9.6 – Absorption Process

Intermediate 2 Biology

Learning Intentions 15th 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!

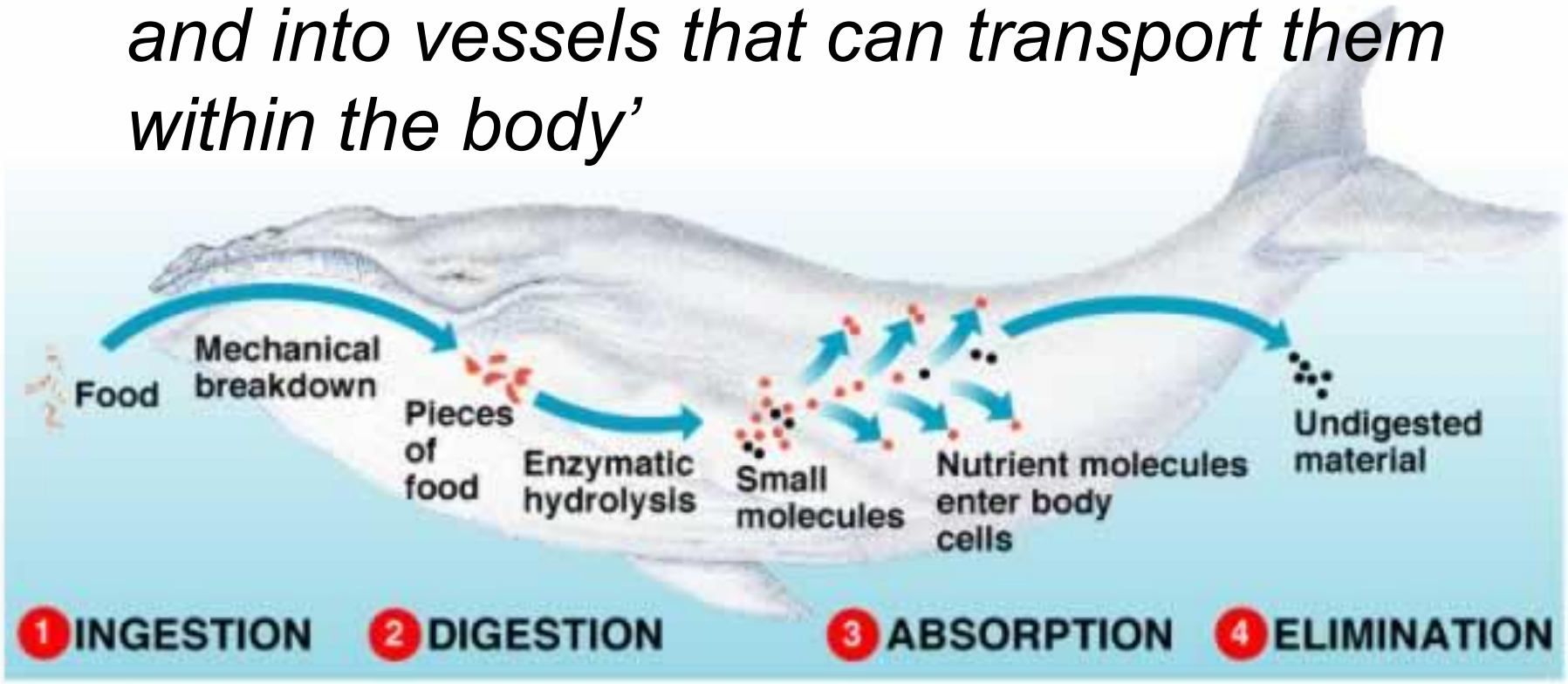
Think…..

- 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

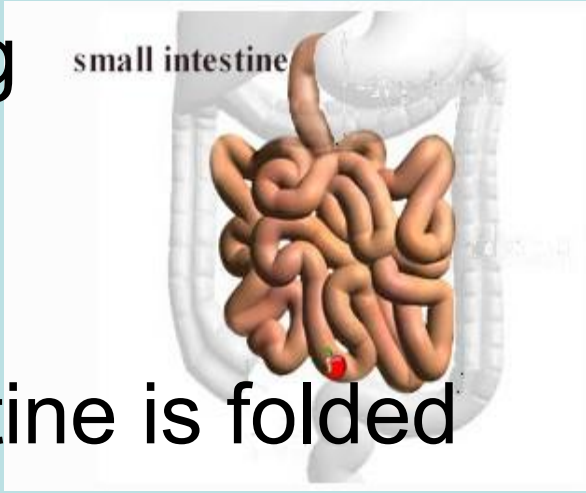
- Small, soluble food molecules are absorbed through the wall of the small intestine

- To absorb food molecules efficiently the small intestine has **three** main adaptations…….

1. A Large Surface Area

- The small intestine is very long

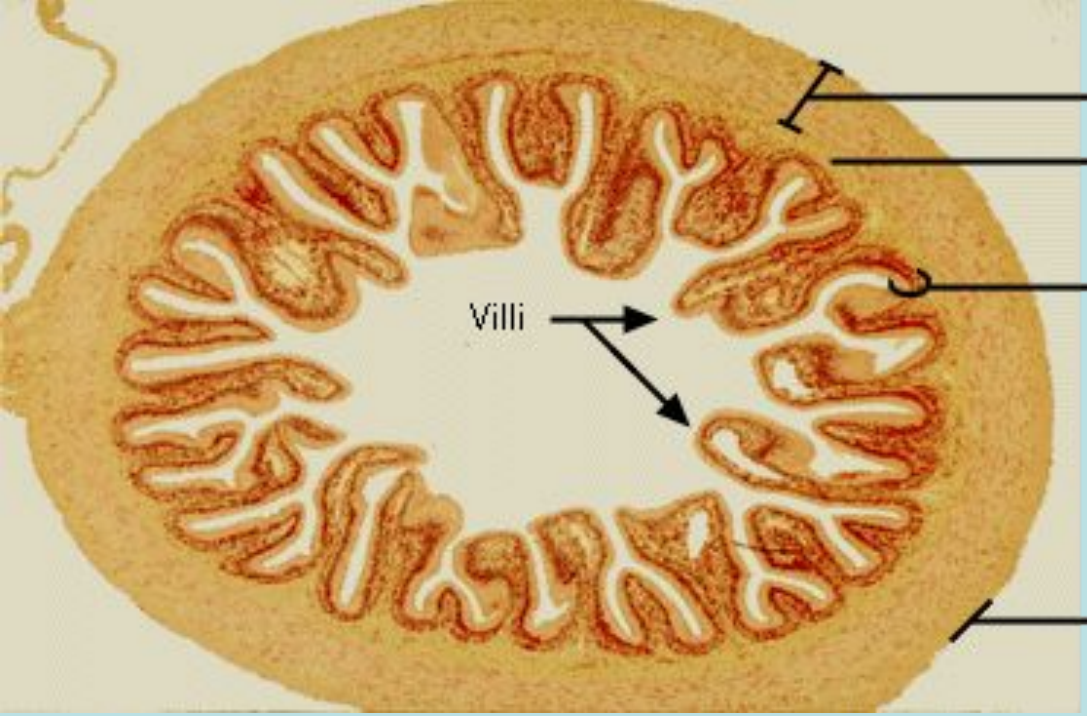
  -6m long

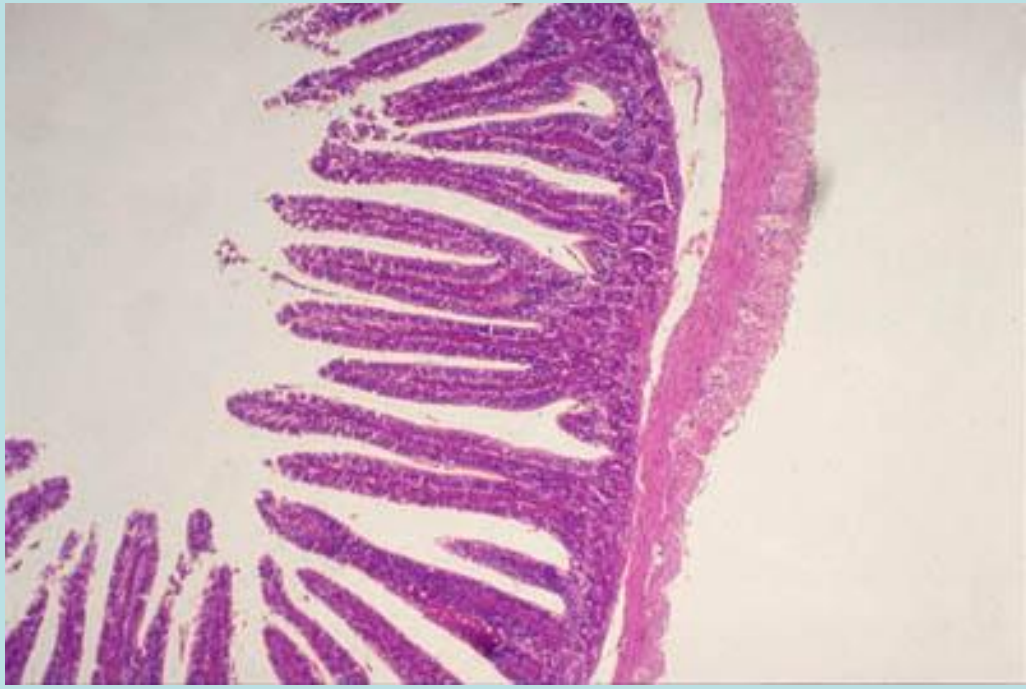


- The inner surface on the intestine is folded

  -covered with many finger-like projections called **villi**

  -greatly increase the surface area in contact with digested food

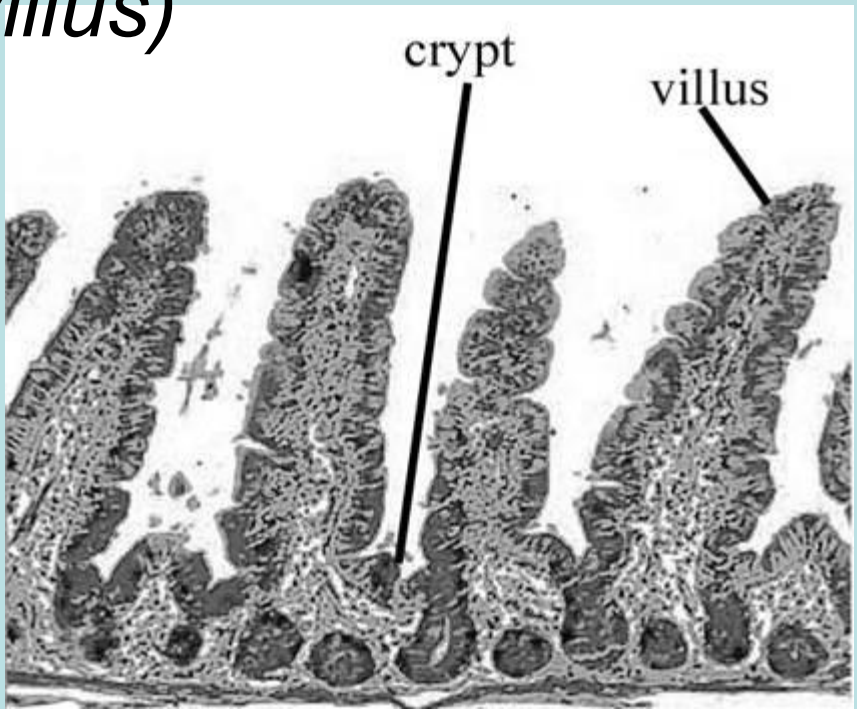

Musclaris
externa
Submucosa
Mucous
membrane
Villi
Serosa



Villi

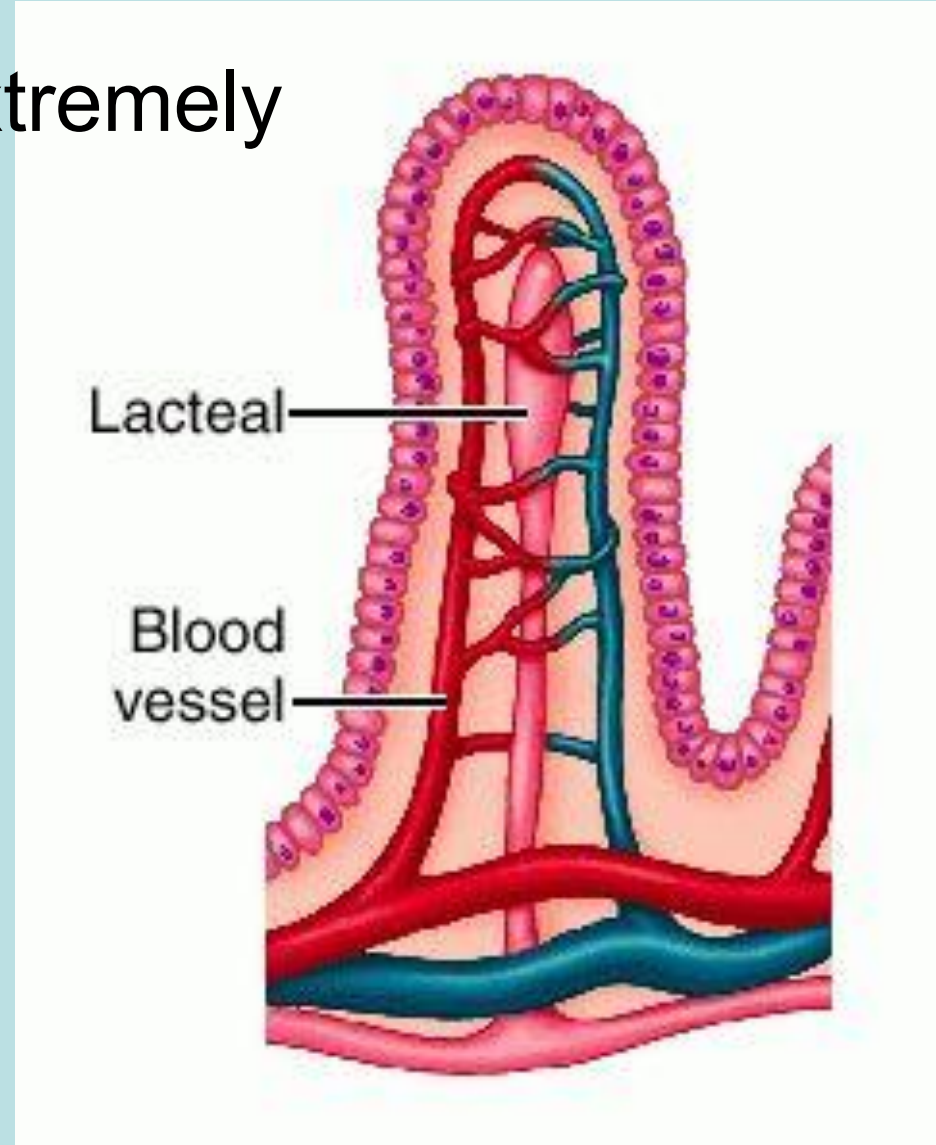
'finger-like folds in the surface of the small intestine'

(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