



THE DIGESTIVE SYSTEM – STOMACH TO WASTE

by Lanny and Marilyn Johnson

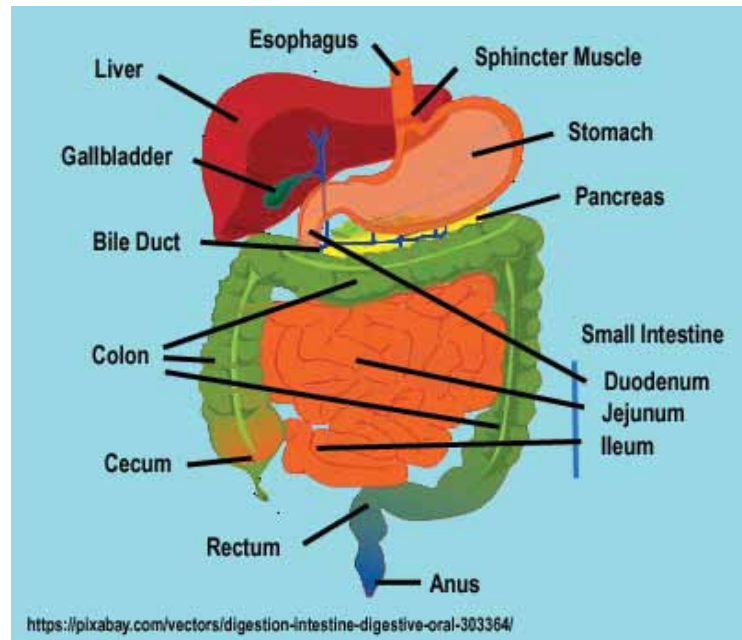
“Time for school,” Mrs. Jones called out to Billy and Mary. Today, we’ll continue studying how God designed our digestive system. Mary, do you remember where we ended our study yesterday?” **

“Food and water have the vitamins and minerals we need to live and grow, but they must be broken down for our body to use. Once the food enters the mouth, chewing breaks it into smaller bits, and saliva makes it mushy. The tongue rolls the mashed-up food into a little ball called a bolus, then pushes it to the back of your throat. At the back of the throat (pharynx), there are two tubes: the windpipe (larynx) and the esophagus. When we swallow, a small flap called the epiglottis closes over the windpipe to make sure that food goes down the esophagus and not into the lungs.”

“Great job, Mary. Today, we’ll start our study with the stomach. At the top entrance of the **stomach** is a circular muscle called a **sphincter** (sfing’k’ter) that opens and closes at the top of the stomach. Usually, this muscle is shut (contracted), so food already in the stomach doesn’t come back up the esophagus. As the esophagus muscles push the bolus along, the

sphincter opens (relaxes) so that more food can enter the stomach.¹

“The stomach is a stretchy, muscular bag, lined with many folds. When empty, it is about the size of a tennis ball. Yet, it can stretch to the size of a football when full. As food enters the stomach, acidic gastric juices are released from the stomach lining. Strong stomach muscles mix and mash the food with those juices, breaking the food down until it becomes a slushy soup called **chyme**. The gastric juices also kill many bacteria and germs found in the food. The chyme stays in the stomach for approximately four hours and then moves to the small intestine.^{2,3}



“The **small intestine** is a coiled tube about 23 feet (7 m) long and a little over 1 inch (3 cm) wide. It is made up of three sections. The first, called the **duodenum**, continues to break down the food. The last two sections, called the **jejunum** and **ileum**, soak up the minerals, vitamins, proteins, carbohydrates, sugars, and fats and pass them on to the bloodstream. The blood carries these nutrients to the **liver**, where

it decides what to do with the nutrients. It can make bile (to break down fat) and other digestive juices, get rid of harmful toxins, recycles old blood cells, and makes glucose for energy. These are just some of the more than 500 jobs the liver can do! In addition to the liver, the **gallbladder** stores the bile made by the liver to be used when needed. The **pancreas** also makes digestive juices and insulin, which help control blood sugar levels.^{4,5}

“After passing through the small intestine, the chyme moves into the **large intestine**, which is only about 5 feet (1.5 m) long but twice as wide as the small intestine. It is made up of the **cecum** (beginning of the large intestine), the **colon** (from cecum to rectum), and the **rectum**. As the leftover food moves through the large intestine, the remaining water, minerals, and salts are absorbed, turning it into a semi-solid waste called **feces** (or poop). It builds up in the rectum until a muscle called the **anus** relaxes, and the feces leaves the body.”^{6,7}

“Phew-ee! What makes ‘poo’ stink, Mom?” Billy asked.

“There are trillions of bacteria living in the digestive system, and depending on the foods we eat, they make different gases. It’s those unpleasant gases we smell.”⁸

“When we study and learn about all the different parts, things, and jobs the digestive system uses to break down the food and drink that our body needs, it is beyond imagination that any of it happened by the chance and accident of evolution. Our digestive system is another example of God’s creative design.”

**See KT&B March-April 2022 <https://www.discovercreation.org/wp-content/uploads/2022/02/KTB-Mar-Apr-2022.pdf>

Go to Answers for references (see back page).

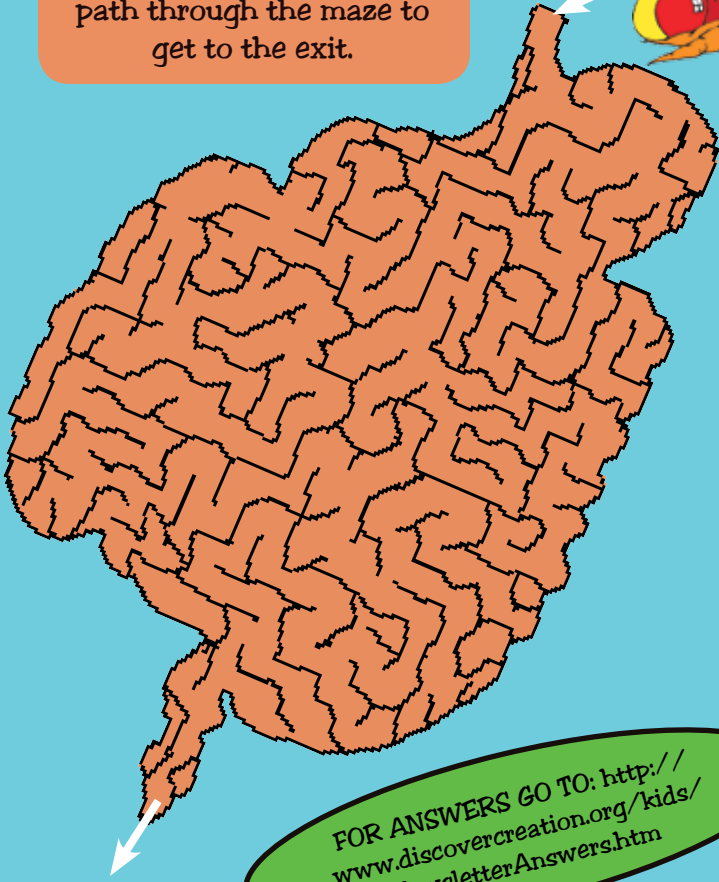
REFERENCES

- 1 Exploring Creation with Human Anatomy and Physiology, Young Explorers Series, Apologia Science, pg. 73
- 2 <https://www.natgeokids.com/uk/discover/science/general-science/your-digestive-system/>
- 3 <https://smartclass4kids.com/science/human-body/the-digestive-system-for-kids/>
- 4 Ibid
- 5 <https://www.natgeokids.com/uk/discover/science/general-science/your-digestive-system/>
- 6 <https://www.natgeokids.com/uk/discover/science/general-science/your-digestive-system/>
- 7 <https://smartclass4kids.com/science/human-body/the-digestive-system-for-kids/>
- 8 <https://www.health.com/condition/digestive-health/why-does-poop-smell>

Find the 21 differences between the two pictures.



Help the food find the path through the maze to get to the exit.



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FOR ANSWERS GO TO: <http://www.discovercreation.org/kids/NewsletterAnswers.htm>

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