

**PUT A UNIQUE TITLE
ABOUT CHROMOSOME
MUTATIONS HERE**

**FRONT COVER
PICTURE GOES HERE**

**A BRIEF DESCRIPTION OF WHAT THE READER
WILL BE GOING OVER WHILE READING YOUR BOOK**

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WHAT ARE CHROMOSOME MUTATIONS?

A change in a whole chromosome. When a chromosome mutates, whole sets of genes are altered versus 1 gene. The five types of chromosome mutations are Nondisjunction, Deletions, Translocations, Inversions, and Duplications

**Draw a picture/pictures here
of chromosome mutations
and label.**

WHAT ARE KARYOTYPES?

An individual's collection of chromosomes (23 pairs, 46 in all, 23 from both parents). Pairs 1-22 are autosomes/body cells. They are ordered from largest to smallest. The 23rd pair are sex cells. XX = female XY = male

Draw a picture of a karyotype here and label which are body cells and which are sex cells.

WHAT IS NONDISJUNCTION?

The failure of paired chromosomes to separate during cell division either in mitosis or meiosis. This results in both chromosomes going to one daughter cell and non going to the other cell because of their failure to separate.

Draw a picture of nondisjunction here and write what genetic disorders it can lead to.

WHAT IS DOWN SYNDROME?

Also known as Trisomy 21, it is a genetic disorder caused by the presence of all or part of a third copy of chromosome 21. A person with down syndrome has 47 chromosomes instead of 46. It is caused by nondisjunction.

Draw a karyotype of down syndrome here, label it and describe what causes it.

WHAT ARE CHROMOSOME DELETION MUTATIONS?

Whole sections of nucleotide bases get deleted during chromosome mutations. Genes are being removed and has a huge impact on individuals.

Draw a picture of chromosome deletion mutations here and label it. Tell what symptoms it causes in people.

WHAT ARE CHROMOSOME TRANSLOCATION MUTATIONS?

Chromosome mutation where parts of a chromosome breaks off and reattaches to another part of the chromosome.

**Draw a picture of a chromosome translocation mutation here and label it.
Tell what symptoms it causes in people.**

WHAT ARE CHROMOSOME DUPLICATION MUTATIONS?

A type of chromosome mutation that involves the production of one or more copies of a gene or region of a chromosome.

**Draw a picture of a chromosome duplication mutation here and label it.
Write one new test question to ask someone about duplication mutations.**

WHAT ARE CHROMOSOME INVERSION MUTATIONS?

A chromosome rearrangement in which a segment of a chromosome is reversed end to end. An inversion occurs when a single chromosome undergoes breakage and has a 180 degree flip rearrangement within itself.

Draw a picture of a chromosome inversion mutation here, label it, and explain what Hemophilia is and how inversions cause it.

ABOUT THE AUTHORS



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We are a father and son duo that began our journey of helping young men and women in their educational pursuit of greatness over 10 years ago. Since then we have made numerous educational activities. Everything from fun interactive labs, a resource website for teachers and students, over 200 Youtube science videos, and even an educational science cartoon video series. Our goal is to streamline and simplify science concepts to help the young minds of today apply their scientific knowledge and know how to bring greatness to their bright and promising future!

Click the following link to contact us and get more information

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