



# CHROMOSOME

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# OBJECTIVES

01

INTRODUCTION

02

DEFINE THE  
CHROMOSOME & DNA

03

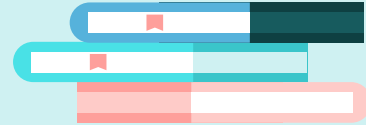
LIST PARTS OF  
CHROMOSOME

04

LIST DISEASES  
PRESENT IN THE  
CHROMOSOME

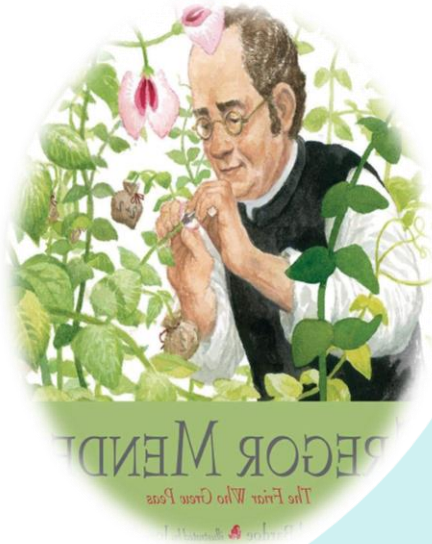
05

SUMMARY



# INTRODUCTION

- Gregor Mendel born in ( 1822 - 1884).
- He developed the principles of inheritance that described the transmission of genetic traits, before anyone knew
- Mendel cultivated thousands of pea plants and used a paintbrush to painstakingly transfer pollen from one plant to another to make his crosses.





01

# DEFINE THE CHROMOSOME &DNA

## **Define DNA :**

DNA or deoxyribonucleic acid is a long molecule that contains our unique genetic code. Like a recipe book it holds the instructions for making all the proteins in our bodies

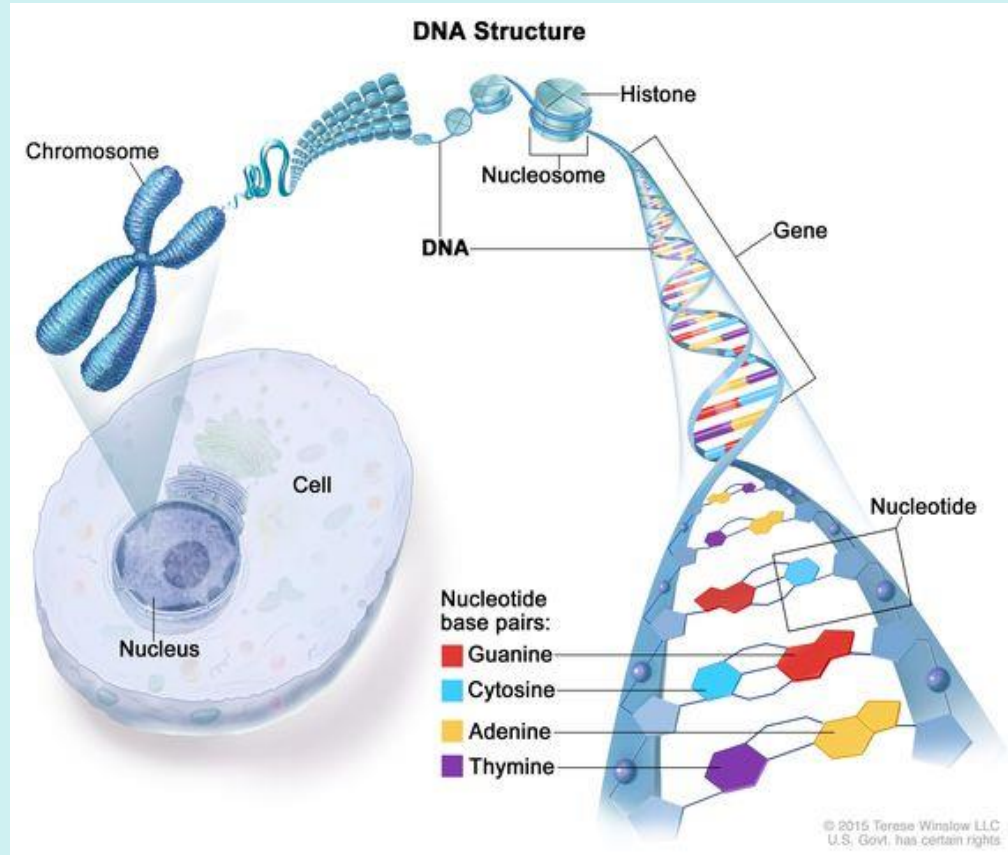
## **Define chromosome:**

A structure found inside the nucleus of a cell. A chromosome is made up of proteins and DNA organized into genes. Each cell normally contains 23 pairs of chromosomes.

Each chromosome is essentially a package for one very long, continuous strand of the DNA.

In higher organisms, structural proteins, some of which are histones, a histone is a protein that provides structural support to a chromosome.

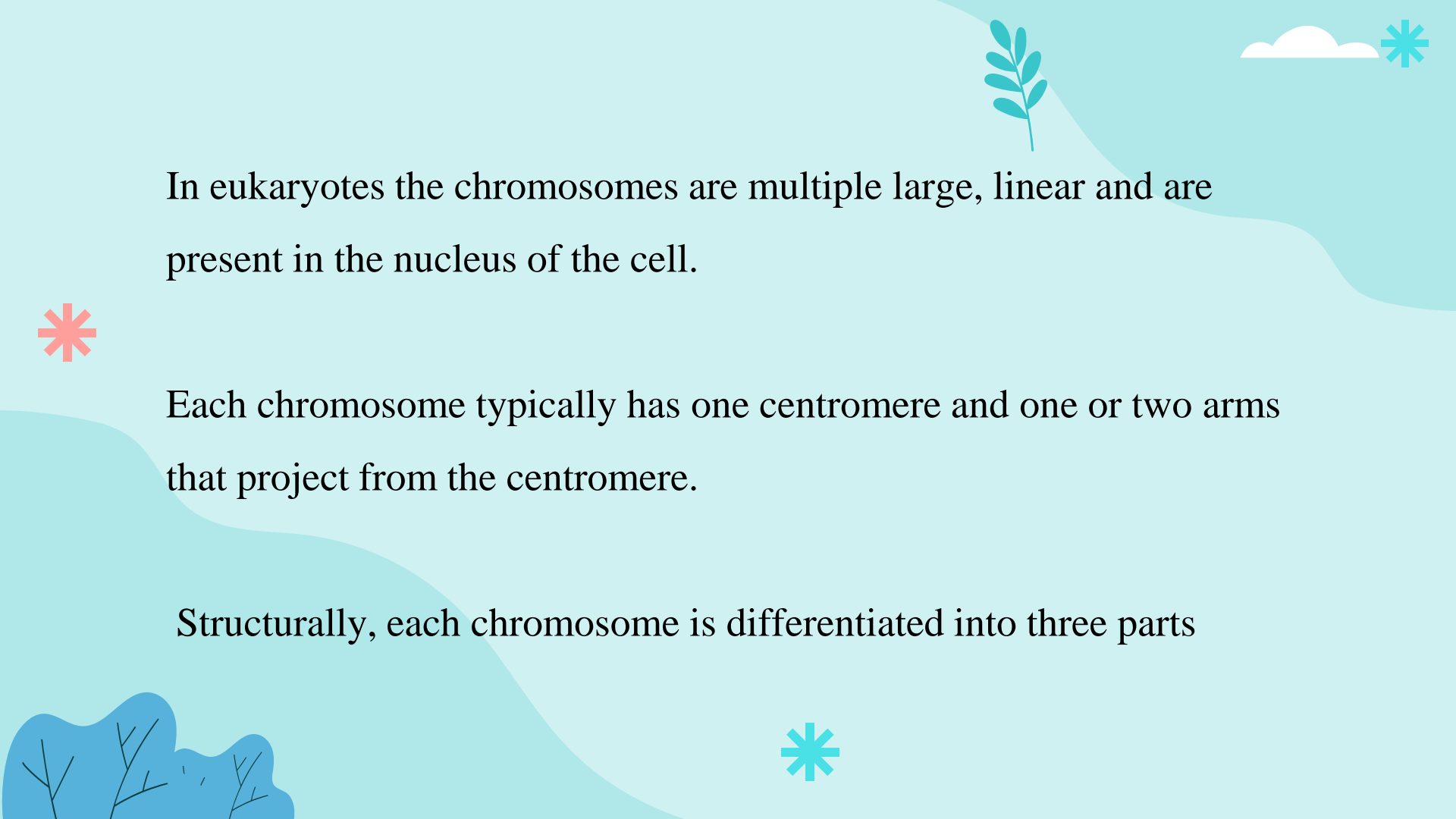
In order for very long DNA molecules to fit into the cell nucleus.



02

# LIST PART OF CHROMOSOME





In eukaryotes the chromosomes are multiple large, linear and are present in the nucleus of the cell.

Each chromosome typically has one centromere and one or two arms that project from the centromere.

Structurally, each chromosome is differentiated into three parts



DNA double helix

Chromosome

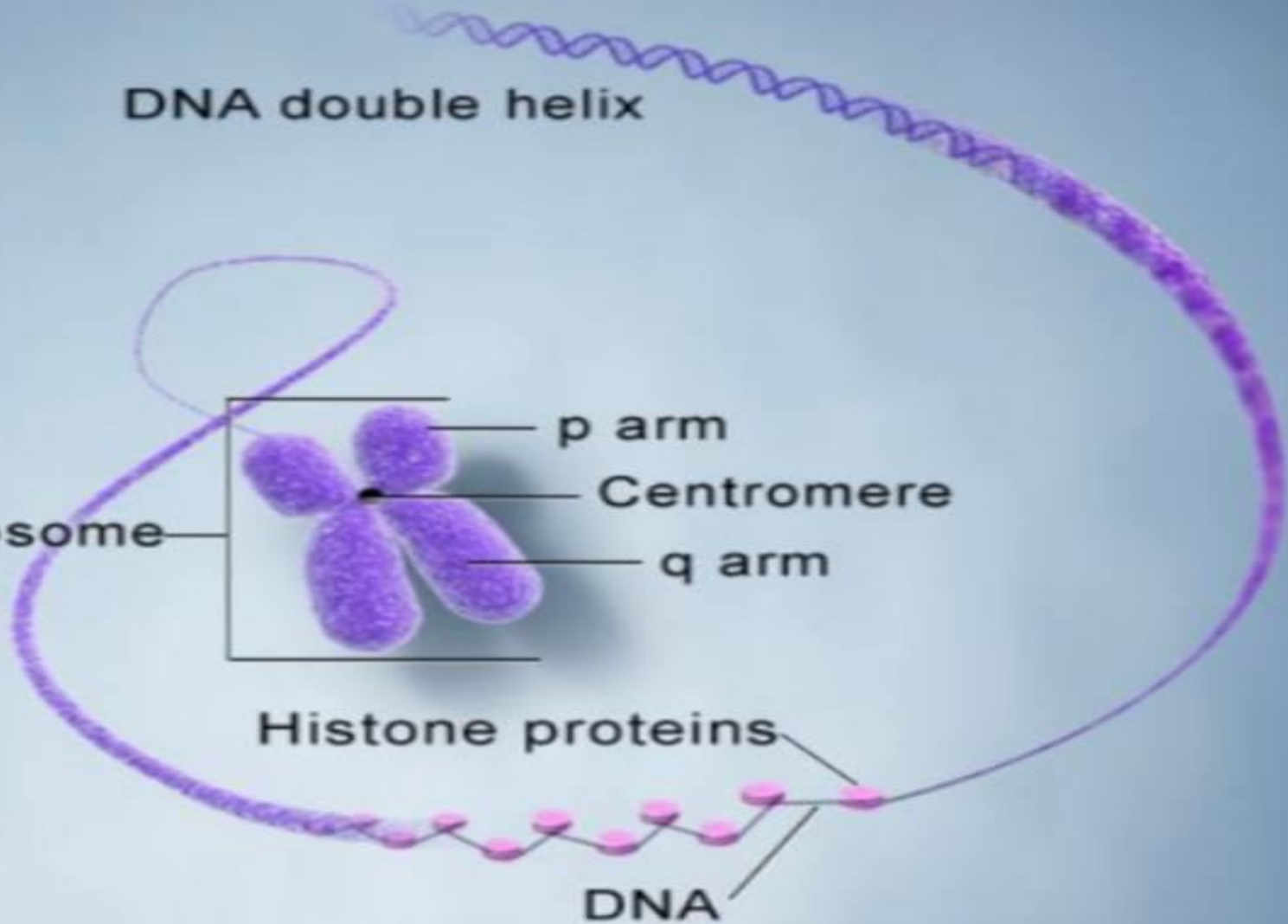
p arm

Centromere

q arm

Histone proteins

DNA



## Chromonemata

- »» Embedded in the matrix of each chromosome are Two identical, spirally coiled threads.
- »» The two chromonemata are also tightly coiled together that they appear as single thread of about 800A thickness.
- »» Each chromonemata consists of about 8 microfibrils, each of which is formed of a double helix of DNA.

## Pellicle

- »» It is the outer envelope around the substance of chromosome.
- »» It is very thin and is formed of achromatic substances.

## Matrix

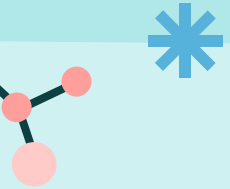
- »» It is the ground substance of chromosome which contains the chromonemata.
- »» It is also formed of non-genic materials.







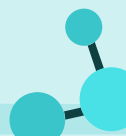
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# LIST DISEASES PRESENT IN THE CHROMOSOME





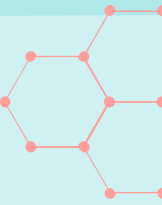
Disorder	Cause	Chromosome	Photos
Down syndrome	Extra copy of chromosome 21	xxx 21 Chromosome	
Patau syndrome	Extra copy of chromosome 13	XXX13 Chromosome	
Edward's syndrome	Extra copy of Chromosome 18	xxx18 Chromosome	
Fragile x syndrome	Duplications on X chromosome	XX OR XY Chromosome	



Disorder	Cause	Chromosome	Photos
Cri-du-chat syndrome	Deletion on Chromosome 5	5 chromosome	



# SUMMARY



1

The story and also the famous experiment of Mendel.

2

The chromosome structure found inside the cell.

3

The parts of chromosome are matrix, chromatid and spindle.

4

The most common disease is Down syndrome.





# REFERENCES

<https://www.yourgenome.org/facts/what-is-dna>

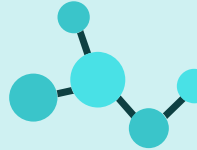
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THANKS!

