

# 9.6 – Absorption Process

Intermediate 2 Biology

# Learning Intentions

15<sup>th</sup> Jan

## Everyone should complete:

- 1-Absorption Model
- 2-Visking Tube Experiment
- 3-Small Intestine

## Most people will complete:

- The Check Test for 9.6
- The Home Practice for 9.6

## Some people might start:

- Problem solving  
Torrance Intermediate 2 Biology textbook  
p 240 'Applying Your Knowledge'

# 1 - Absorption

- The alimentary canal (or gut) is a long tube inside the body
- Any food in the alimentary canal is still **outside** the cells of the body
- To get **inside** the molecules of the food have to be able to pass through the wall of the alimentary canal

Now try the 'Model Absorption' kit!

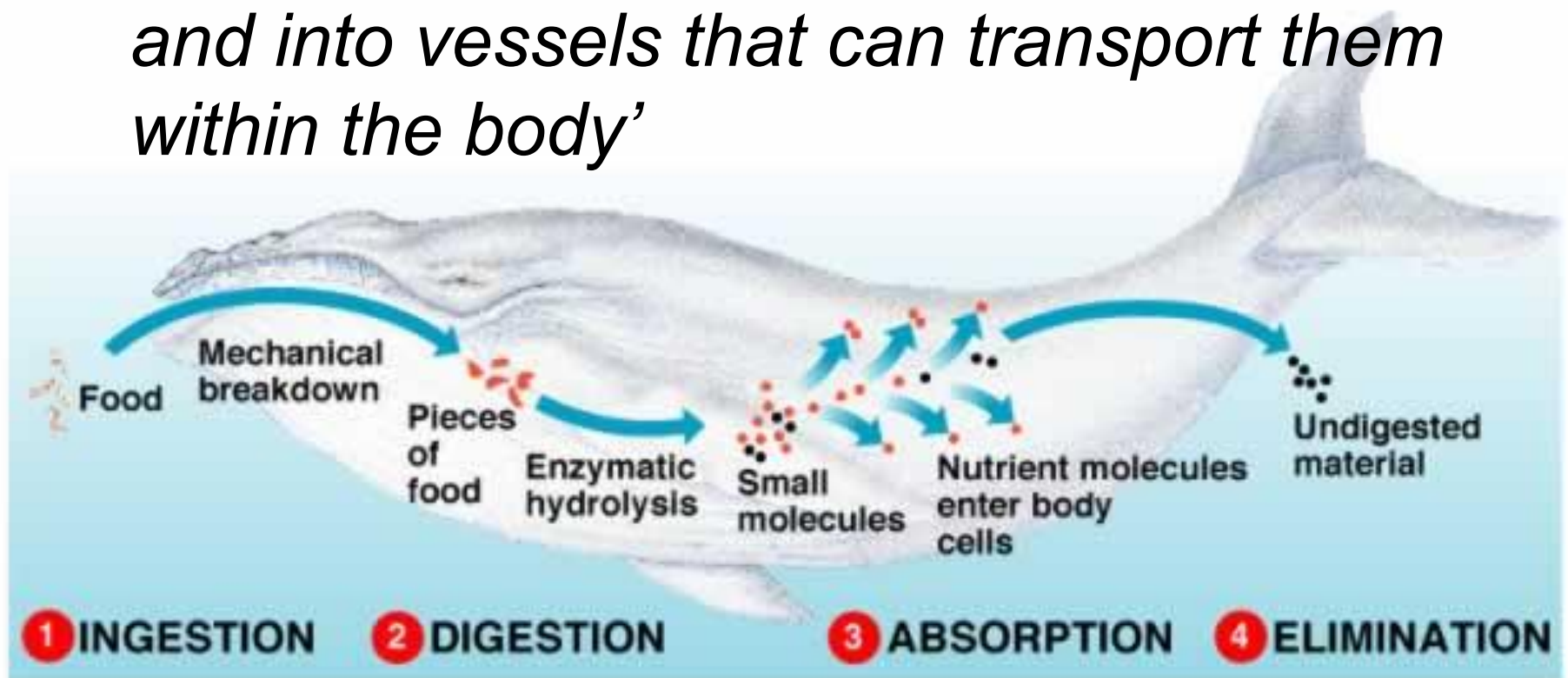
# Think.....

- What does the piece of tube in the model represent?
- Why can the food molecules inside the tube still be regarded as 'outside' the body?
- Which food molecules in the model were able to pass through the wall of the tube most easily? Why was this?
- Why were the protein molecules in the model unable to pass through the wall of the tube?

*Now complete the 'Notes'!!!*

# Absorption

*‘The passage of small food molecules through the wall of the alimentary canal and into vessels that can transport them within the body’*



# 2 - Visking Tubing Experiment

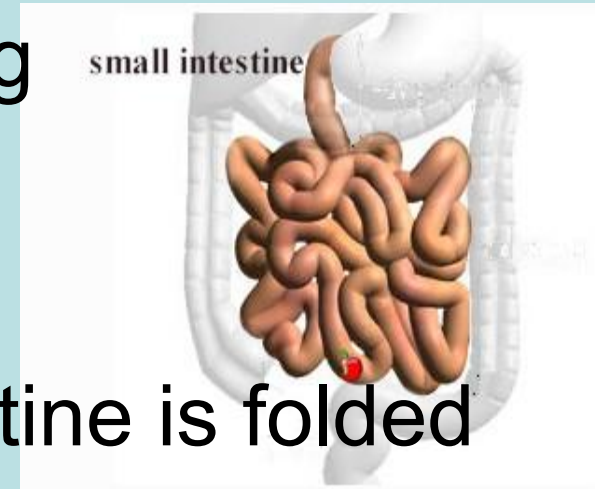
- a diagram of the experiment when set up
- what the visking tubing was being used to represent
- how you tested for starch and glucose and a table of your results
- an explanation of the results in terms of size of the food molecules involved

# 3 – Small Intestine

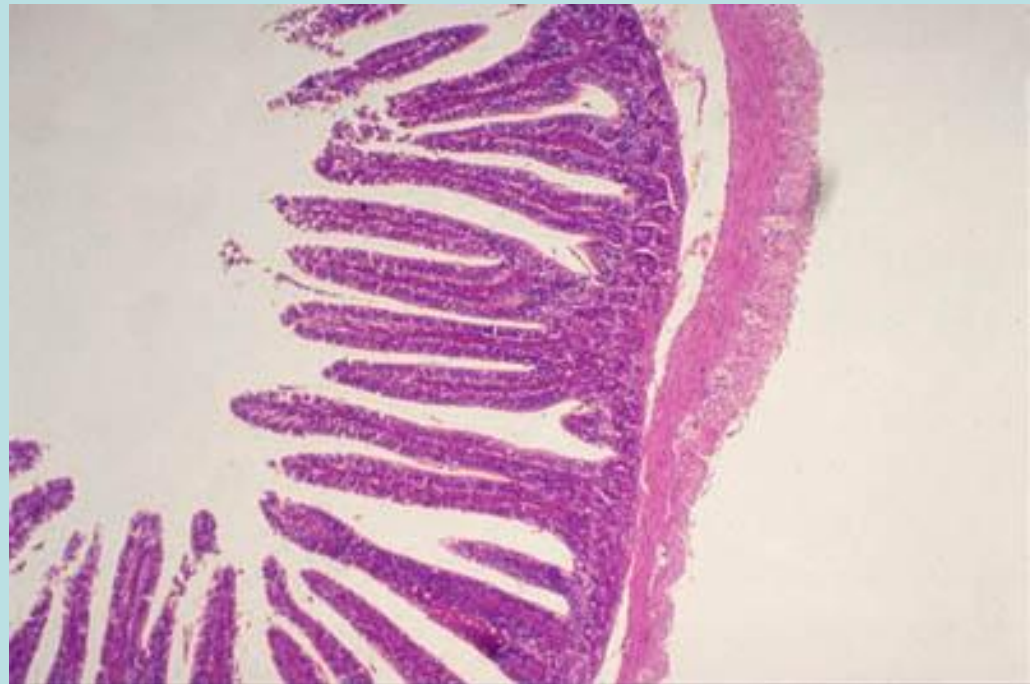
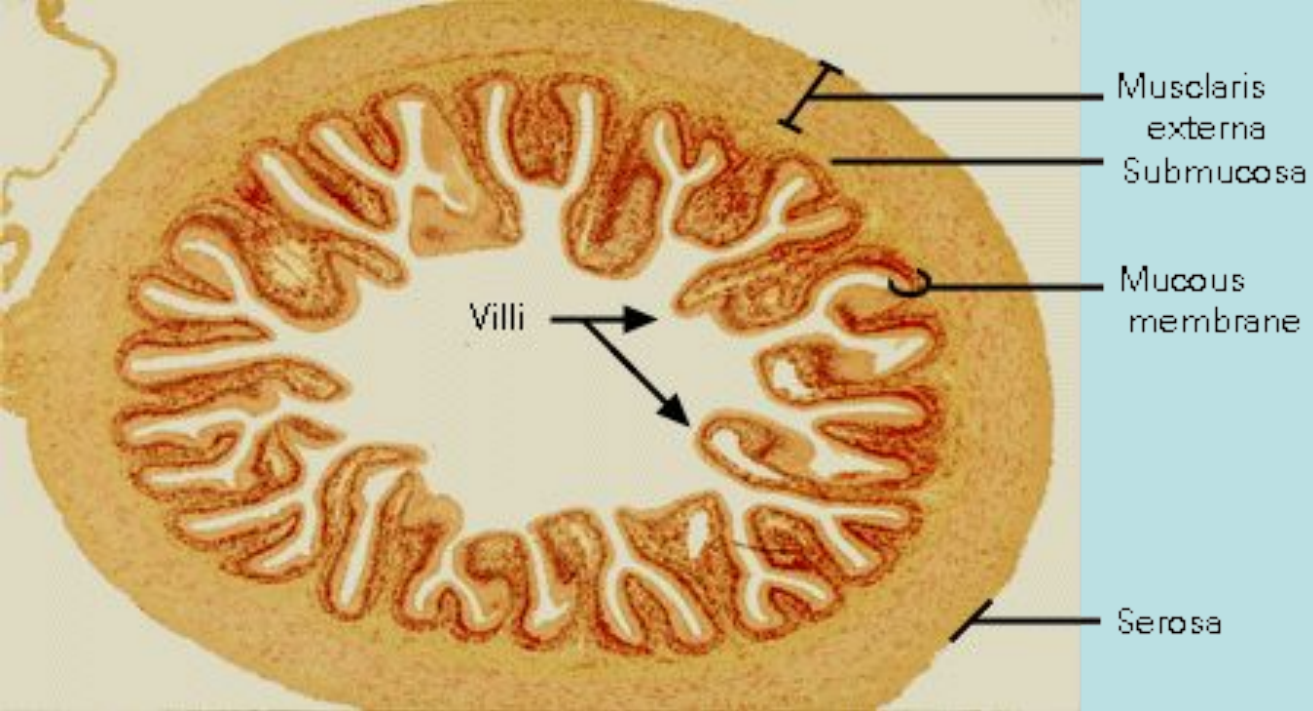
- Small, soluble food molecules are absorbed through the wall of the small intestine
- To absorb food molecules efficiently the small intestine has **three** main adaptations.....

# 1. A Large Surface Area

- The small intestine is very long
  - 6m long
- The inner surface on the intestine is folded
  - covered with many finger-like projections called **villi**
  - greatly increase the surface area in contact with digested food



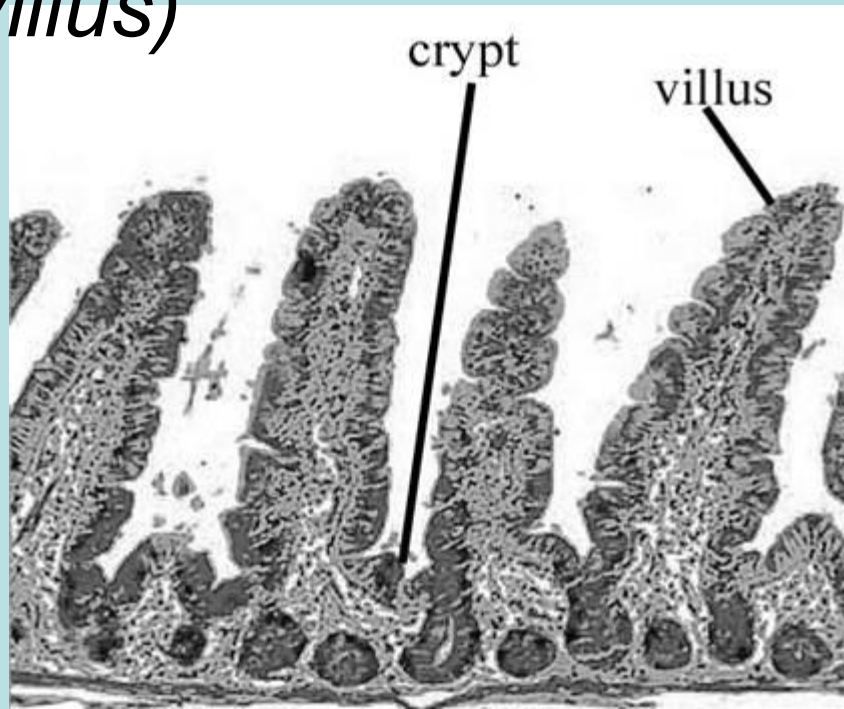




# Villi

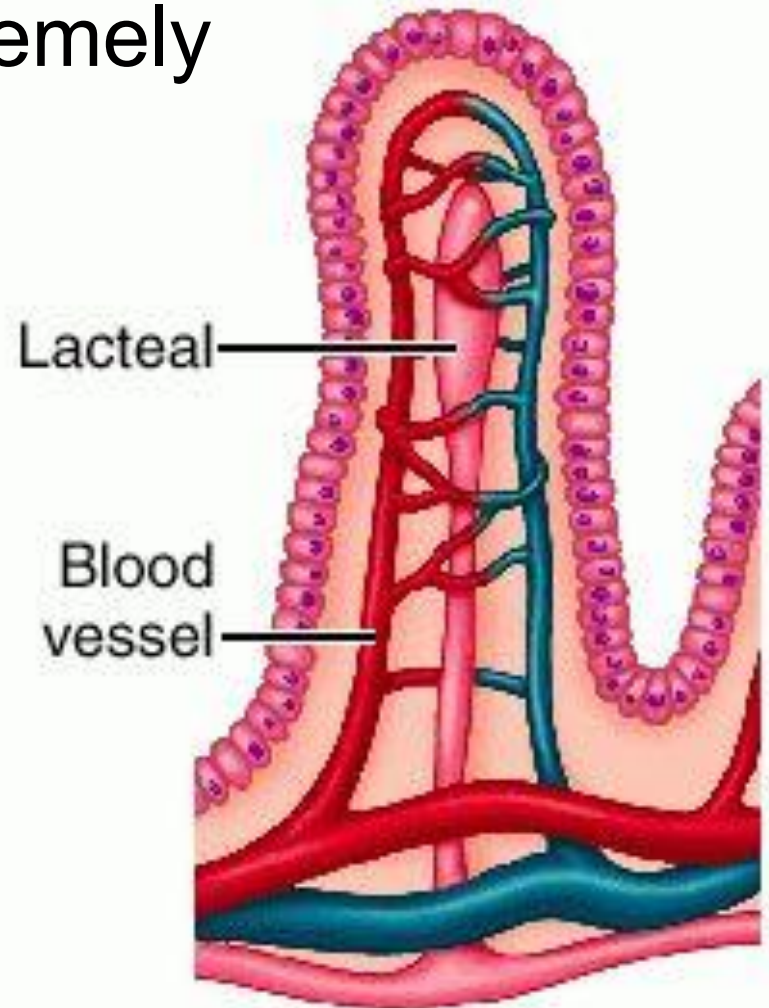
*‘finger-like folds in the surface of the small intestine’*

*(Singular – villus)*



## 2. Thin Wall

- Each villus has an extremely thin wall
  - only one cell thick
  - rapid absorption



### 3. Good Blood Supply

- Each villus is supplied with blood vessels to receive the absorbed foods
  - glucose/amino acids/vitamins/minerals are absorbed into blood capillaries
  - products of fat digestion absorbed into lacteal

*Now complete the 'Notes'!!*

- <http://kitses.com/animation/swfs/digestion.swf>

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