

Exercise walk-through

Physical digestion ■ 7.3

eXercise

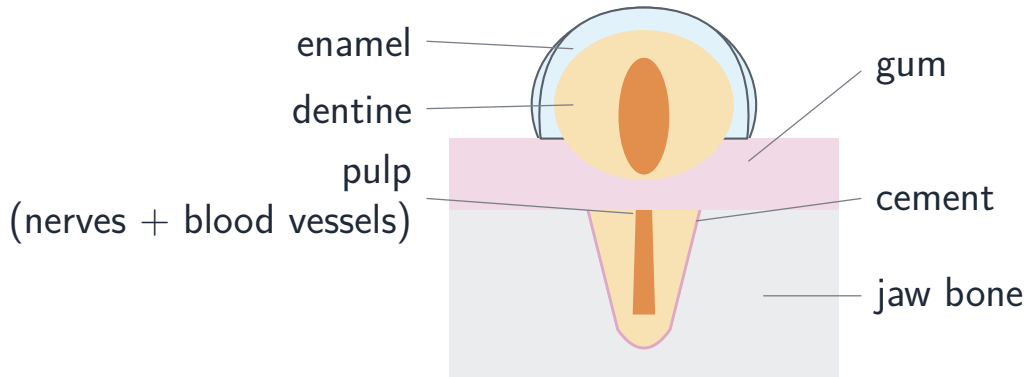
You must be able to

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

Method — Teeth and bile

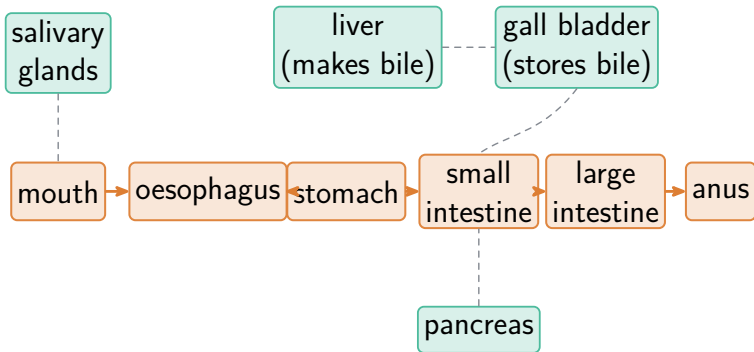
- **teeth:** incisors (bite), canines (tear), premolars/molars (chew/grind).
- **bile** (from liver, stored in gall bladder) emulsifies fats → larger surface area for lipase. Bile has no enzymes.

Method — Teeth and bile



A tooth in section: enamel, dentine, pulp, root in jaw

Method — Teeth and bile



→ food's path - - juices added

Teeth begin mechanical digestion in the gut

Practice 2.1 ■ 1 mark

Name the type of tooth used for biting and cutting.

Solution 2.1

Worked steps

incisors **B1**.

Practice 2.2 ■ 1 mark

State why physical digestion is useful for later (enzyme) digestion.

Solution 2.2

Method: Teeth and bile

Worked steps

it makes the pieces smaller, giving a larger surface area for enzymes to act on **B1**.

Exam-style 3.1 ■ 1 mark

Bile emulsifies fats, which means it:

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

Solution 3.1

Method: Teeth and bile

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

Worked steps

B. Emulsifying breaks large fat drops into many small droplets.

Exam-style 3.2 ■ 1 mark

Bile is made in the liver.

- (a) State where bile is stored.
- (b) Explain why emulsifying fat speeds up its digestion.

Solution 3.2

Method: Teeth and bile

Worked steps

(a) the gall bladder **B1**.

(b) small droplets give a much larger surface area **M1**; so lipase can digest the fat faster **A1**.

Exam-style 3.3 ■ 1 mark

State the job of the molars and premolars.

Solution 3.3

Method: Teeth and bile

Worked steps

chewing and grinding food **B1**.