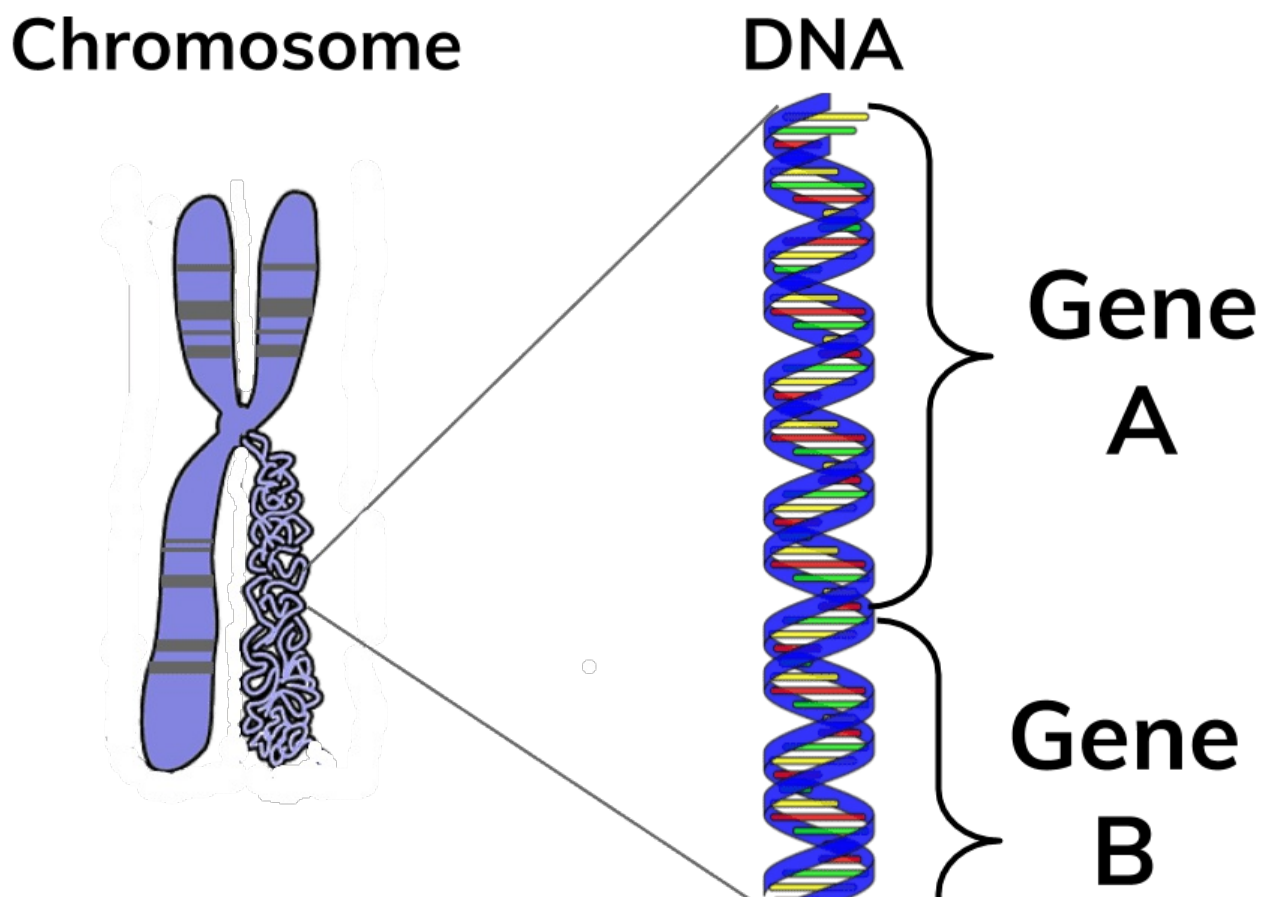


Chromosomes

- The nucleus of eukaryotic cells contains chromosomes made of DNA molecules. Each chromosome contains a large number of genes. Each gene tells how a specific protein should be made.
- In most body cells, the nucleus contains two of every chromosome. Sex cells (sperm and egg cells) only have one of each chromosome.



Mitosis and the Cell Cycle

Cell Cycle

The cell cycle is the series of events involved in cell growth and cell division. It has three main stages...

- Initial growth stage: Extra ribosomes, mitochondria and other sub-cellular structures are produced. The cell's chromosomes (which are made of DNA) are copied so that there are two sets of the cell's chromosomes.
- Mitosis occurs: The two sets of chromosomes are pulled to opposite ends of the cell. Then, the nucleus divides into two.
- Cell divides: The cytoplasm and cell membranes divide to create two identical cells.

Mitosis

Mitosis ensures that both daughter cells have the same chromosomes as each other and also the parent cell. It is important for processes that require identical cells to be produced, for example the growth and repair of tissues and asexual reproduction.

