

# Digestion Race

## Goal:

Successfully learn about the functions of the small and large intestines, the parts of the small intestines, and the digestion process.

The goal of this activity is to make the students understand the parts, size, and function of these intestines and work together to build their own intestinal system.

## Video Engagement:

### Key Vocabulary:

Small Intestine: an organ in the gastrointestinal tract where most of the end absorption of nutrients and minerals from food takes place

Large Intestine: the last part of the gastrointestinal tract and of the digestive system in vertebrates. Water is absorbed here and the remaining waste material is stored as feces before being removed by defecation.

Digestion: a person's capacity to break down food into substances that can be used by the body.

### Study Links:

<https://www.youtube.com/watch?v=nXB3YH7aTEs>

<https://www.chp.edu/our-services/transplant/intestine/education/about-small-large-intestines>

<https://www.visiblebody.com/learn/digestive>

### Fun Interactive Game:

[https://www.sheppardsoftware.com/health/anatomy/digestion/digestion\\_game\\_2.htm](https://www.sheppardsoftware.com/health/anatomy/digestion/digestion_game_2.htm)

### Materials for each team

10 pieces of paper

Tape

Colors

Paint

### Competition

Each team will build their own intestinal system and in the end have a race with the system and painted paper balls

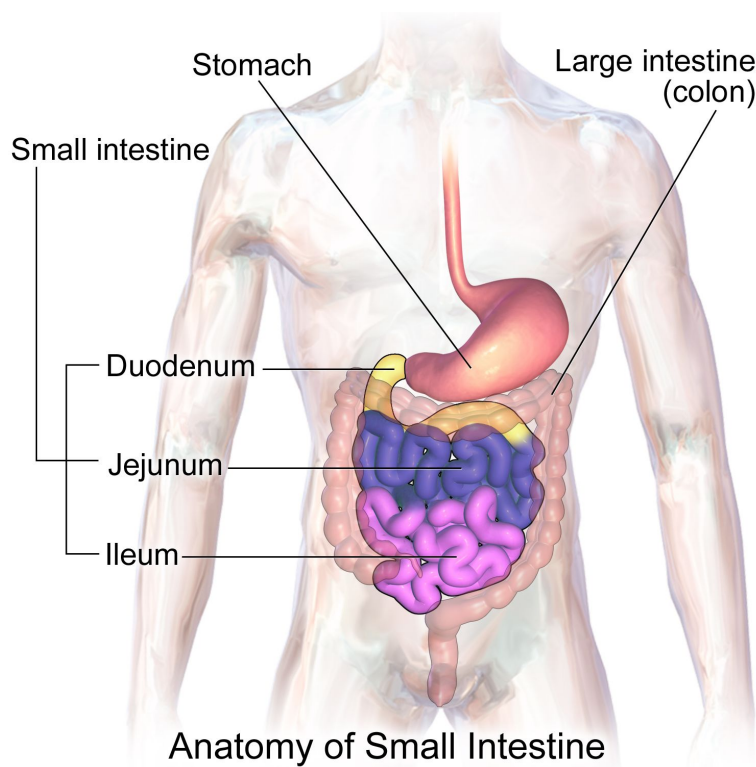
### How it all plays out:

-Students will be divided into groups of 3-4 and given paper to make their intestines. The small intestine will consist of 6 pieces of paper while the large intestine will be 3. Each group will divide these 6 papers designated to the small intestine to 3 parts and color code them. 2 papers will be colored yellow for the duodenum, 2 will be blue for the jejunum, and finally the last 2 will be pink for the ileum. They will then make cylinders with each 6 pieces of paper designated for the small intestine with a diameter of 1. They will use tape to make the cylinder of paper, then use tape again to attach all the cylinders together to make the entire small intestine.

-Next, they will use the 3 pieces of paper designated for the large intestine and make them into cylinders and tape them together, as they did for the small intestine. The difference is, however, the diameter of the large intestine will be 2.

-Now, they will tape the end of the paper small intestine to the beginning of the paper large intestine. This makes the elongated intestinal tract. When each group has completed this task, they will make 3 small pieces of paper balls and put different color wet paint on them. When that is done one student will hold the intestinal structure up and one student will drop the balls through. This will be a race, as whoever's paper balls go through the fastest get the highest points. A side note the teacher should emphasize is the paint rubbed off in the paper intestines to show the nutrients and minerals absorbed by the intestines in our very body.

-The final task now, is for each group to fit their paper small intestine in their large intestine, as shown in the picture below. The teacher will grade this in terms of result, fitting, and teamwork.



Anatomy of Small Intestine

### Rubric:

Objective	Rating (1-5)
<b>Communication</b> - All voices are heard equally, and all team members have a share in key decisions.	
<b>Cooperation</b> - Team avoids conflict by working together or resolving conflict quickly without adult intervention.	
<b>Leadership</b> - Team and acts to achieve a best effort. "Team before self."	
<b>Problem Solving</b> - Remains committed to the task in the face of opposition, considers new ideas, and creates solutions	

\*Read this after the activity is over

After nutritional digestion in the stomach, the food ingested goes through the small intestine, large intestine, then out the rectum. The stomach only digests 10% of the food, it is the intestines that digest 90% of our food. The small intestines digest mainly the nutrients and minerals in our food, while the large intestine absorbs water, electrolytes, and vitamins. Therefore it is the role of the intestines to truly absorb the majority of the food. The small intestine is divided into 3 parts: the duodenum, jejunum, and ileum. This intestine is 20 feet long, while the large intestine is only 5 feet long.

Final Steps:

- Ask the students to connect this information just read to them to their activity
- Ask them the most interesting fact they have learn today
- Ask them to point to their small and large intestines