THE ROUTE OF NUTRIENTS

→Digestion ends in the small intestine where there will be simple molecules known as nutrients.

→Nutrients will be absorbed from the small intestine into the blood and lymph, where they will be distributed to all body cells.

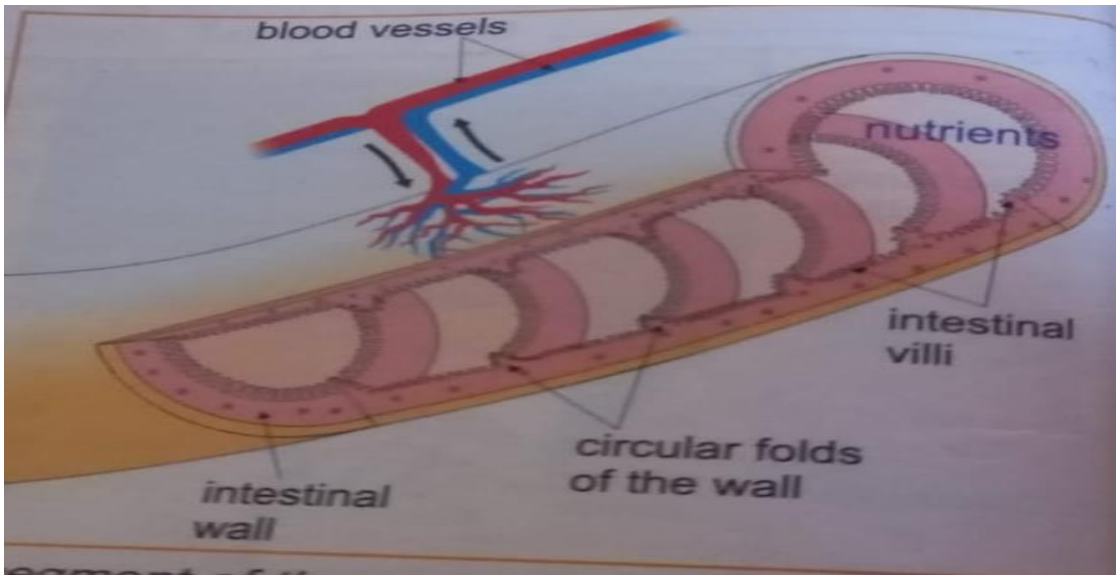
Indicate the organ responsible for the absorption.

Small intestine is the organ responsible for the absorption.

Name the structure responsible for the absorption of nutrients.

Intestinal villi are the structure responsible for the absorption of nutrients.

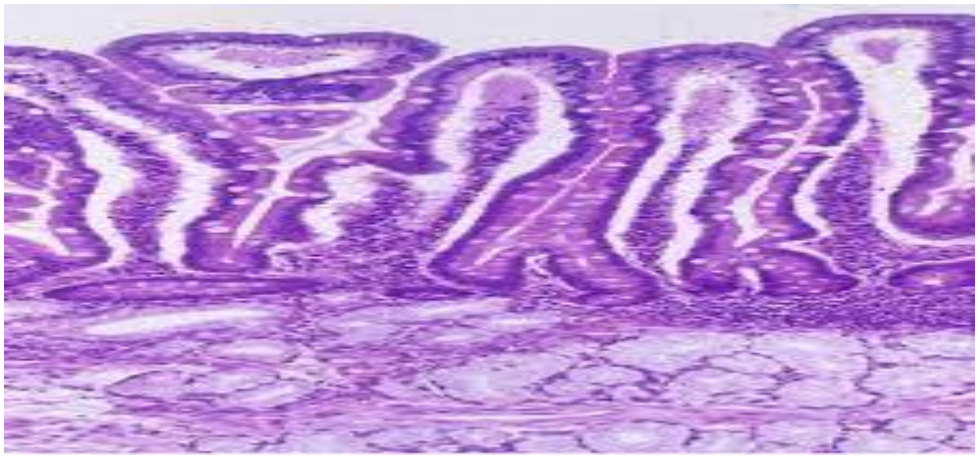
Title: document showing the inner wall of the small intestine which is made up of folds containing intestinal villi.



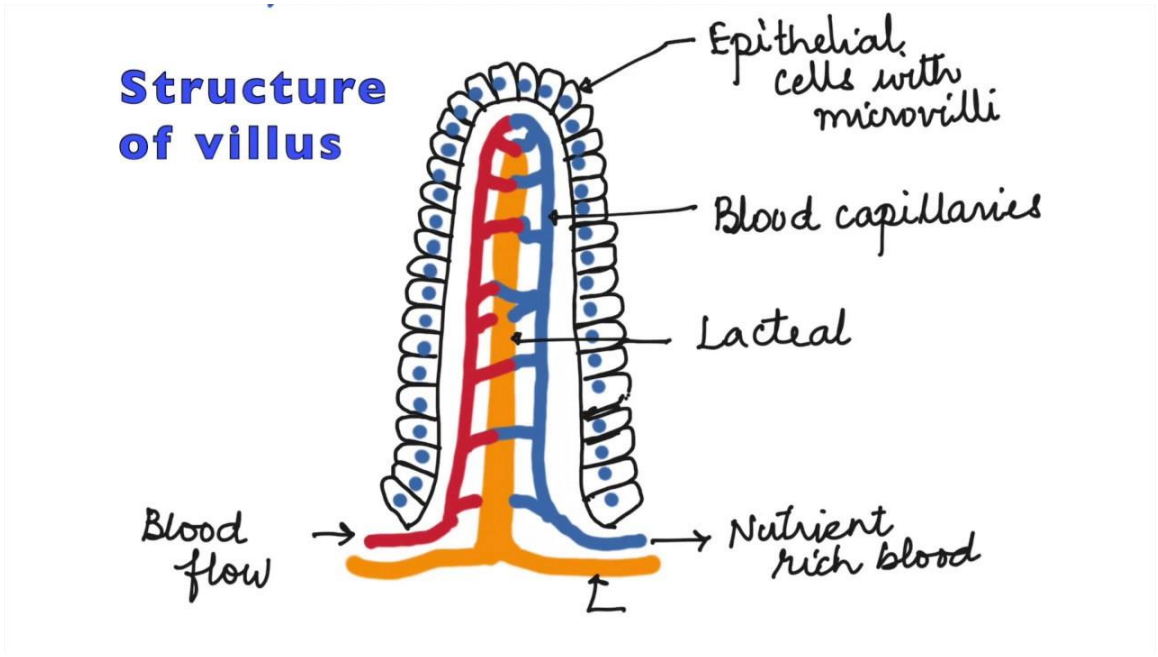
The characteristics of the small intestine that makes it a surface of exchange adapted for absorption:

- ✓ Has a very large surface area in order to ensure maximum contact with blood and nutrients.
- ✓ It has a very thin wall in order to facilitate the absorption.
- ✓ It is rich in blood vessels (highly vascularized) in order to ensure contact with blood.

Title: document showing many villi which are present on the thinner wall of the small intestine.



Title: document shows the structure of intestinal villus which is the unit of absorption.



Notes!!!!

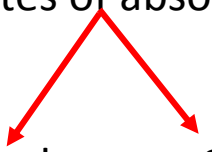
- ✓ Each intestinal villus has a network of blood and lymphatic vessels.
- ✓ Blood vessels carry blood.
- ✓ Lymphatic vessels carry lymph.
- ✓ Lymph: is a colorless liquid which has the same composition of blood, but without red blood cells.
- ✓ Lymph = Blood – R.B.C.
- ✓ Absorption: passage of nutrients from the small intestine to the blood or to the lymph.

Formulate a hypothesis explaining the decrease in the amount of nutrients inside the small intestine at the end of digestion.

Hypothesis: the nutrients are absorbed from the small intestine into the blood to be distributed.

Routes of absorption:

There are 2 routes of absorption of nutrients:



1. Blood
2. Lymph

1. Blood: Carries glucose, amino acids, fructose, galactose, water and vitamins
2. Lymph: carries lipids (fatty acids + glycerol)