

# 3.2 Meiosis

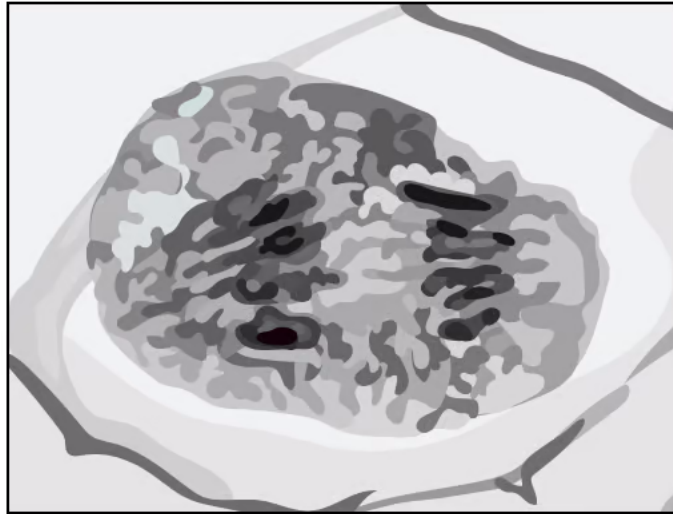
## Question Paper

Course	DP IB Biology
Section	3. Genetics
Topic	3.2 Meiosis
Difficulty	Easy

**Time allowed:** 10  
**Score:** /5  
**Percentage:** /100

### Question 1

Which stage of meiosis I is displayed in the image?



- A. Metaphase
- B. Prophase
- C. Anaphase
- D. Telophase

[1 mark]

### Question 2

Which of the following materials and pieces of laboratory equipment can be used to develop and refine our understanding of meiosis?

- I. light microscopes
  - II. staining compounds
  - III. animal body cells
  - IV. plant sex organs
- A. I. and III.
  - B. I. II. and IV.
  - C. I. and IV.
  - D. II. III. and IV.

[1 mark]

### Question 3

Five events that take place during meiosis are listed.

Which is the correct chronological order (1 – 5) of those events?

A.

1.	crossing over
2.	haploid gametes form
3.	formation of bivalents
4.	reduction division
5.	replication of DNA

B.

1.	haploid gametes form
2.	reduction division
3.	formation of bivalents
4.	crossing over
5.	replication of DNA

C.

1.	replication of DNA
2.	formation of bivalents
3.	crossing over
4.	haploid gametes
5.	form reduction division

D.

1.	replication of DNA
2.	formation of bivalents
3.	crossing over
4.	reduction division
5.	haploid gametes form

[1 mark]

### Question 4

If an organism has 11 pairs of chromosomes, which mathematical equation will calculate the number of combinations in which homologous chromosomes can orientate themselves during meiosis I?

The calculations shown in the choices are all mathematically correct.

A.  $2^{11} = 2\,048$  combinations

B.  $22^2 = 484$  combinations

C.  $2^{22} = 4\,194\,304$  combinations

D.  $11^2 = 121$  combinations

[1 mark]

**Question 5**

Which is the best explanation for the term *reduction division* as it relates to meiosis?

- A. The mass of DNA in each cell has been reduced.
- B. The overall amount of DNA has been reduced during meiosis.
- C. The chromosome number has been reduced.
- D. DNA is chemically reduced during the process of meiosis.

[1 mark]