="list-style-type: none"> Protects the lungs against pollution damage. Helps maintain healthy red blood cells and muscle tissue. Helps keep the heart healthy. Helps keep protect against cancer. | sweet potatoes, nuts, peanut butter, spinach, sunflower seeds, avocados | <ul style="list-style-type: none"> Loss of muscle coordination Impaired vision Vagina destruction Red blood cell destruction | |
| Vitamin K | <ul style="list-style-type: none"> Helps blood clot. Helps bones keep healthy. | leafy green vegetables like spinach, collards, cauliflower, radishes, meat, eggs | <ul style="list-style-type: none"> Hemorrhaging <p>Often caused by being on medications for an extended time.</p> | |

Water Soluble Vitamins

| Vitamin | What It Does | Food | Deficiency Problems | |
|--------------------|---|--|---|--|
| Folate | <ul style="list-style-type: none"> Helps make new cells. Helps prevent heart disease. | chickpeas, asparagus, lentils, corn flakes, beans, tomato juice, lentils, avocados, leafy | <ul style="list-style-type: none"> Poor immune function Diarrhea Mental disorders Poor growth | |
| Vitamin B1 | <ul style="list-style-type: none"> Helps our body use the fat and sugar we eat for energy. Helps keep our skin healthy. | turkey, chicken breast, ground, mushrooms, lentils, cheese, liver, meat, fish, eggs, wheat, asparagus, spinach, lentils | <ul style="list-style-type: none"> Diarrhea Skin problems Mental deterioration | |
| Biotin | <ul style="list-style-type: none"> Helps convert the food we eat to the energy we need. | dairy products - milk, beef, bananas, almonds, popcorn, green beans, liver, broccoli, asparagus, spinach, lentils | <ul style="list-style-type: none"> Eye disorders Cracks at the corner of the mouth Brittle tongue | |
| Riboflavin | <ul style="list-style-type: none"> Helps convert the food we eat to the energy we need. | peas, asparagus, pork, oatmeal, brown rice, quinoa, tomato juice, watermelon, chicken breast, sunflower seeds, lentils, potatoes | <ul style="list-style-type: none"> Weakness Tingling of the hands and feet Poor coordination | |
| Thiamine | <ul style="list-style-type: none"> Helps make red blood cells. Helps our body use fat and protein we eat for energy. | turkey, vegetables, two peas, spinach, lentils, tomato juice, bananas, watermelon, chicken breast, sunflower seeds | <ul style="list-style-type: none"> Change in mood - irritability, anxiety Confusion Fatigue Sore tongue | |
| Vitamin B6 | <ul style="list-style-type: none"> Helps maintain the health of nerve cells. Helps make new cells. | liver, fish, poultry, milk, cheese, eggs | <ul style="list-style-type: none"> Chronic fatigue Anemia Poor nerve function | |
| Vitamin B12 | <ul style="list-style-type: none"> Protects cells from damage. Helps keep bones and skin healthy. Helps help prevent cancer and heart disease. | oranges, strawberries, peaches, liver, broccoli, spinach | <ul style="list-style-type: none"> Braining Stomach pain Tiredness, weakness Vitamins Sore muscles | |
| Vitamin C | | | | |

Digestive System Worksheets and Activities

