

7.3 Physical digestion

Name: _____ Class: _____ Date: _____ Total: 19 marks

KEY WORDS teeth 牙齿 • physical digestion 物理消化 • bile 胆汁 • surface area 表面积
• molars 白齿

Objective

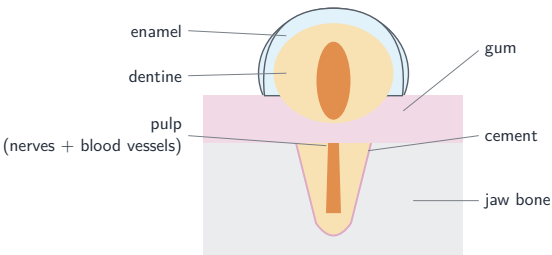
Build the skills to answer exam questions on **physical digestion** 物理消化 — the **teeth** 牙齿, the **stomach**, and **bile** 胆汁.

You must be able to:

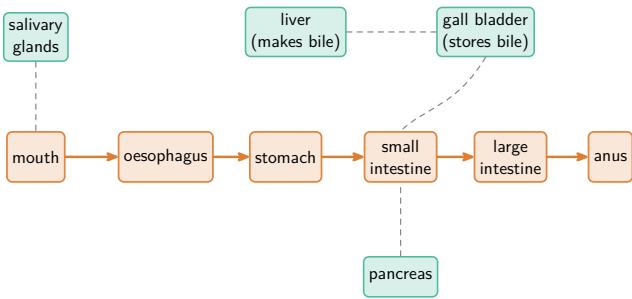
- name the four types of tooth and their jobs
- describe physical digestion (smaller pieces, larger surface area)
- explain how bile emulsifies fats

1 Worked examples

■ Teeth and bile



Physical digestion breaks food into smaller pieces — a larger surface area for enzymes



→ food's path - - juices added

Teeth begin mechanical digestion in the gut

- **teeth:** incisors (bite), canines (tear), premolars/molars (chew/grind).
- **bile** (from liver, stored in gall bladder) emulsifies fats → larger surface area for lipase. Bile has no enzymes.

2 Practice

2.1 Name the type of tooth used for biting and cutting. [1]

2.2 State why physical digestion is useful for later (enzyme) digestion. [1]

3 Exam-style questions

3.1 Bile emulsifies fats, which means it: [1]

A B
C D

- A digests fat into fatty acids
- B breaks large fat drops into small droplets
- C neutralises acid
- D absorbs fat

3.2 Bile is made in the liver.

(a) State where bile is stored. [1]

(b) Explain why emulsifying fat speeds up its digestion. [2]

3.3 State the job of the molars and premolars. [1]

3.4 Physical digestion happens in the mouth, the stomach and the small intestine.

(a) Name the four types of tooth and state the job of each. [4]

(b) Explain what physical digestion is, and why it is needed before chemical digestion can work well. [3]

(c) Bile is made in the liver and stored in the gall bladder. Describe its **two** jobs in the small intestine. [3]

(d) The stomach churns food, and stomach acid helps break down protein. Explain which of these is physical digestion and which is not. [2]
