

# AQA GCSE Biology (Higher) For the Summer 2022 Exams

## Flashcard Notes - 6.1.2 Meiosis

Copy the questions and answers below onto flashcards and use them to test yourself.

### **In multicellular eukaryotes, where does meiosis take place?**

In multicellular eukaryotes, meiosis takes place within the reproductive organs. For example, in humans, meiosis takes place in the ovaries and testes.

### **How many sets of chromosomes does a cell that is about to start meiosis have?**

A cell that is about to start meiosis has two sets of chromosomes.

### **What happens in meiosis?**

When a cell undergoes meiosis, the following things happen:

- First, the cell undergoes DNA replication, during which every chromosome is copied. This results in there being two identical copies of every chromosome in the cell.
- Then, the cell divides twice to form four gametes which are all genetically different to each other.

### **How many sets of chromosomes do the gametes produced in meiosis have?**

Each gamete produced by meiosis contains one set of chromosomes.

### **What is fertilisation? What does it involve?**

Fertilisation is when a female gamete and a male gamete fuse during sexual reproduction to form a new individual. Because each gamete contains one set of chromosomes, the new cell formed when they fuse contains two sets of chromosomes. Therefore, the original number of chromosomes has been restored.

### **In multicellular eukaryotes, what happens after fertilisation?**

In multicellular eukaryotes, after fertilisation the new cell that has been formed divides multiple times by mitosis. This results in many genetically identical cells being formed. This bundle of cells is called an embryo. The embryo then develops into the mature organism. This involves cells differentiating to form various types of specialised cells.