

16.4 Sexual reproduction in humans

Name: _____ Class: _____ Date: _____

Total: 7 marks

KEY WORDS placenta 胎盘 • sperm 精子 • fetus 胎儿 • umbilical cord 脐带 • amniotic fluid 羊水

Objective

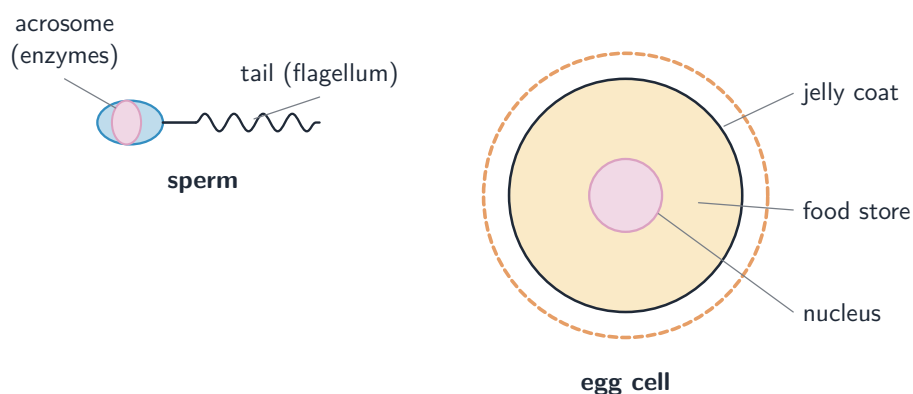
Build the skills to answer exam questions on **sexual reproduction in humans** 人类有性生殖 — the gametes, fertilisation, and the **placenta** 胎盘.

You must be able to:

- compare the sperm and egg cell and their adaptations
- state where fertilisation happens
- describe the roles of the placenta, umbilical cord and amniotic sac

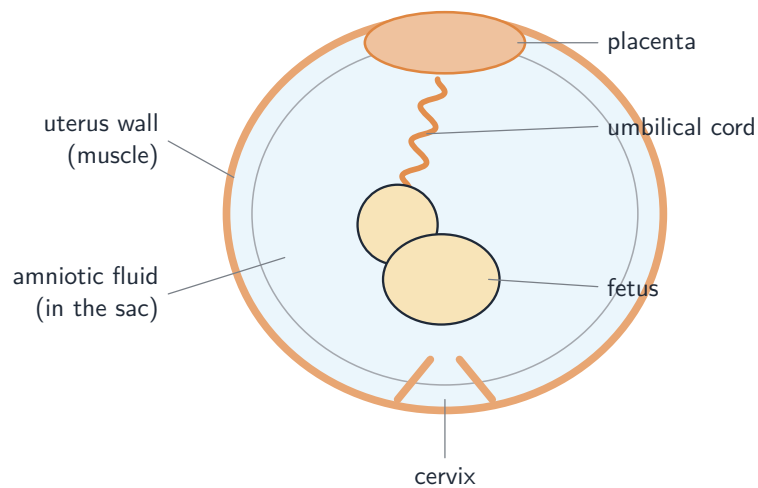
1 Worked examples

■ Gametes and pregnancy



sperm: small, millions, swims | egg: large, few, carried

Sperm: small, many, swims (flagellum). Egg: large, few, food store



Placenta: exchanges nutrients/gases/wastes (bloods never mix); cord joins fetus; amniotic fluid cushions

2 Practice

2.1 State where fertilisation occurs in a human. [1]

2.2 State the role of the amniotic fluid. [1]

3 Exam-style questions

3.1 The egg cell, compared with a sperm cell, is: [1]

- **A** smaller and able to swim
- **B** larger and stores food
- **C** present in millions
- **D** has a flagellum

3.2 The placenta supports the developing fetus.

(a) State two substances that pass from the mother's blood to the fetus. [2]

(b) State one feature of the sperm cell and how it helps.

[2]

Solutions

2.1 in the oviduct.

2.2 it cushions/protects the fetus.

3.1 B. The egg is larger and stores food.

3.2 (a) any two of: oxygen; glucose; (dissolved) nutrients.

(b) e.g. a flagellum/tail lets the sperm swim to the egg; or many mitochondria for energy.