

7.2 Digestive system

Name: _____ Class: _____ Date: _____

Total: 20 marks

KEY WORDS small intestine • digestion • alimentary canal
• digestive system • gall bladder

Objective

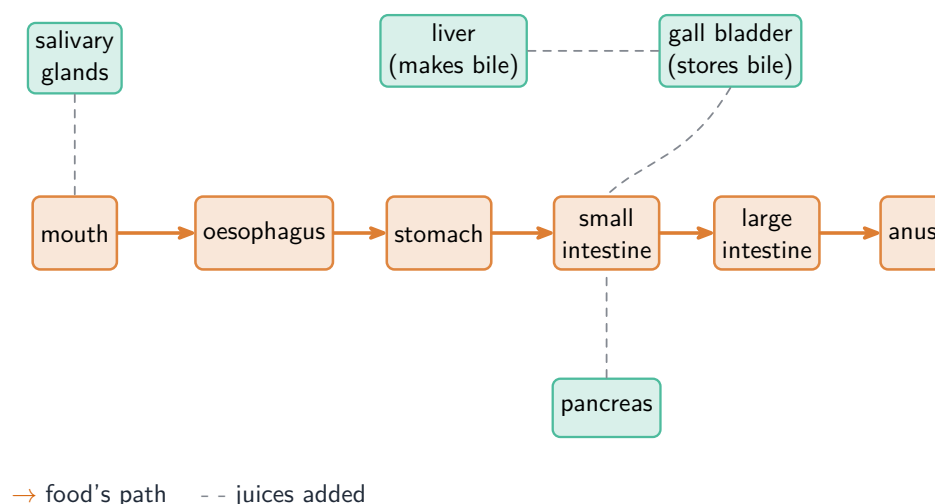
Build the skills to answer exam questions on the **digestive system** – the **alimentary canal**, the helper organs, and the five processes.

You must be able to:

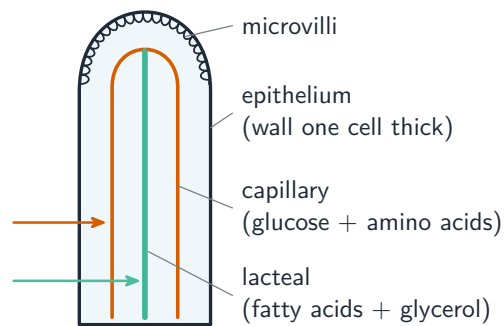
- name the parts of the alimentary canal in order
- name the organs that add digestive juices
- define ingestion, digestion, absorption, assimilation and egestion

1 Key knowledge and worked examples

■ The alimentary canal



Food passes: mouth → oesophagus → stomach → small intestine → large intestine → anus



a villus (huge surface area for absorption)

Digested food is absorbed at the villi

- **helper organs** (food doesn't pass through): salivary glands, pancreas, liver, gall bladder.
- **processes:** ingestion → digestion → absorption → assimilation → egestion.

2 Practice

2.1 Name the parts of the alimentary canal that food passes through, in order. [3]

2.2 Define egestion. [1]

3 Exam-style questions

3.1 Which organ adds digestive juice but food does **not** pass through it? [1]

- ☐ A stomach
- ☐ B small intestine
- ☐ C pancreas
- ☐ D oesophagus

3.2 Food is taken in and later leaves the body.

(a) Name the process of taking food into the body. [1]

(b) Explain the difference between egestion and excretion. [2]

3.3 Food passes along the alimentary canal: mouth → oesophagus → stomach → small intestine → large intestine → rectum → anus. The liver and pancreas are helper organs.

(a) Name the five processes of the digestive system and state briefly what each means. [5]

(b) State where in the canal each of these mainly happens: chemical digestion; absorption of digested food; absorption of water. [3]

(c) The liver and the pancreas are not part of the canal. State what each adds to it, and where. [2]

(d) Explain how peristalsis moves food along the canal. [2]

Solutions

Each answer shows the steps, then the **result**.

2.1

- **mouth** → **oesophagus** → **stomach** → **small intestine** → **large intestine** → **anus**

2.2

- egestion is **undigested food leaving the body as faeces**

3.1 C

- the **pancreas** adds juice; food does **not** pass through it
- A, B and D are parts of the canal

3.2

(a)

- taking food in is **ingestion**

(b)

- **egestion** removes undigested food that was never absorbed
- **excretion** removes waste products of metabolism made inside cells

3.3

(a)

- **ingestion**: taking food in through the mouth
- **digestion**: large insoluble molecules → small soluble ones
- **absorption**: small molecules pass through the gut wall into the blood
- **assimilation**: absorbed molecules used by cells
- **egestion**: undigested food leaves through the anus

(b)

- chemical digestion: mainly the **small intestine**
- absorption of digested food: **small intestine** (villi)
- absorption of water: **large intestine**

(c)

- liver makes **bile**, released into the small intestine
- pancreas makes **pancreatic juice** with enzymes, into the small intestine

(d)

- circular and longitudinal muscles **contract and relax** in turn
- a wave of contraction **pushes food forward**