

LESSON | What is absorption?

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You have learned how food is digested. You know that digestion is completed in the small intestine. But, digested food has no value unless it gets into your cells.

How does digested food leave the digestive system? It is absorbed in the small intestine. **Absorption** [ab-SAWRP-shun] is the movement of food from the digestive system to the blood.

This is how it happens:

The inner wall of the small intestine is lined with thousands of tiny "bumps." These bumps are called villi [VIL-y]. (One bump is called a villus.)

Each villus has two kinds of tubes:

1. a network of capillaries, and
2. a lacteal.

As you know, capillaries carry blood. The lacteals carry a liquid called lymph.

Digested food surrounds each villus. The food leaves the small intestine through the capillaries and lacteals.

- The lacteals absorb digested fats.
- The capillaries absorb all other nutrients.

Lymph and blood flow through the body in separate tubes. But the two liquids do not stay separated. Lymph empties into the bloodstream near the heart. Then, the blood carries all the nutrients.

As you know, blood goes to every part of the body. The cells absorb the nutrients from the blood.

UNDERSTANDING ABSORPTION IN THE SMALL INTESTINE

Study Figures A and B.

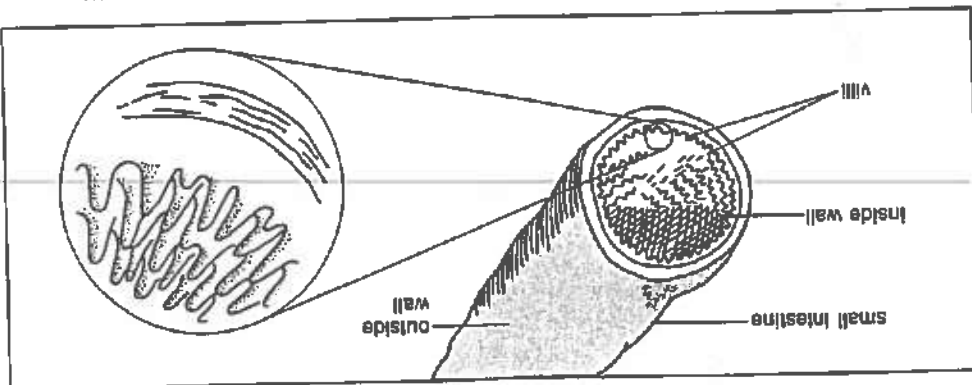


Figure A The inner wall of the small intestine has thousands of tiny villi.

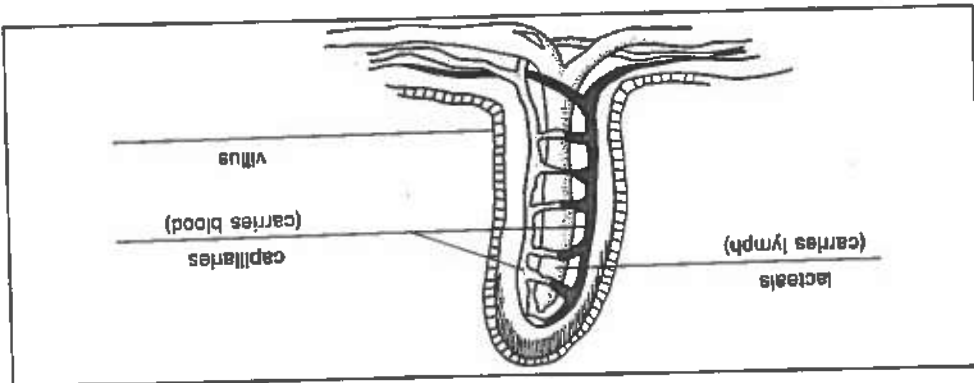


Figure B A single villus.

1. Digested fats are absorbed by the _____ capillaries, lacteals
2. Digested starches, sugars, and proteins are absorbed by the _____ capillaries, lacteals
3. Digested food is carried to all parts of the body by the _____ blood, small intestine

MATCHING

Match each term in Column A with its description in Column B. Write the correct letter in the space provided.

Column A

1. digestion

2. lymph

3. small intestine

4. capillaries

Column B

a) lined with villi

b) changes food to a form the body can use

c) absorb all digested food except fats

d) lacteal liquid

FILL IN THE BLANK

Complete each statement using a term or terms from the list below. Write your answers in the spaces provided. Some words may be used more than once.

mouth
lacteal
all digested nutrients
absorption

cells
small intestine
digestion
villi

fats
nutrients
capillaries

1. Our bodies are made up of trillions of _____.
2. All the useful things we get from food are called _____.
3. The break down of food into simpler and smaller molecules is called _____.
4. Digestion starts in the _____ and is completed in the _____.
5. The movement of food from the digestive system to the blood is called _____.
6. Absorption of food takes place through tiny "bumps" called _____.
7. Villi line the inner wall of the _____.
8. Every villus has _____ and a _____.
9. Lacteals absorb digested _____.
10. Capillaries in villi absorb _____ except fats.

REACHING OUT

1. Which covers more surface area, a flat surface or a bumpy surface?

2. How does the shape of the villi speed absorption?

