

Meiosis Notes

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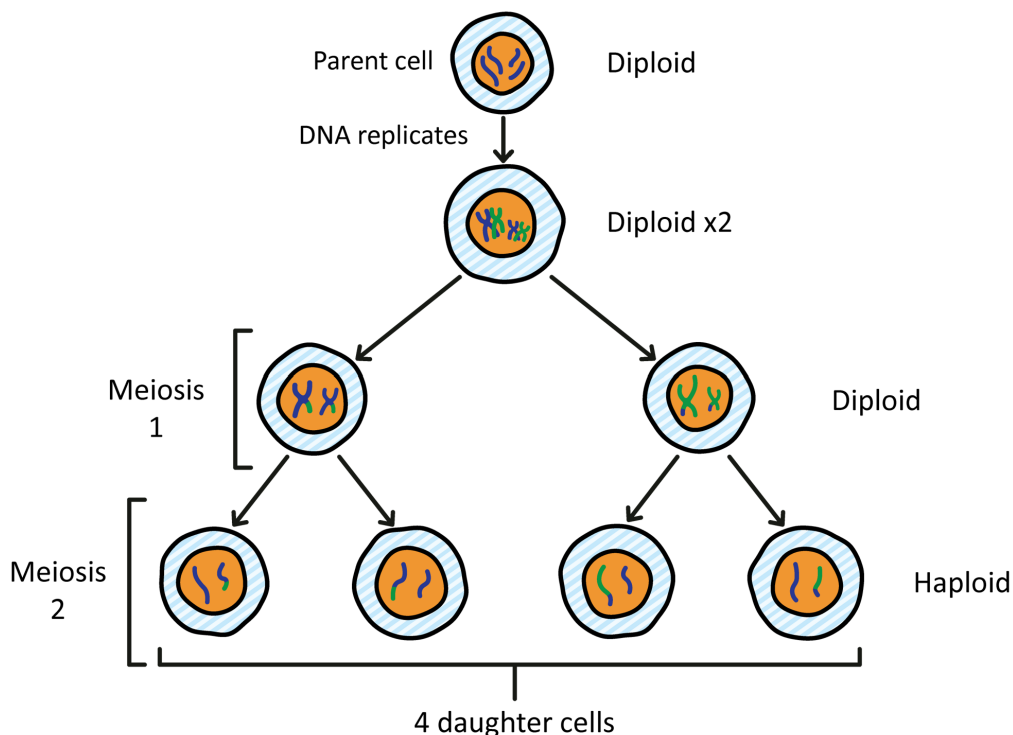
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Meiosis: a process of cell division that produces **four genetically different haploid daughter cells in two divisions**. **Meiosis is used to produce gametes** (sex cells). It occurs in the ovaries of females and the testes of males. Meiosis is a great source of genetic variation.

Meiosis happens in **two divisions**, meaning the original cell divides twice to produce four daughter cells. The stages of meiosis have the same names as mitosis, **prophase**, **metaphase**, **anaphase** and **telophase**. But because meiosis has two divisions both with the same stages we give the stages numbers to tell them apart.

The first meiosis division goes through **prophase 1**, **metaphase 1**, **anaphase 1** and **telophase 1** and the second meiosis division goes through **prophase 2**, **metaphase 2**, **anaphase 2** and **telophase 2**. I hope that helps 😊

The figure below shows the overall process of meiosis to produce four haploid daughter cells.



For GCSE we don't need to know anything else about meiosis. There's a bit more for A level but nothing too tough 😊

For the OCR A GCSE biology specification we don't need to know anything about the processes that occur in meiosis prophase 1 that lead to genetic variation in the daughter cells.

Comparison Question

We could see a four, five or six mark question in exams asking us to compare mitosis and meiosis. A great question! If that does come up simply state what each type of cell division is and what it does. Use the ideal answer below 😊

Mitosis is a process of cell division that produces **two genetically identical, diploid daughter cells in one division**. Mitosis produces somatic (body) cells.

Meiosis is a process of cell division that produces **four genetically different haploid daughter cells in two divisions**. **Meiosis is used to produce gametes** (sex cells).

This will fully cover a comparison question if it comes up. Always read the question carefully 😊