

Reproduction Meiosis

GCSE Biology · Written to the shared content for AQA, Edexcel and OCR

Name _____ Class _____ Date _____

1. Worked example

Give three differences between sexual and asexual reproduction. (3 marks)

Step 1 · Parents

Sexual needs two parents, whereas asexual needs only one.

Step 2 · Cell division

Sexual involves meiosis to make gametes, whereas asexual involves only mitosis.

Step 3 · Offspring

Sexual produces varied offspring, whereas asexual produces genetically identical clones.

Answer: Parents; meiosis v mitosis; variation v clones

Check: Use 'whereas' to make each a comparison.

2. Now try one with the steps

A dog body cell has 78 chromosomes. How many chromosomes are in a dog sperm cell? Explain. (2 marks)

Step 1 · Halve

Step 2 · Why

Answer:

3. Practice

Show your working. The marks tell you how much is expected.

1. Name the gametes in animals. [1]

2. Name the gametes in flowering plants. [1]

3. How many chromosomes are in a human egg cell? [1]

4. What type of cell division produces gametes? [1]
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5. How many gametes are produced from one cell by meiosis? [1]
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6. Explain why offspring from sexual reproduction are not identical to their parents. [2]
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7. A horse body cell has 64 chromosomes. How many are in a horse egg cell? [1]
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8. Explain why gametes need half the number of chromosomes. [2]
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9. Describe what happens to the fertilised egg after fertilisation. [2]
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10. Give one advantage of asexual reproduction. [1]
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11. Give one advantage of sexual reproduction. [1]
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12. Describe how the malaria parasite uses both types of reproduction. [2]
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13. An organism has 4 pairs of chromosomes. How many different combinations of chromosomes can its gametes have? [1]
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14. Explain why a population of genetically identical plants is at risk if a new disease appears. [2]
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4. Before you hand it in

"Meiosis makes two identical cells."

Meiosis makes FOUR genetically DIFFERENT gametes with HALF the chromosomes.

"Gametes have 23 pairs of chromosomes."

Human gametes have 23 chromosomes (one of each pair); body cells have 23 pairs (46).

"Asexual reproduction uses meiosis."

Asexual reproduction uses only mitosis.