

16.2 Sexual reproduction

Name: _____ Class: _____ Date: _____

Total: 6 marks

KEY WORDS sexual reproduction 有性生殖 • reproduction 生殖 • variation 变异 • chromosomes 染色体
• fertilisation 受精

Objective

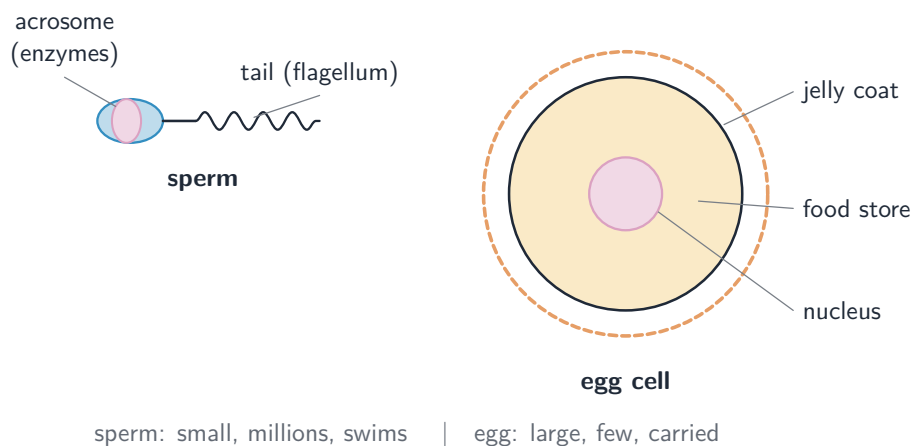
Build the skills to answer exam questions on **sexual reproduction** 有性生殖 — the fusion of **gametes** 配子, **fertilisation** 受精, and **variation** 变异.

You must be able to:

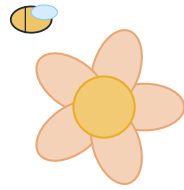
- define sexual reproduction and fertilisation
- explain why it produces variation
- use the terms haploid and diploid

1 Worked examples

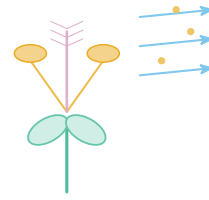
■ Gametes and fertilisation



Sexual reproduction: two parents; gamete nuclei fuse at fertilisation to make a zygote



insect-pollinated
bright petals, scent + nectar;
sticky, spiky pollen



wind-pollinated
small dull petals; anthers &
stigma hang out; light pollen

Pollination begins plant sexual reproduction

- gametes are **haploid** (one set of chromosomes); the zygote is **diploid** (two sets).
- offspring get a mix of genes from both parents → variation.

2 Practice

2.1 Define fertilisation.

[1]

2.2 State how many parents sexual reproduction needs.

[1]

3 Exam-style questions

3.1 A gamete nucleus is described as: [1]

- **A** diploid (two sets of chromosomes)
 - **B** haploid (one set of chromosomes)
 - **C** having no chromosomes
 - **D** identical to the zygote
-

3.2 Sexual reproduction produces variation.

(a) Explain why the offspring show variation. [2]

(b) State one advantage of this variation. [1]

Solutions

2.1 the fusion of the nuclei of a male and a female gamete.

2.2 two.

3.1 B. A gamete nucleus is haploid (one set of chromosomes).

3.2 (a) the offspring receive a mix of genes from two parents; so they are genetically different.

(b) some offspring may survive if the environment changes.