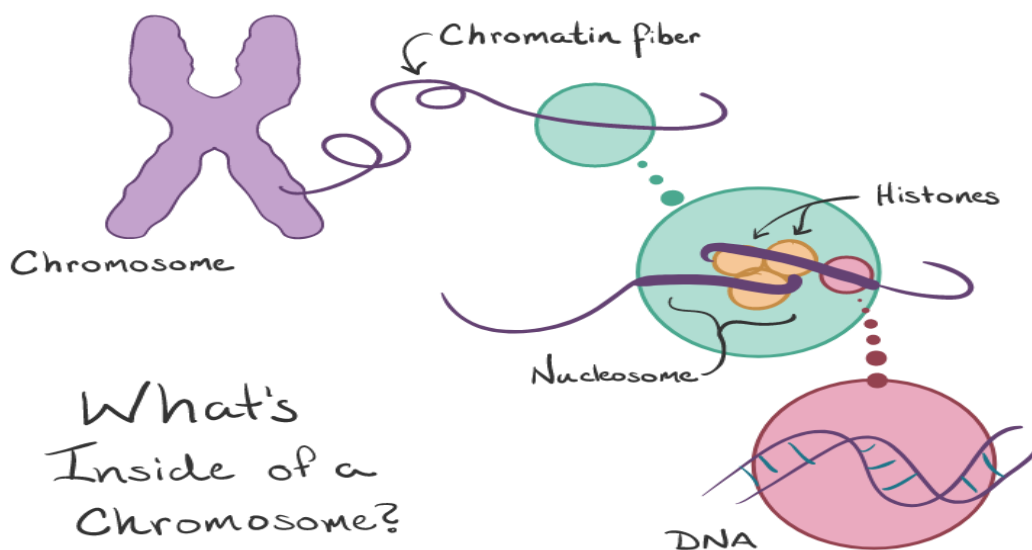




Chromosomes:-

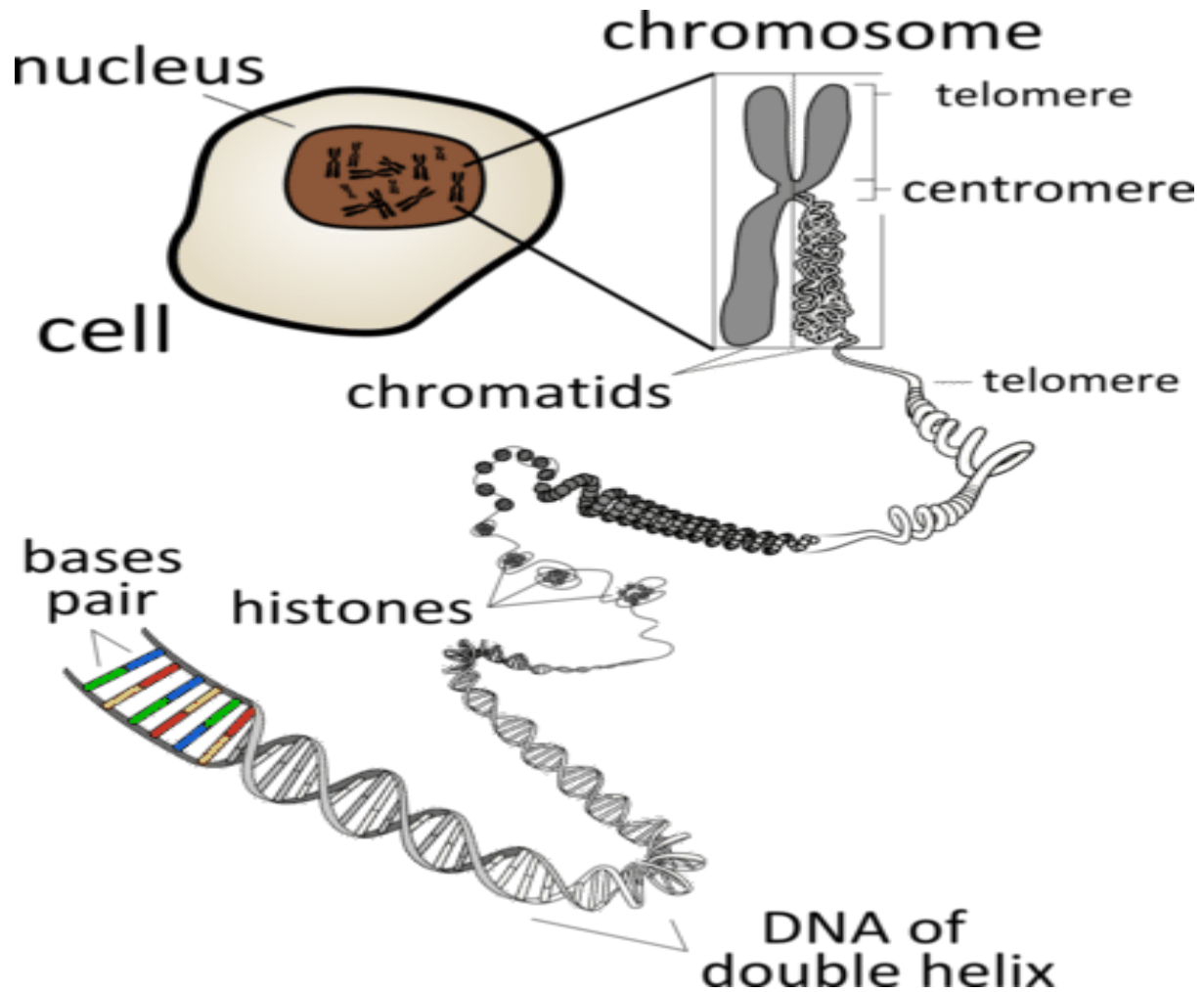
Living organisms are defined by the ability to pass on their genetic information to the next generation of offspring. Chromosomes provide organisms with the means by which this information can be transcribed and replicated for inheritance by daughter cells or offspring.

Chromosomes are thread-like structures located inside the nucleus of cells. Each chromosome made of a material called Chromatin. **Chromatin** is made of **DNA** and special structural proteins called **histones** .





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Dr. Rasha Fadhel
rasha_fadhel@mustaqbal-college.edu.iq



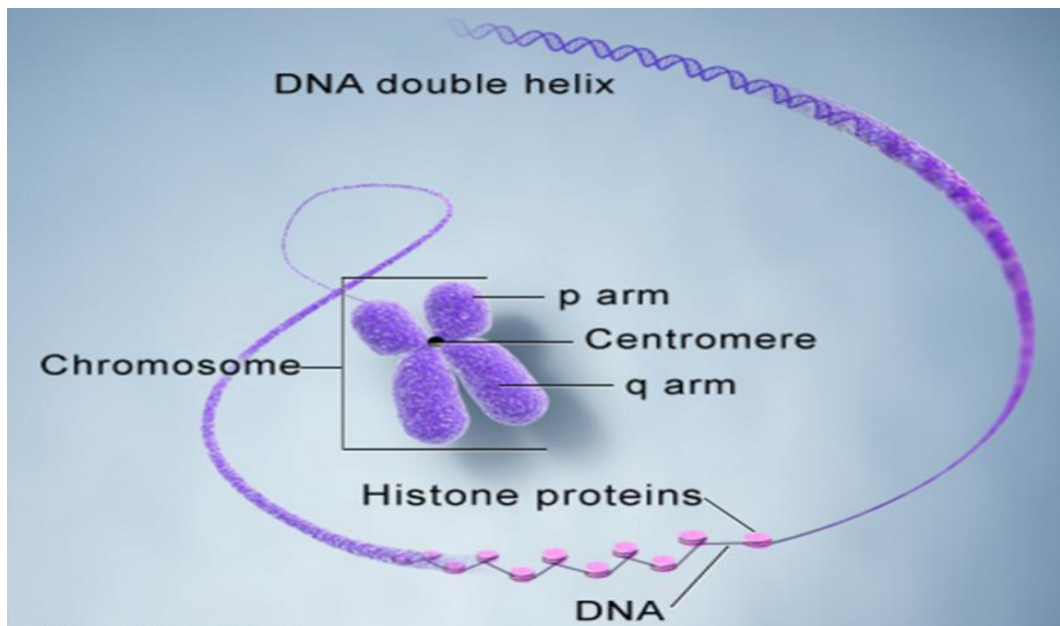


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Chromosome has a constriction point called the centromere, which divides the chromosome into two sections, or “**arms.**” The short arm of the chromosome is labeled the “**p arm.**” The long arm of the chromosome is labeled the “**q arm.**” The location of the centromere on each chromosome gives the chromosome its characteristic shape, and can be used to help describe the location of specific genes.

Gonosomes or sex chromosomes - Humans contain two types of sex chromosomes including X and Y. While males have an X and a Y chromosome, females possess two X chromosomes.



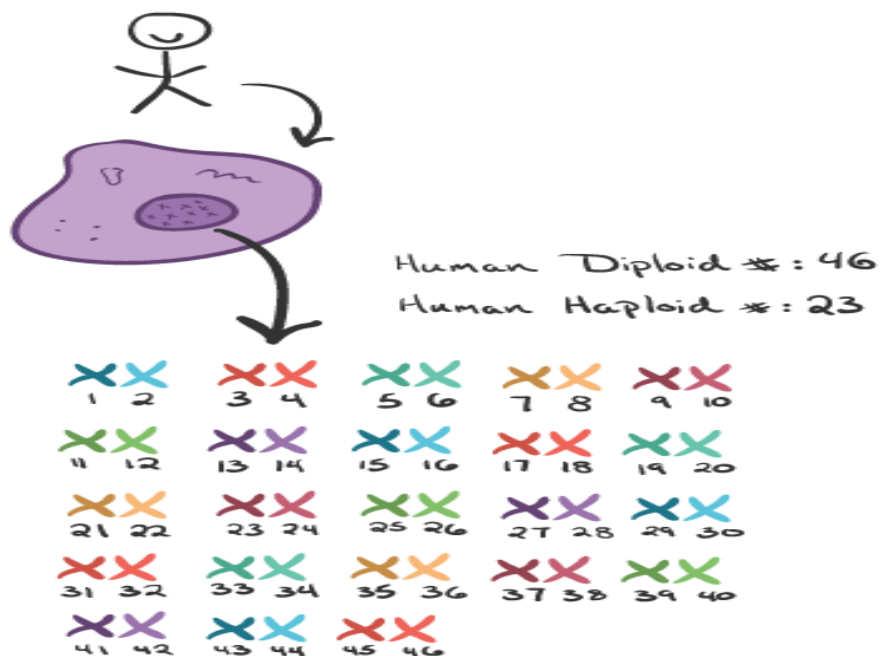
DNA and histone proteins are packaged into structures called chromosomes



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Humans have 46 chromosomes in total. The chromosomes form 22 pairs of numbered chromosomes (**autosomes**) and one pair of sex chromosomes that determines the biological gender of an individual. These chromosomes can be divided into four main types depending on the location of the centromere, which links sister chromatids together and serves as the site for spindle fiber attachment during mitosis.





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Histone protein type of protein found in chromosomes. Histones bind to DNA, help give chromosomes their shape, and help control the activity of genes. Enlarge. Structure of DNA. Most DNA is found inside the nucleus of a cell, where it forms the chromosomes

