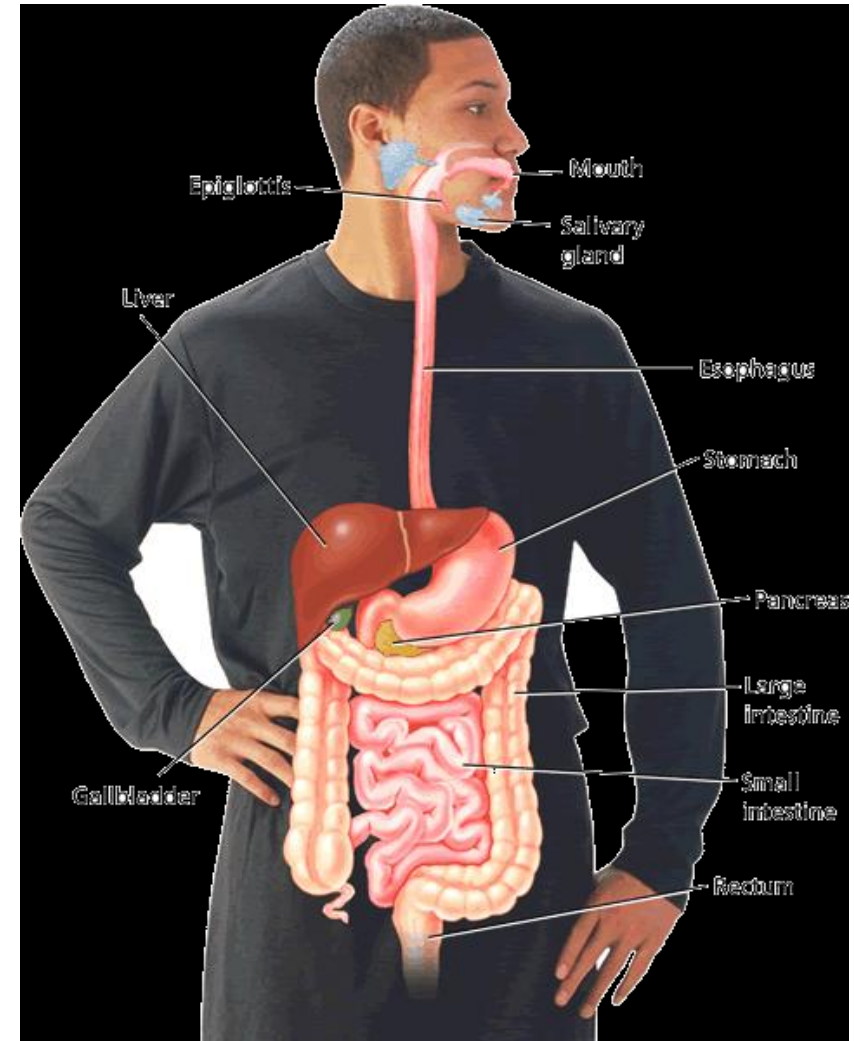


THE DIGESTIVE SYSTEM

Function(job): to convert(change) foods into simpler molecules that can be absorbed and used by the cells of the body.

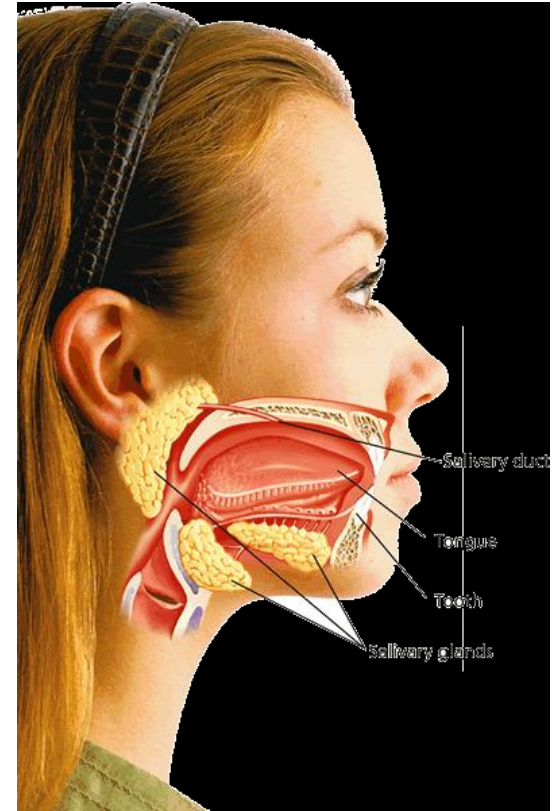
The 3 jobs of the digestive system are to:

- 1. Break down food**
- 2. Absorb nutrients from food**
- 3. Excrete (remove) waste**



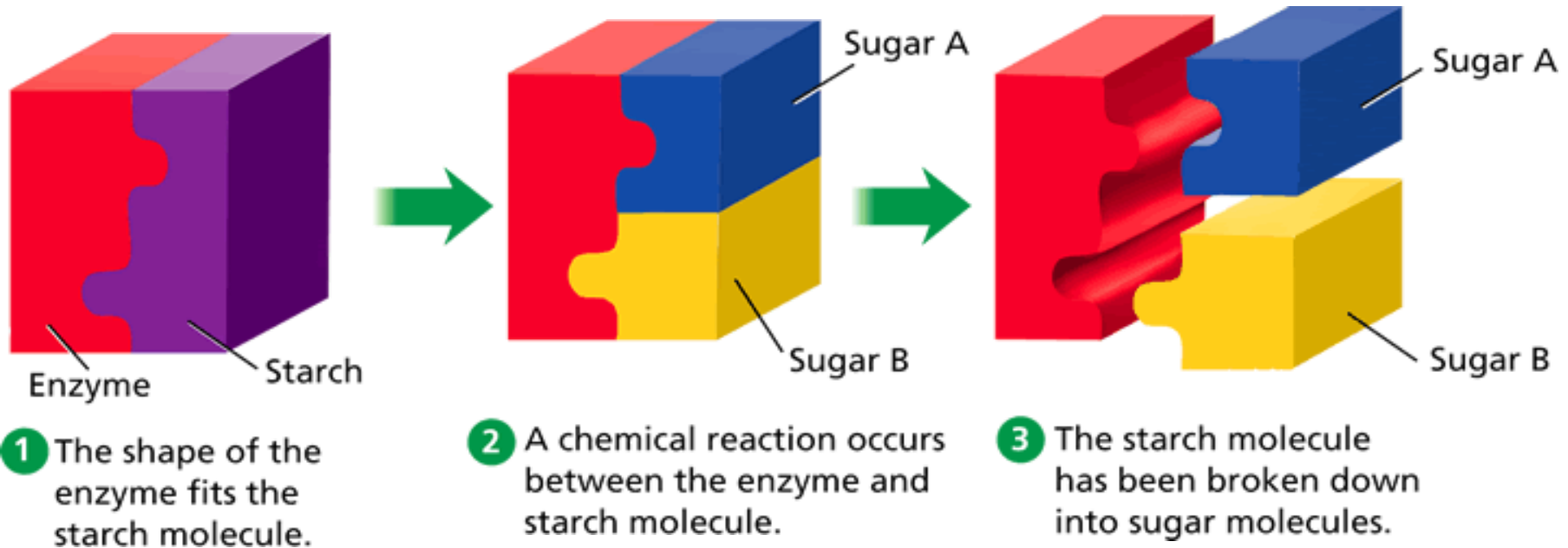
DIGESTION: MOUTH

1. Mechanical digestion: chewing with **teeth**.
 - **Tongue** helps to move food around, forms a bolus.
2. Chemical digestion: when you chew your food, salivary glands release **saliva**
 - Helps to break down your food into smaller molecules.



DIGESTION: MOUTH

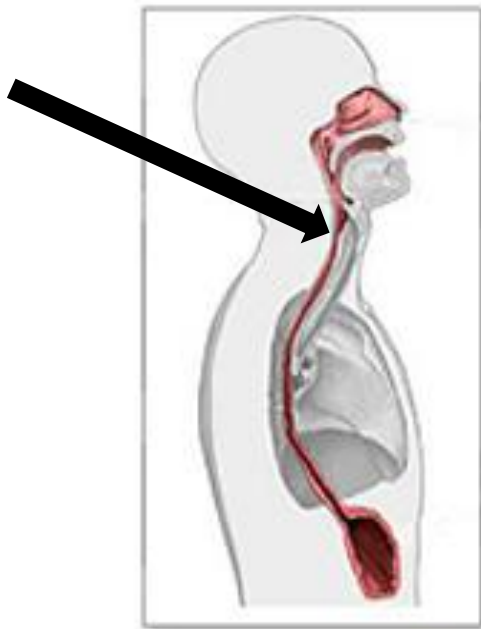
- Chemical digestion:
 - There are enzymes in your saliva:
 - **Enzymes are proteins** that help break down food.
 - Each enzyme has a specific shape for the type of food it breaks down.
 - **Amylase enzyme** breaks down a **starch into sugars**:



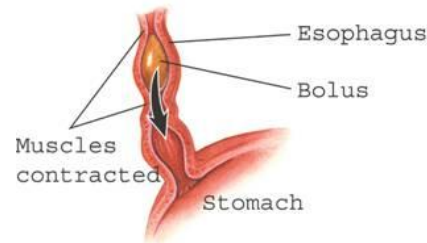
DIGESTION: ESOPHAGUS

Food pipe: connects mouth to stomach.

- Smooth muscles contract to push food down to the stomach.
- Peristalsis.



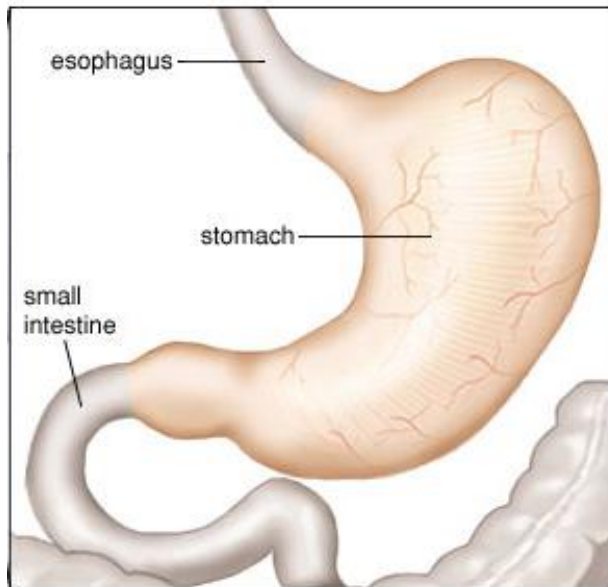
ADAM.



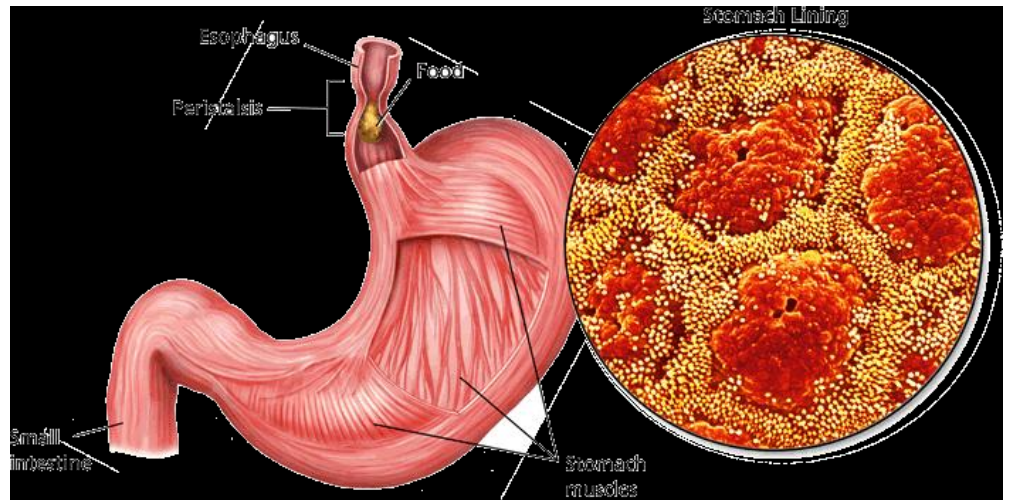
DIGESTION: STOMACH

Stomach:

- a very acidic environment (pH ~2)
- protein digestion occurs here – **chemical**
- churns and mixes stomach fluids with food to produce a mixture known as **chyme** - **mechanical**

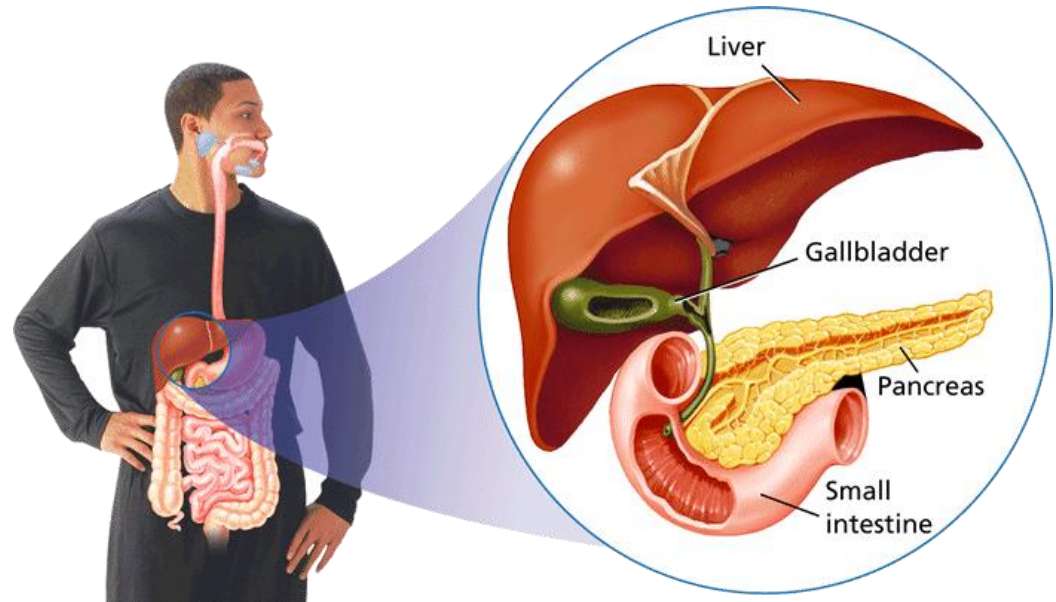
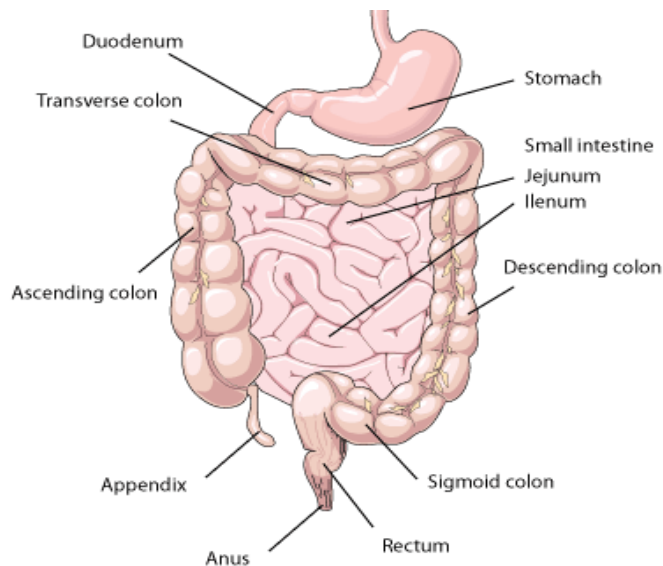


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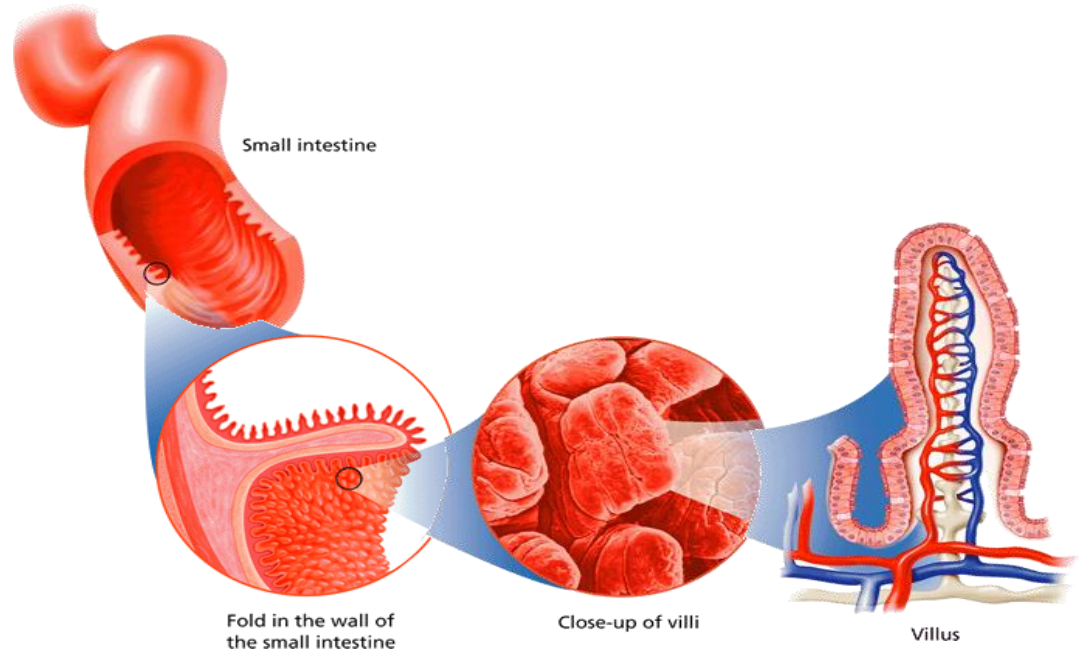
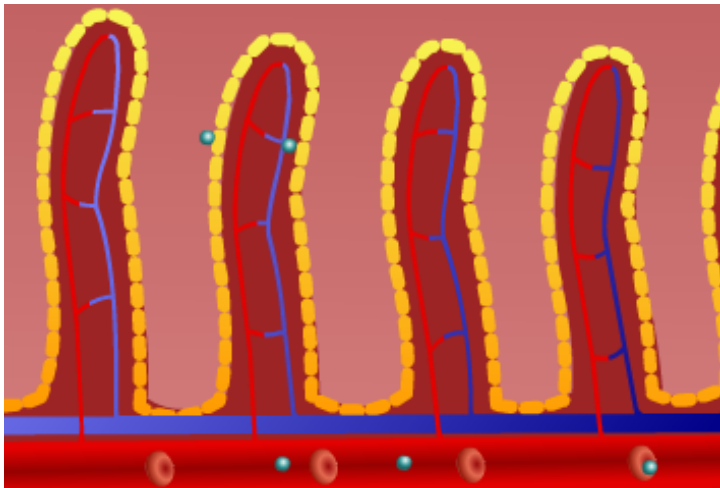
DIGESTION: THE SMALL INTESTINE

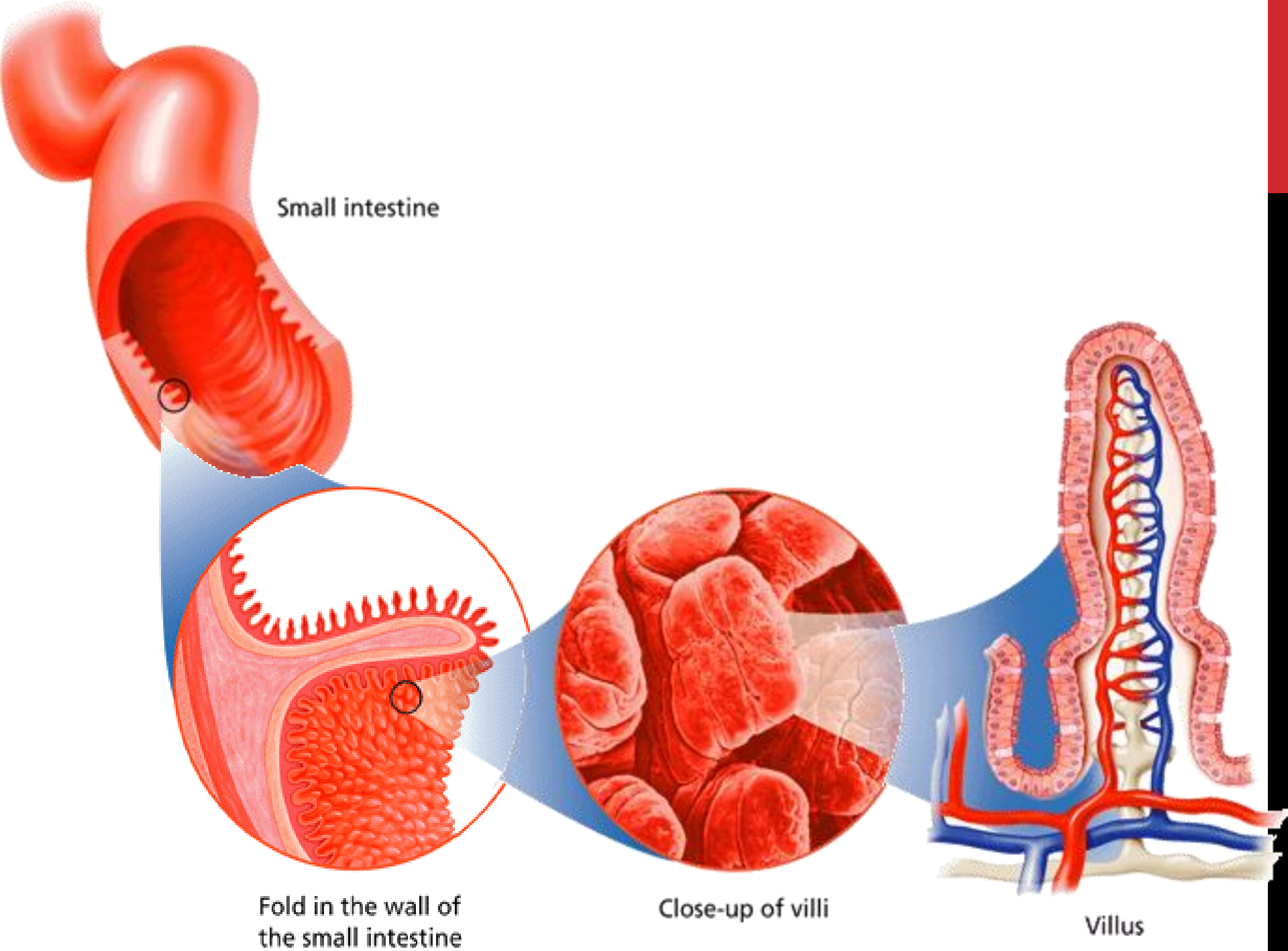
- Most of the remaining digestion happens here.
- Contains enzymes (made by the **pancreas**, **gall bladder**, and **liver**) to help digest, or break down, the rest of your food
- ABSORBS nutrients.
- The liver digests and removes the toxic wastes.



ABSORPTION IN THE SMALL INTESTINE

- The small intestine absorbs nutrients into the body.
- The wall of the small intestine is folded to increase the surface area – tiny finger-shaped projections called villi absorb the nutrients from your food and pass them into your tiny blood vessels called capillaries





Small intestine

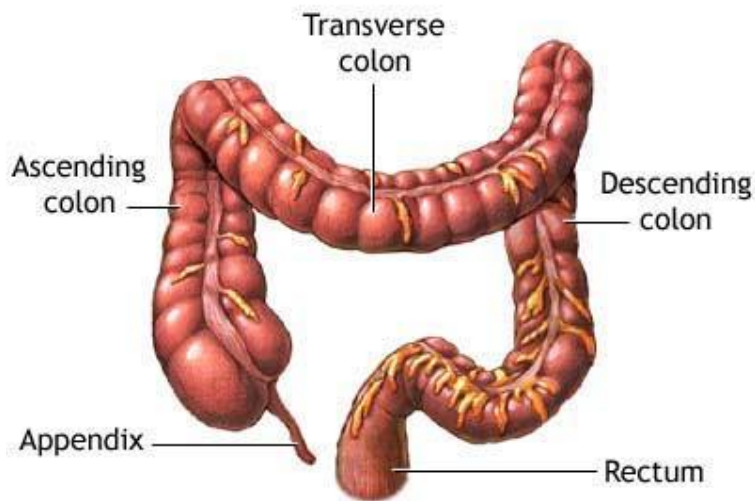
Fold in the wall of the small intestine

Close-up of villi

Villus

DIGESTION: THE LARGE INTESTINE (COLON), RECTUM & ANUS

- Colon removes water from the rest of the undigested material
- undigested waste material is stored in the rectum, leaves the body through the anus.



ADAM.

