

# Asexual and sexual reproduction: practice questions

6 questions • 17 marks • mark scheme at the back

For Cambridge IGCSE Biology 0610 (and 0970, which has the same content). **Supplement** is Extended content, only examined on Papers 2 and 4.

Name .....

Total ..... / 17

- 1** Which statement describes asexual reproduction? [1 mark]
- A. ☐ Two parents produce offspring that are genetically different from each other
- B. ☐ One parent produces offspring that are genetically identical to it
- C. ☐ Two gametes fuse to form a zygote
- D. ☐ One parent produces gametes that fuse with each other
- 2** The table gives information about the reproduction of four organisms. (a) Identify the two organisms that reproduce asexually. [2] (b) Give one reason for your answer. [1] [3 marks]

**Reproduction in four organisms****Organism      How it reproduces**

|          |                                                                                         |
|----------|-----------------------------------------------------------------------------------------|
| <b>P</b> | A bacterial cell divides into two cells. The two cells are the same as the parent cell. |
| <b>Q</b> | A male and a female frog release gametes into the water. The gametes fuse.              |
| <b>R</b> | A strawberry plant grows a runner and a new plantlet forms at the end of the runner.    |
| <b>S</b> | Pollen from one tomato plant lands on the stigma of another tomato plant.               |

.....

.....

.....

.....

.....

.....

3

Supplement

[4 marks]

A farmer grows a crop of potato plants. Each new potato plant is grown from a tuber of a parent plant. (a) Describe two advantages to the farmer of growing the crop by asexual reproduction. [2] (b) Describe two disadvantages of growing the crop by asexual reproduction. [2]

---

---

---

---

---

---

---

---

4

Which statement defines fertilisation?

[1 mark]

- A. ☐ The transfer of pollen grains from an anther to a stigma
- B. ☐ The production of offspring from one parent
- C. ☐ The fusion of the nuclei of gametes
- D. ☐ The division of a cell into two identical cells

5

Supplement

[4 marks]

The nucleus of a body cell of an animal contains 14 chromosomes. (a) State the number of chromosomes in the nucleus of a gamete of this animal. [1] (b) State the word used to describe the nucleus of a gamete. [1] (c) Two gametes fuse to form a zygote. State the number of chromosomes in the nucleus of the zygote and the word used to describe this nucleus. [2]

---

---

---

---

---

---

---

---

6

Supplement

[4 marks]

Discuss the advantages and disadvantages of sexual reproduction to a population of a species in the wild.

---

---

---

---

---

---

---

---

## Mark scheme

One mark for each point unless a maximum is given. Words in brackets are not needed for the mark.

1. [1]

B B (1)

2. [3]

- (a) P (1)
- R (1)
- (b) only one parent involved / no gametes fuse / offspring genetically identical (1)

3. [4] **Supplement**

- (a) all plants have the same desirable features / uniform crop / known yield and quality (1)
- quick / cheap / no pollination needed / many plants produced (1) allow only one parent needed
- (b) no genetic variation, so all the plants are susceptible to the same disease or pest (1) allow whole crop could be lost
- no variation so cannot produce new varieties / cannot adapt to changed conditions (1) ignore 'less yield'
- Max 2 for (a) and max 2 for (b)

4. [1]

C C (1)

5. [4] **Supplement**

- (a) 7 (1)
- (b) haploid (1)
- (c) 14 (1)
- diploid (1)

6. [4] **Supplement**

- advantage: offspring show genetic variation / are genetically different (1)
- if the environment changes / new disease appears, some individuals may survive (1) allow better able to adapt / natural selection
- disadvantage: two parents are needed / must find a mate (1)
- takes more time and energy / fewer offspring / population grows more slowly (1)
- Max 4