

7.2 Digestive system

Name: _____ Class: _____ Date: _____

Total: 20 marks

KEY WORDS small intestine 小肠 • digestion 消化 • alimentary canal 消化道
• digestive system 消化系统 • gall bladder 胆囊

Objective

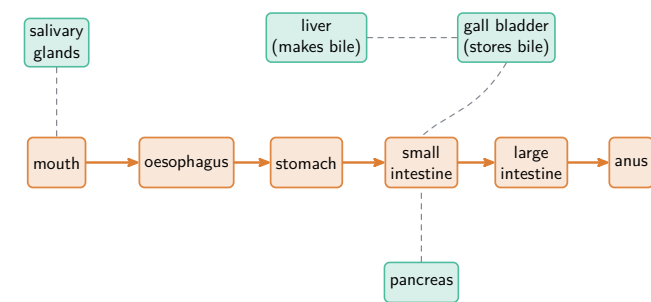
Build the skills to answer exam questions on the **digestive system** 消化系统 — the **alimentary canal** 消化道, the helper organs, and the five processes.

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

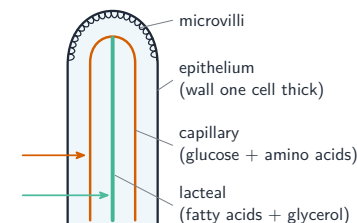
1 Worked examples

■ The alimentary canal



→ food's path - - juices added

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

2.1 mouth → oesophagus → stomach → small intestine → large intestine → anus.

2.2 undigested food leaving the body as faeces.

3.1 C. The pancreas adds juice; food does not pass through it.

3.2 (a) ingestion.

(b) egestion removes undigested food (faeces), which was never absorbed; excretion removes the waste products of metabolism made inside cells.

3.3 (a) **Ingestion** — taking food into the body through the mouth. **Digestion** — breaking large insoluble molecules into small soluble ones. **Absorption** — the small molecules passing through the gut wall into the blood. **Assimilation** — the absorbed molecules being taken into cells and used. **Egestion** — undigested food leaving the body through the anus.

(b) Chemical digestion — mainly the **small intestine**; absorption of digested food — the **small intestine**, at the villi; absorption of water — the **large intestine**.

(c) The liver makes **bile**, which is stored in the gall bladder and released into the small intestine; the pancreas makes **pancreatic juice** containing digestive enzymes, released into the small intestine.

(d) The circular and longitudinal muscles in the gut wall contract and relax in turn; a wave of contraction squeezes behind the food and pushes it forward along the canal.