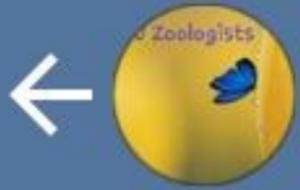


# Bio 301 2019 Final

## Repeated questions

[vulmshelp.com](http://vulmshelp.com)



## VU Zoologists

Abozar, Ahmad Bilal, Aliya, Arf...



### All current 2019 final papers of BIO 301 Subject

#### Some solve questions

301

Q: Forward, revrs, neutral mutation?

. Forward, Reverse, And Neutral

Mutations: 3marks?

Forward mutation: Mutation that alters the wild type phenotype into mutant phenotype.

Reverse mutation: Mutation that changes a mutant phenotype back into the wild type.

Neutral mutation: Mutation that alters the amino acid sequence of the protein but does not change its function as replaced amino acid is chemically similar or the affected AA has little influence on protein function.

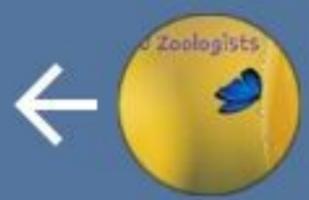
Q: How mutation effects on gene?

Mutation Effects In Functioning Of Genes?

Some mutations don't have any noticeable effect on the phenotype of an organism. This can happen in many situations: perhaps the mutation occurs in a stretch of DNA with no function

@ Type a message





# VU Zoologists

Abozar, Ahmad Bilal, Aliya, Arf...



Q: How mutation effects on gene?  
Mutation Effects In Functioning Of Genes?

Some mutations don't have any noticeable effect on the phenotype of an organism. This can happen in many situations: perhaps the mutation occurs in a stretch of DNA with no function, or perhaps the mutation occurs in a protein-coding region, but ends up not affecting the amino acid sequence of the protein.

.  
**Admin**  
**Amir Ahmadani**  
**VU Zoologists**

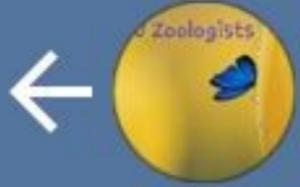
.  
Bio 301  
Q:Frwd reverse nd neutral point mutation?

Point mutation?revrs frwrdr nutrel mutation ?5

A point mutation, or single base modification, is a type of mutation that causes a single nucleotide base substitution, insertion, or deletion of the genetic material, DNA or RNA. The term frameshift mutation

@ Type a message





## VU Zoologists

Abozar, Ahmad Bilal, Aliya, Arf...



Point mutation?revrs frwrd r nutrel mutation ?5

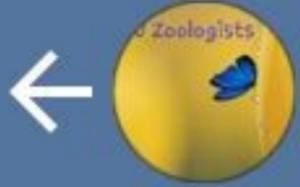
A point mutation, or single base modification, is a type of mutation that causes a single nucleotide base substitution, insertion, or deletion of the genetic material, DNA or RNA. The term frameshift mutation indicates the addition or deletion of a base pair.

Point mutation is a random SNP (single-nucleotide polymorphism) mutation in the deoxyribonucleic acid (DNA) that occurs at one point. Point mutations usually take place during DNA replication. DNA replication occurs when one double-stranded DNA molecule creates two single strands of DNA, each of which is a template for the creation of the complementary strand. A single point mutation can change the whole DNA sequence. Changing one purine or pyrimidine may change the amino acid that the nucleotides code for.

Point mutations may arise from spontaneous mutations that occur

@ |Type a message





## VU Zoologists

Abozar, Ahmad Bilal, Aliya, Arf...



during DNA replication. The rate of mutation may be increased by mutagens. Mutagens can be physical, such as radiation from UV rays, X-rays or extreme heat, or chemical (molecules that misplace base pairs or disrupt the helical shape of DNA). Mutagens associated with cancers are often studied to learn about cancer and its prevention.

Q:VNTR and its application?

VTRN and application?

VNTR are short nucleotide sequences organized as a tandem repeats on genomes. Found on many chromosomes, Show variations in length between individuals.

Applications of VNTR Microbiology  
DNA fingerprinting Genetic diversity  
Forensics

Mapping of genomes Breeding patterns of wild or domesticated animals .

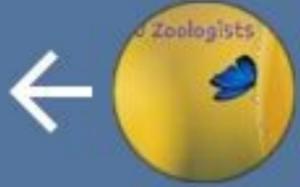
Q:Point mutation and enlist 3 variation?

Point Mutations And Enlist 3 Structural Changes In Chromosomes?

A point mutation or substitution is a genetic mutation where a single

@ |Type a message





## VU Zoologists

Abozar, Ahmad Bilal, Aliya, Arf...



Q:Point mutation and enlist 3 variation?  
Point Mutations And Enlist 3 Structural Changes In Chromosomes?

A point mutation or substitution is a genetic mutation where a single nucleotide base is changed, inserted or deleted from a sequence of DNA or RNA. Point mutations have a variety of effects on the downstream protein product—consequences that are moderately predictable based upon the specifics of the mutation.  
Deletion, duplication, translocation, transcription.

**Admin**

**Amir Ahmadani**

**VU Zoologists**

Today paper Bio 301

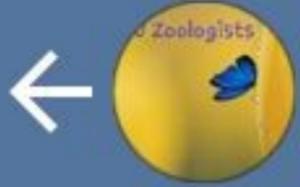
Q:point mutation and its types?

Point mutation?revers frwrdr neutral mutation ?5 marks ka ta

A point mutation, or single base modification, is a type of mutation that

Type a message





# VU Zoologists

Abozar, Ahmad Bilal, Aliya, Arf...



**Admin**

**Amir Ahmadani**

**VU Zoologists**

.

Today paper Bio 301

Q:point mutation and its types?

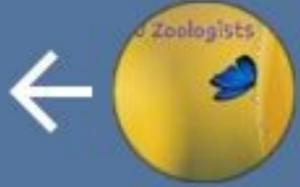
Point mutation? reverse forward neutral mutation ? 5 marks ka ta

A point mutation, or single base modification, is a type of mutation that causes a single nucleotide base substitution, insertion, or deletion of the genetic material, DNA or RNA. The term frameshift mutation indicates the addition or deletion of a base pair.

Point mutation is a random SNP (single-nucleotide polymorphism) mutation in the deoxyribonucleic acid (DNA) that occurs at one point. Point mutations usually take place during DNA replication. DNA replication occurs when one double-stranded DNA molecule creates two single strands of DNA, each of which is a template for the creation of the complementary strand. A single point mutation can change

@ Type a message





## VU Zoologists

Abozar, Ahmad Bilal, Aliya, Arf...



point mutation can change the whole DNA sequence. Changing one purine or pyrimidine may change the amino acid that the nucleotides code for.

Point mutations may arise from spontaneous mutations that occur during DNA replication. The rate of mutation may be increased by mutagens. Mutagens can be physical, such as radiation from UV rays, X-rays or extreme heat, or chemical (molecules that misplace base pairs or disrupt the helical shape of DNA). Mutagens associated with cancers are often studied to learn about cancer and its prevention.

.  
**Admin**

**Amir Ahmadani**

**VU Zoologists**

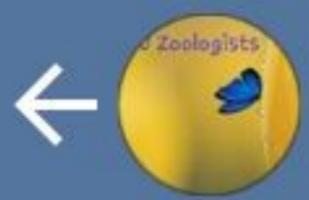
.  
301 (11:00) 25-8-19

Q: frame shift?

The term frameshift mutation indicates the addition or deletion of a base pair.

@ Type a message





# VU Zoologists

Abozar, Ahmad Bilal, Aliya, Arf...



Q: autosomal genetic and three disorder?

Complications to inheritance patterns:  
Multiple genes - epistasis, polygenic traits  
Genes & the environment - sex-influenced traits, incomplete penetrance.

Complications : A common recessive inheritance can give dominant pattern, Autosomal dominant inheritance with non-penetrance, Autosomal dominant inheritance with variable expression.

Three genetic disorder  
Deletion, duplication, translocation, transcription.

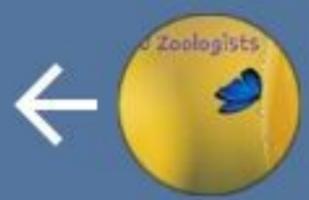
**Regards**

**Amir Ahmadani**

**Best Of Luck to all**



**And Other repeated questions of Bio 301**



# VU Zoologists

Abozar, Ahmad Bilal, Aliya, Arf...



**Best Of Luck to all**



**And Other repeated questions of Bio 301**

- 301
- Mcq.
- Epistatis
- DNA
- 6
- 10-12
- Nonsense
- Mutation
- 2
- 2-2.5
- Q arm.
- Genetic disorder
- Point mutation.
- Protein.
- 50%.
- Etc.

Admin  
 Amir Ahmadani  
 VU Zoologists

8:33 AM ✓



Table comparing

## Penetrance & Expressivity

Characteristics	Penetrance	Expressivity
<b>Definition</b>	Proportion of individuals with a specific gene or allele that can be expressed	Proportion of individuals that exhibit a trait or traits
<b>Quantitative measure</b>	Yes	No
<b>Statistically calculated</b>	Yes	No
<b>Causes</b>	Epistatic genes, modifier genes and suppressor genes, and possibly environmental factors	Modifier genes, and possibly environmental factors
<b>Types</b>	Complete, incomplete	Variable
<b>Examples</b>	Achondroplasia, Huntington's disease, breast cancer genes: BRCA1 and BRCA2, and osteogenesis imperfecta	Marfan syndrome, and neurofibromatosis



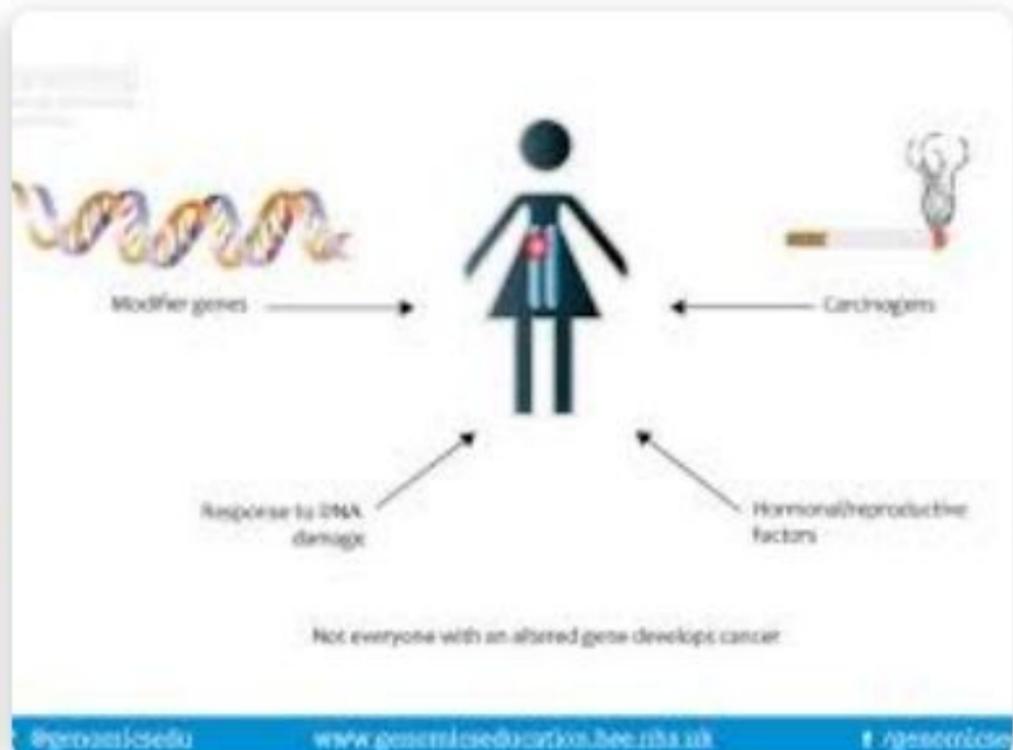
Difference Between



# Difference Between Penetrance and Expressivity | Difference Between

Table comparing Penetrance & Expressivity

Characteristic	Penetrance	Expressivity
Definition	Proportion of individuals with a specific genotype who show that trait or expression	Proportion of individuals that express a trait or trait's extent
Quantitative measure	No	Yes
Statistically measured	Yes	No
Causes	Epistatic genes, modifier genes and suppressor genes, and possibly environmental factors	Modifier genes and possibly environmental factors
Type	Complete, incomplete	Variation
Examples	Achondroplasia, Huntington's disease, sickle cell anemia, PKU and sickle cell anemia, and osteogenesis imperfecta	Hunter syndrome and neurofibromatosis



The main **difference between penetrance and expressivity** is that **penetrance** is a quantitative measurement, describing the levels of expression of a particular phenotype, which corresponds to a dominant genotype whereas **expressivity** is the extent of a given genotype expressed at the phenotypic level. Jul 29, 2017

<https://www.researchgate.net> › 3187...

[\(PDF\) Difference Between Penetrance and Expressivity - ...](#)



Trisomy



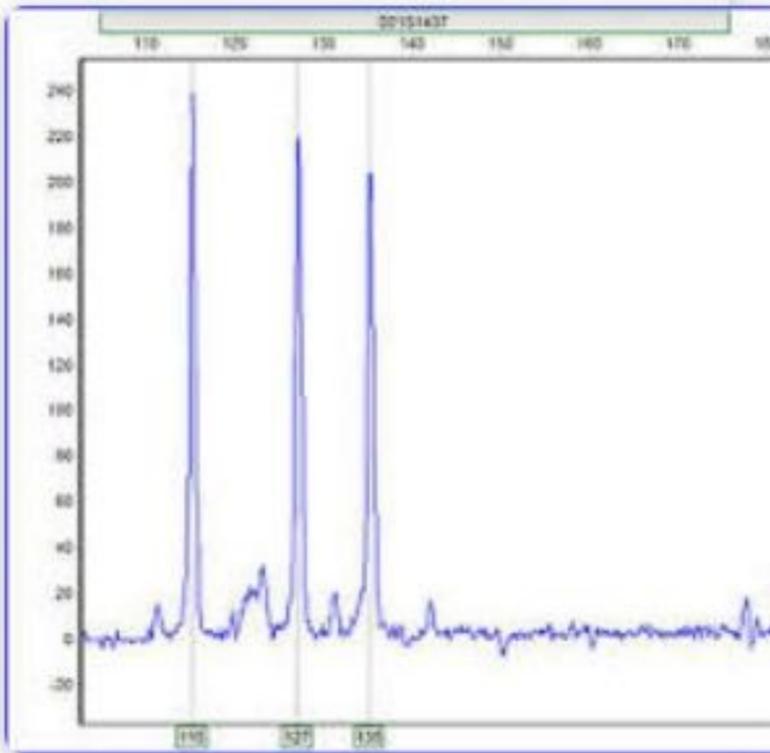
ALL

IMAGES

BOOKS

NEWS

VIDEOS



A **trisomy** is a type of polysomy in which there are three instances of a particular chromosome, instead of the normal two. A **trisomy** is a type of aneuploidy (an abnormal number of chromosomes).

Includes Diseases: Down syndrome

[W https://en.m.wikipedia.org](https://en.m.wikipedia.org) > wiki

Trisomy types



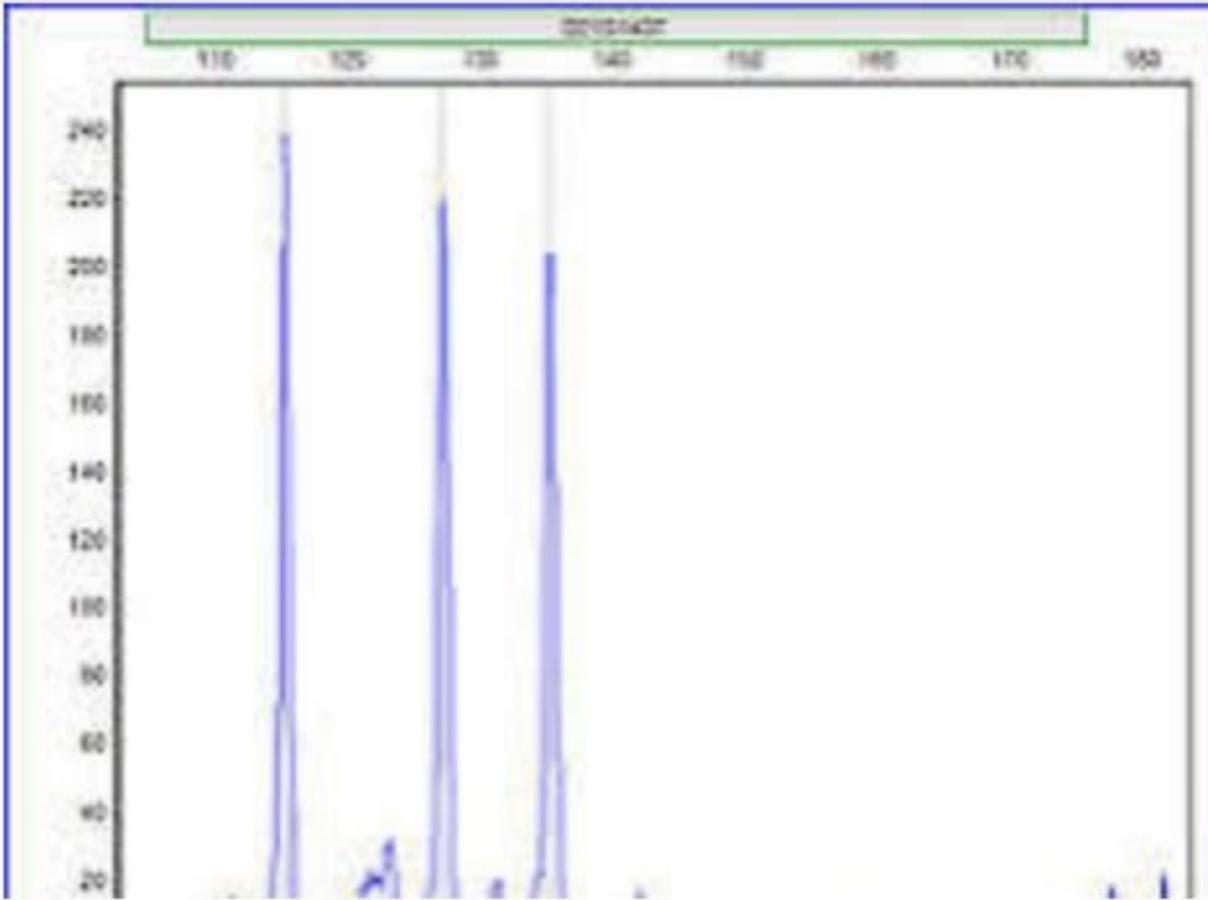
ALL

IMAGES

VIDEOS

NEWS

BOOKS



**The most common types of autosomal trisomy that survive to birth in humans are:**

- **Trisomy 21** (Down syndrome)
- **Trisomy 18** (Edwards syndrome)
- **Trisomy 13** (Patau syndrome)
- **Trisomy 9.**
- **Trisomy 8** (Warkany syndrome 2)

 <https://en.m.wikipedia.org> › wiki

[Trisomy - Wikipedia](https://en.m.wikipedia.org)



About Featured Snippets



Feedback



CONTINUE READING BELOW

WebMD NEWSLETTERS

Timely health information

Subscribe

ADVERTISEMENT

- Full trisomy 18. The extra chromosome is in every cell in the baby's body. This is by far the most common type of trisomy 18.
- Partial trisomy 18. The child has only part of an extra chromosome 18. That extra part may be attached to another chromosome in the egg or sperm (called a translocation). This type of trisomy 18 is very rare.
- Mosaic trisomy 18. The extra chromosome 18 is only in some of the baby's cells. This form of trisomy 18 is also rare.

From: [What Is Trisomy 18?](#) WebMD Medical Reference



polyploidy definition

ALL IMAGES VIDEOS NEWS BOOKS

# Polyploidy



**Haploid (N)**: One set of three chromosomes (red, purple, yellow).

**Diploid (2N)**: Two sets of three chromosomes (two red, two purple, two yellow).

**Triploid (3N)**: Three sets of three chromosomes (three red, three purple, three yellow).

**Tetraploid (4N)**: Four sets of three chromosomes (four red, four purple, four yellow).

**POLYPLOID**

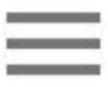
- Many organisms have more than two sets of homologous chromosomes and are called polyploid.
- A chromosome number that is a multiple of haploid number of 23 other than the diploid number eg. 69
- True polyploidy rarely occurs in humans, although it occurs in some tissues (especially in the liver).

Polyploidy is the state of a cell or organism having more than two paired sets of chromosomes. Most species whose cells have nuclei are diploid, meaning they have two sets of chromosomes—one set inherited from each parent. However, some organisms are polyploid, and polyploidy is especially common in plants. [Wikipedia](#)

## Videos

YouTube · Shomu's Biology

YouTube · Sho



polyploidy types



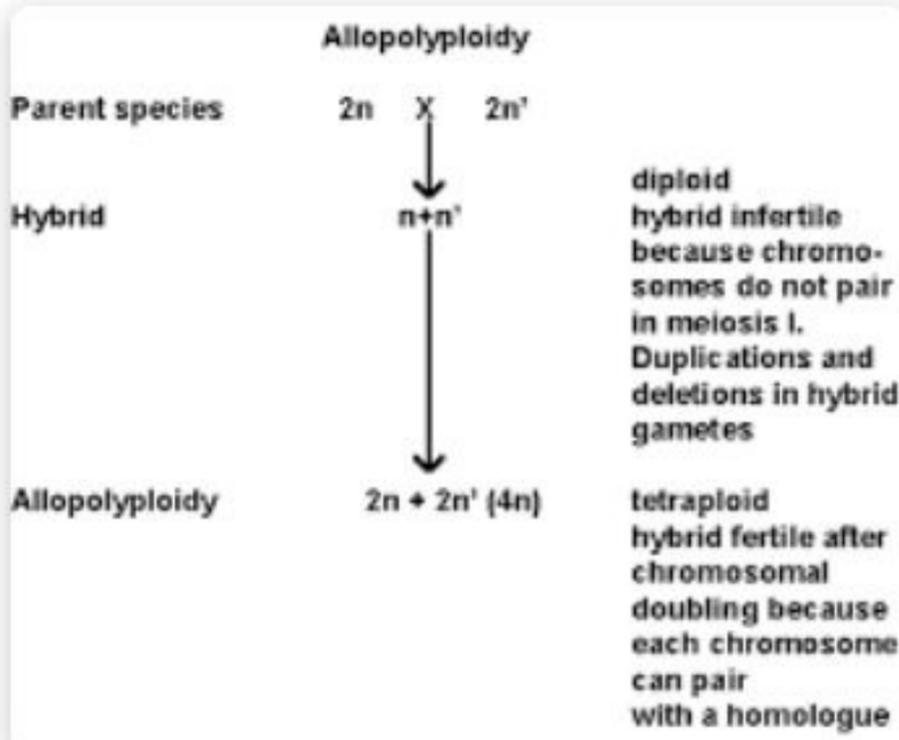
ALL

IMAGES

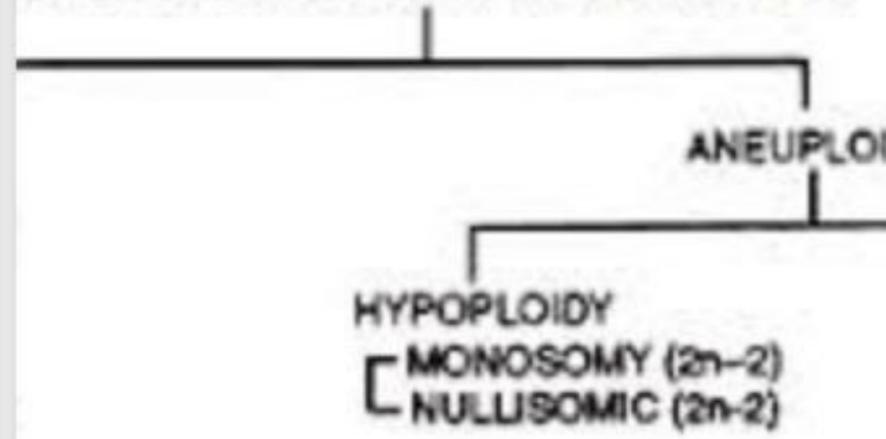
VIDEOS

NEWS

BOOKS



**NUMERICAL CHANGES IN CHROMOSOMES**



Loss of one or more chromosomes  
Addition of one or more chromosomes

**There are two types of polyploidy:**

- Autopolyploidy - chromosome doubling within a **species**.
- Allopolyploidy - hybridization, followed by chromosome doubling.

 <https://www.ucl.ac.uk> > Polyploid

**Polyploidy - UCL**



single gene disorders



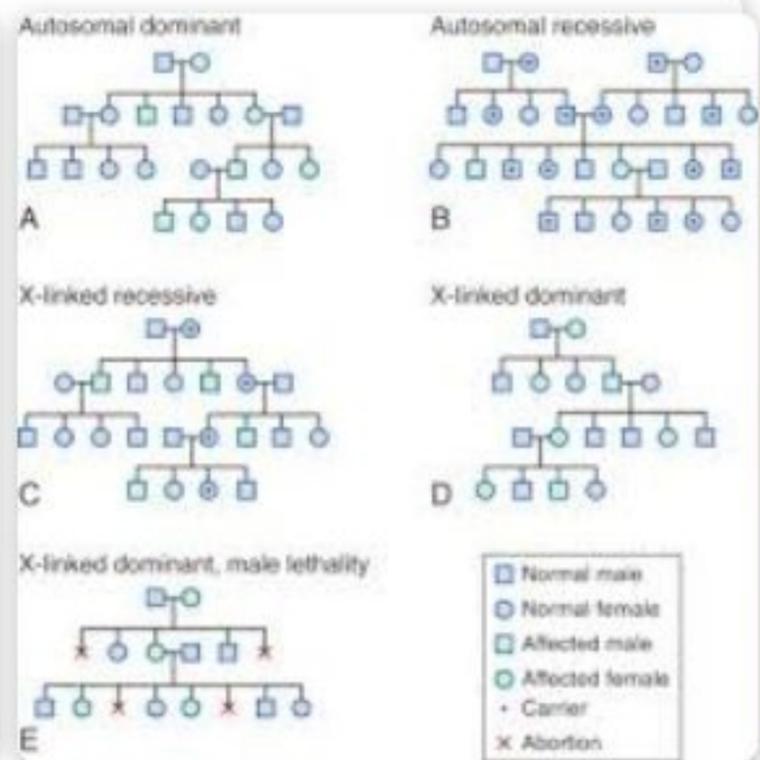
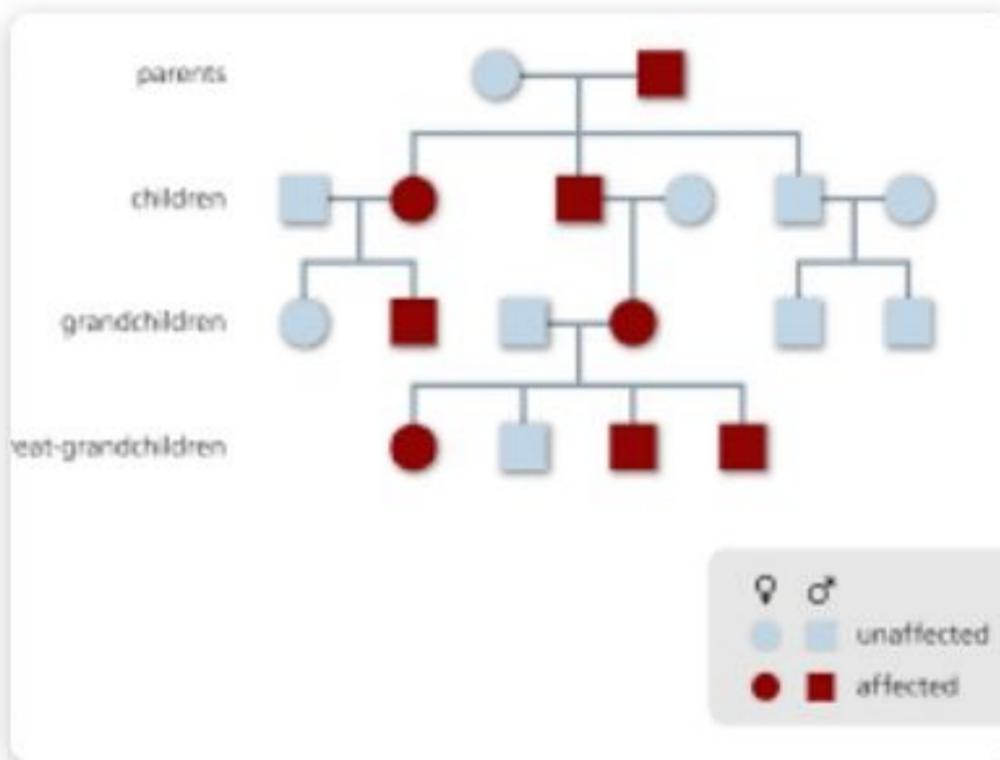
ALL

IMAGES

VIDEOS

NEWS

BOOKS



When a certain **gene** is known to cause a disease, we refer to it as a **single gene disorder** or a Mendelian **disorder**. For example, you may have heard of cystic fibrosis, sickle cell disease, Fragile X syndrome, muscular dystrophy, or Huntington disease. These are all examples of **single gene disorders**.



**Genetic architecture of common multifactorial diseases** - Sing - Cited by 142

... syndrome genetics: unravelling a **multifactorial disorder** - Hernandez - Cited by 111

### TYPES OF GENETIC DISEASES

groups of genetic diseases:

- Disorders with multifactorial inheritance (polygenic)
- Monogenic (mendelian) disorders
- Chromosomal aberrations

Category	Percentage
Non-Genetic	7%
Phenotype	15%
Polygenic/Multifactorial	17%
Other Genetic	17%
Y Codes	9%

### Main symptoms of Diabetes

blue = more common in Type 1

- Central** (more common in Type 1):
  - Polydipsia
  - Polyphagia
  - Lethargy
  - Stupor
- Eyes**:
  - Blurred vision
- Breath**:
  - Smell of acetone
- Systemic**:
  - Weight loss
- Respiratory**:
  - Kussmaul breathing (hyper-ventilation)
- Gastric**:
  - Nausea
  - Vomiting
  - Abdominal pain
- Urinary**:
  - Polyuria
  - Glycosuria

Common medical problems such as heart disease, diabetes, and obesity do not have a single **genetic** cause—they are likely associated with the effects of multiple **genes** in combination with lifestyle and environmental factors. Conditions caused by many contributing factors are called complex or **multifactorial disorders**.

<https://openoregon.pressbooks.pub> > ...

**Multifactorial Disorders and Genetic Predispositions – Principles of ...**



how mutation effect gene



[ALL](#)

[IMAGES](#)

[NEWS](#)

[VIDEOS](#)

[BOOKS](#)

Showing results for [how mutation \*\*affect\*\* gene](#)

Search instead for [how mutation effect gene](#)

When a **mutation** alters a protein that plays a critical role in the body, it can disrupt normal development or cause a medical condition. A condition caused by **mutations** in one or more **genes** is called a **genetic** disorder. In some cases, **gene mutations** are so severe that they prevent an embryo from surviving until birth. 7 days ago



<https://ghr.nlm.nih.gov> › primer

[How can gene mutations affect health and](#)



VNTR



ALL

IMAGES

BOOKS

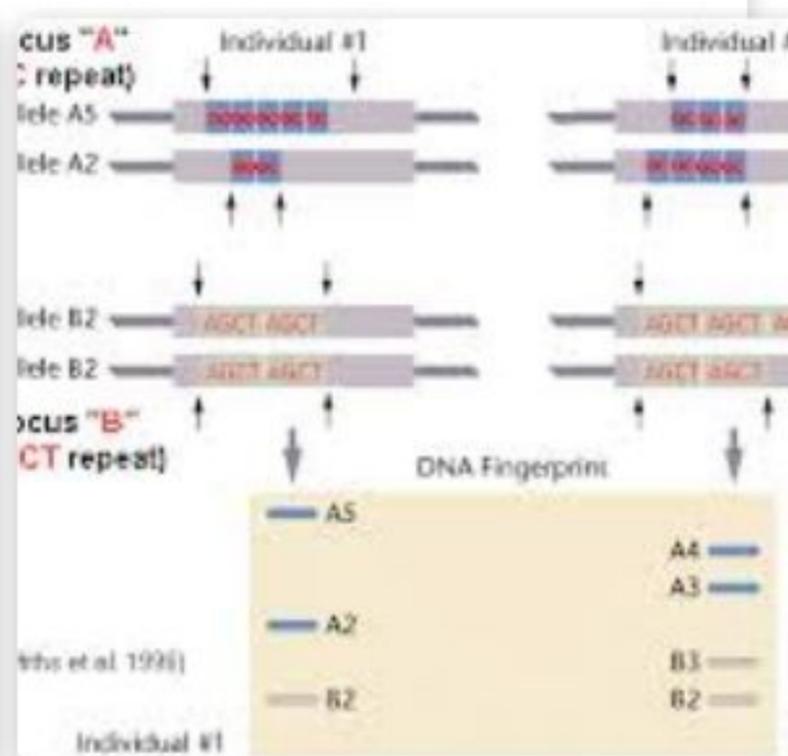
VIDEOS

NEWS

# Variable number tandem repeat



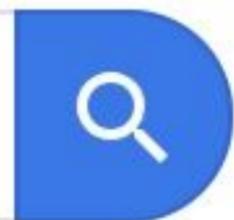
satellite because  
 repeat sequence is 10-100 nucleotides  
 sequence repeats 5-50 times  
 number of repeats differs between two different individuals,  
 sequence does not



A variable number tandem repeat (or **VNTR**) is a location in a genome where a short nucleotide sequence is organized as a tandem repeat. These can be found on many chromosomes, and often show variations in length (number of repeats) among individuals.



VNTR functions



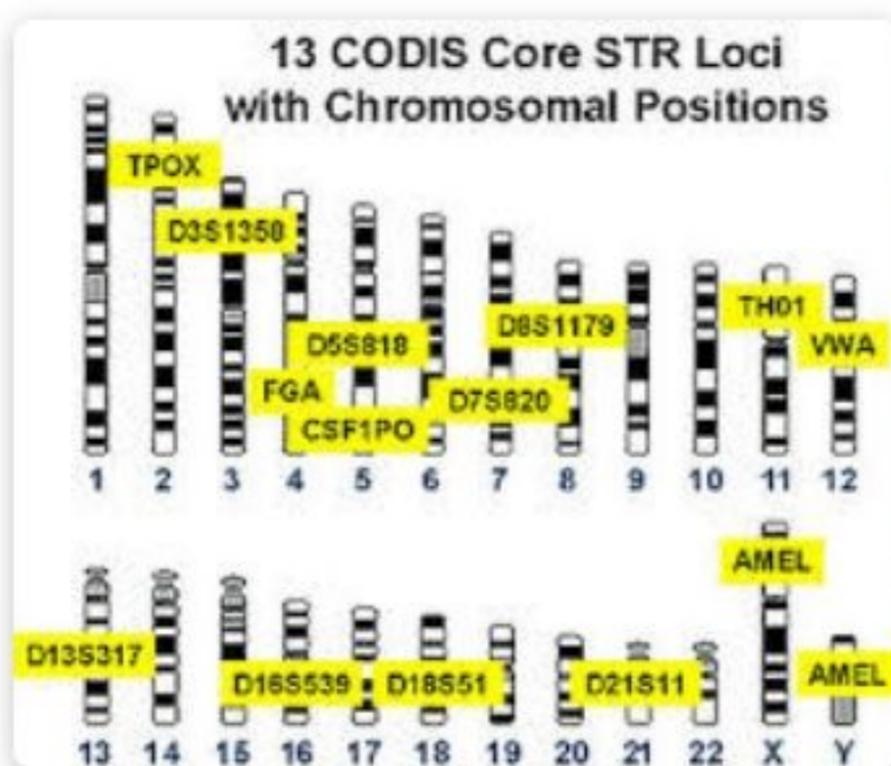
ALL

IMAGES

NEWS

VIDEOS

BOOKS



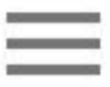
AGTCGGTAAG AGTCGGTAAG AGTCGGTAAG AGTCGGTAAG

AGTCGGTAAG AGTCGGTAAG AGTCGGTAAG AGTCGGTAAG

satellite because  
 repeat sequence is 10-100 nucleotides  
 sequence repeats 5-50 times  
 repeats differs between two different individuals  
 sequence does not

Use in genetic analysis

**VNTRs** were an important source of RFLP genetic markers used in linkage analysis (mapping) of diploid genomes. Now that many genomes have been sequenced, **VNTRs** have become essential to forensic crime investigations, via DNA fingerprinting and the CODIS database.



trisomy functions



ALL

IMAGES

VIDEOS

NEWS

BOOKS

A chromosome disorder is caused by an alteration in the number or genetic structure of chromosomes. **Trisomy** ('three bodies') means the affected person has 47 chromosomes instead of 46. Down syndrome, Edward syndrome and Patau syndrome are the most common forms of **trisomy**.

Aug 30, 2013



<https://www.betterhealth.vic.gov.au> > ...

[Trisomy disorders - Better Health Channel](#)



About Featured Snippets



Feedback



<https://www.stanfordchildrens.org> > ...



causative nucleotide mutation



ALL

IMAGES

NEWS

VIDEOS

BOOKS

## Scholarly articles for **causative nucleotide mutation**

Point **mutations** and an intragenic deletion in LIS1, the ... - Lo Nigro - Cited by 312

... : identification of three **causative mutations** in the TGFBI ... - Stewart - Cited by 90

Blue cone monochromacy: **causative mutations** and ... - Gardner - Cited by 33

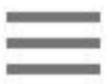
The **causative mutation** for mnd is located on chromosome 5 and 63.99% of selected variants (1278 out of 1997) were present on that chromosome (Additional file 1: Figure S5a).

Jan 7, 2019



<https://bmcbioinformatics.biomedcentral.com> > ...

**Rapid fine mapping of causative mutations**



link nucleotide mutation



ALL

IMAGES

NEWS

VIDEOS

BOOKS

## Scholarly articles for **link nucleotide mutation**

TILLING: practical single-**nucleotide mutation** ... - Comai - Cited by 237

... helices in Rad50 **link nucleotide** state to Mre11 ... - Williams - Cited by 118

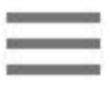
Involvement of **nucleotide** excision repair in a ... - Wang - Cited by 168

A point **mutation** is going to change one **nucleotide** in the DNA code, this may or may not result in a changed amino acid. A missense **mutation** is always going to be a **substitution** of one amino acid for another. Comment on Daniel Schneider's post "A point **mutation** is going to change one **nucleotide**..."



<https://www.khanacademy.org> › mcat

[The different types of mutations \(video\) |](#)



disorders caused by mutations



[ALL](#)

[IMAGES](#)

[NEWS](#)

[VIDEOS](#)

[BOOKS](#)

But the **mutations** we hear about most often are the ones that **cause disease**. Some well-known inherited genetic **disorders** include cystic fibrosis, sickle cell anemia, Tay-Sachs **disease**, phenylketonuria and color-blindness, among many others. All of these **disorders** are **caused** by the **mutation** of a single gene.



<https://genetics.thetech.org> › mutatio...

[Mutations and Disease | Understanding Genetics](#)



About Featured Snippets



Feedback



🔒 <https://www.google.com>

1



# Google



penetrance definition  

**ALL**

NEWS

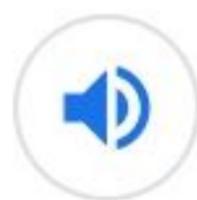
IMAGES

VIDEOS

BOOKS

## DICTIONARY

Search for a word 



# penetrance

*/ˈpenɪtr(ə)ns/*

*noun*

**GENETICS**

the extent to which a particular gene or set of genes is expressed in the phenotypes of individuals carrying it, measured by the proportion of carriers showing the characteristic phenotype.

From Oxford

*Feedback*



Translations and more definitions

being expressed. In some cases, despite the presence of a dominant allele, ...



## PEOPLE ALSO ASK

What is penetrance and expressivity? 

**Penetrance** refers to the probability of a gene or trait being expressed. In some cases, despite the presence of a dominant allele, a phenotype may not be present. ... **Expressivity** on the other hand refers to variation in phenotypic expression when an allele is **penetrant**.

 <https://courses.lumenlearning.com> › ...

[Penetrance and Expressivity | Biology for Majors I - Lumen ...](#)

## More results

What is genetic penetrance? 

What does expressivity mean in genetics? 

How do you calculate penetrance in genetics? 

Penetrance refers to the probability of a gene

or trait being expressed. In some cases, despite the presence of a dominant allele, a phenotype may not be present. ... **Expressivity** on the other hand refers to variation in phenotypic expression when an allele is **penetrant**.

<https://courses.lumenlearning.com> › ...

[Penetrance and Expressivity | Biology for Majors I - Lumen ...](#)

### More results

What is genetic penetrance?

**Penetrance in genetics** is the proportion of individuals carrying a particular variant (or allele) of a **gene** (the genotype) that also express an associated trait (the phenotype).

<https://en.m.wikipedia.org> › wiki

[Penetrance - Wikipedia](#)

### More results

What does expressivity mean in genetics?



What is penetrance and expressivity? 

**Penetrance** refers to the probability of a gene or trait being expressed. In some cases, despite the presence of a dominant allele, a phenotype may not be present. ... **Expressivity** on the other hand refers to variation in phenotypic expression when an allele is **penetrant**.

 <https://courses.lumenlearning.com> › ...

[Penetrance and Expressivity | Biology for Majors I - Lumen ...](#)

[More results](#)

What is genetic penetrance? 

**Penetrance in genetics** is the proportion of individuals carrying a particular variant (or allele) of a **gene** (the genotype) that also express an associated trait (the phenotype).

 <https://en.m.wikipedia.org> › wiki



types of genetic disorders



ALL

IMAGES

VIDEOS

NEWS

BOOKS



## There are three types of genetic disorders:

- **Single-gene disorders**, where a mutation affects one **gene**. Sickle cell anemia is an example.
- **Chromosomal disorders**, where chromosomes (or parts of chromosomes) are missing or changed. ...
- **Complex disorders**, where there are mutations in two or more **genes**.

Apr 26, 2019



<https://www.google.com>



Google



frameshift mutation



ALL

IMAGES

BOOKS

VIDEOS

NEWS

## DICTIONARY

Search for a word



# frameshift mutation

*/ˈfreɪmʃɪft mjuːteɪʃ(ə)n/*

*noun*

**GENETICS**

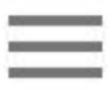
a mutation caused by the addition or deletion of a base pair or base pairs in the DNA of a gene resulting in the translation of the genetic code in an unnatural reading frame from the position of the mutation to the end of the gene.

From Oxford

[Feedback](#)



Translations and more definitions



frameshift mutation example



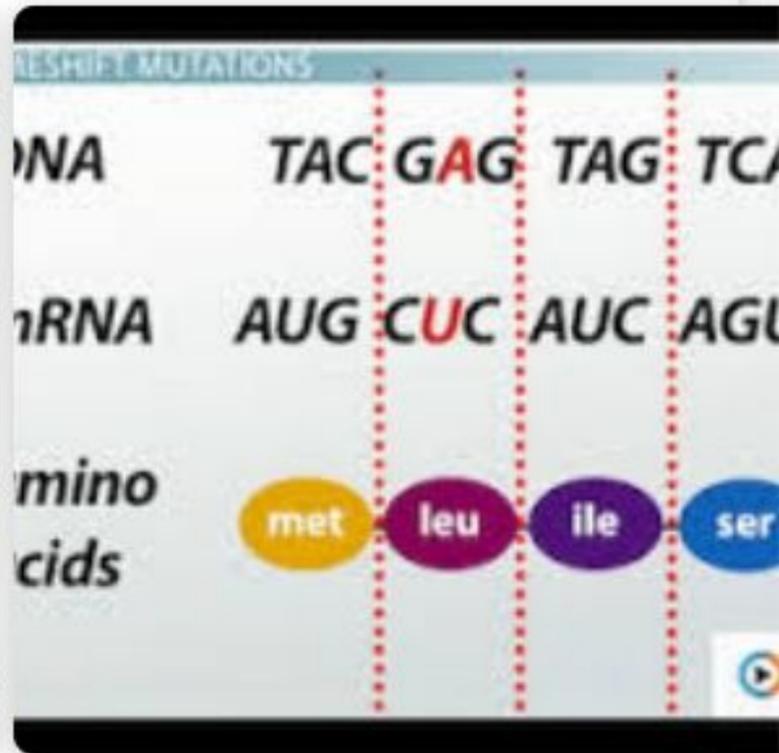
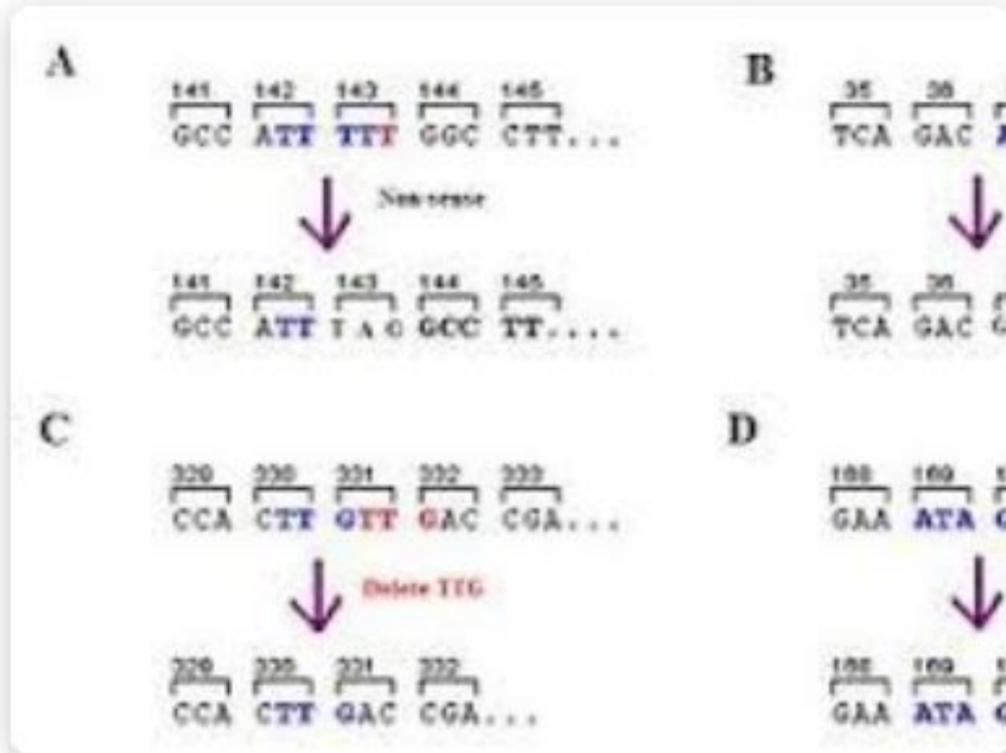
ALL

IMAGES

VIDEOS

NEWS

BOOKS



But, insertions and deletions cause a change in the length of a gene, which causes a shift in the codon reading frame. A **frameshift mutation** occurs when a protein is drastically altered because of an insertion or a deletion. Tay-Sachs disease is a human disorder caused by a **frameshift mutation**.





https://www.google.com

1



autosomal dominant disorder



ALL

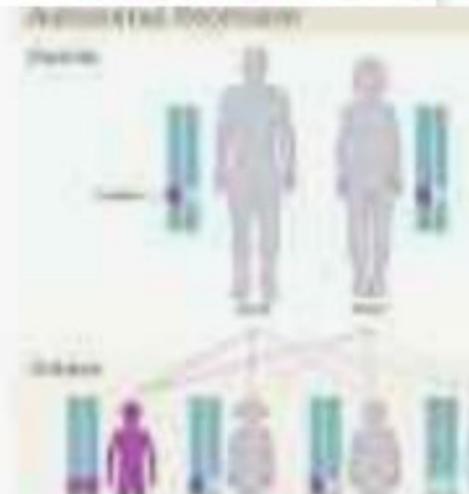
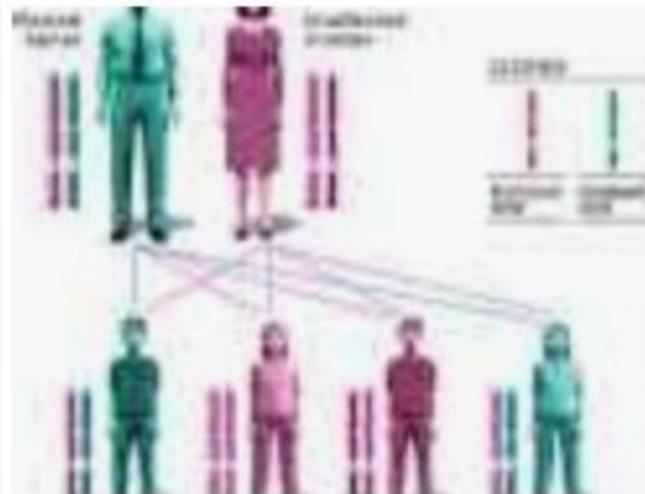
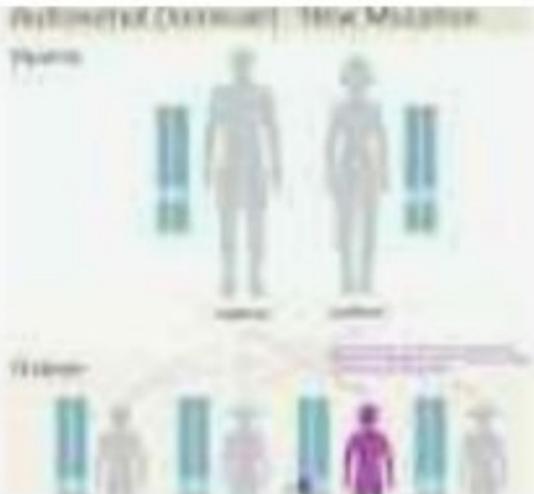
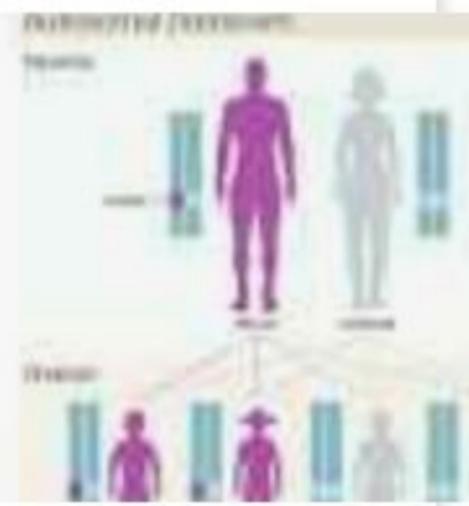
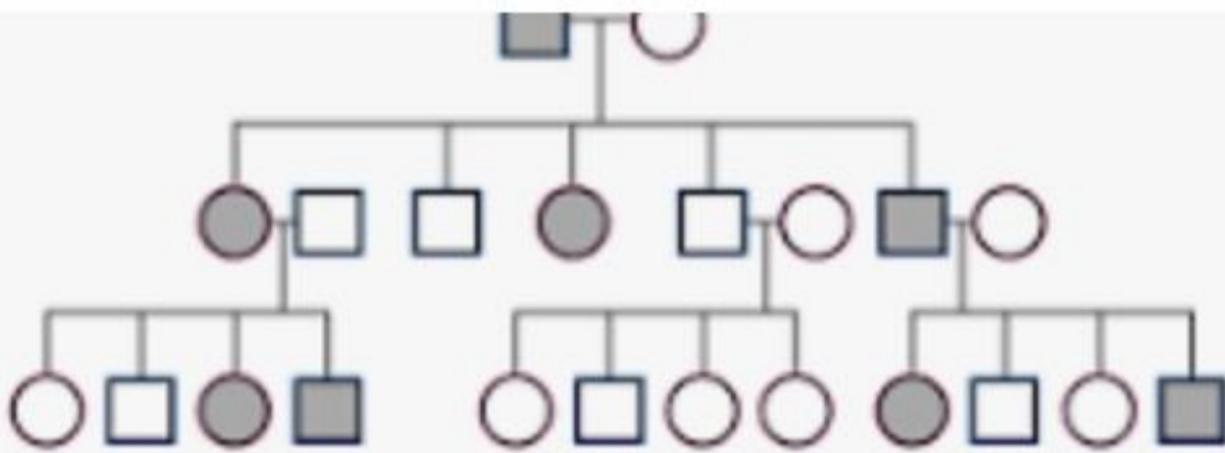
IMAGES

VIDEOS

NEWS

BOOKS

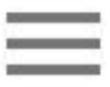
## Recessive disorder



A single abnormal gene on one of the first 22 nonsex (**autosomal**) chromosomes from either parent can cause an **autosomal disorder**.

**Dominant** inheritance means an abnormal gene from one parent can cause **disease**. ... Examples of **autosomal dominant disorders** include Marfan syndrome and neurofibromatosis type 1.

Jan 10, 2018



vntr five applications



ALL

NEWS

IMAGES

VIDEOS

BOOKS

## Applications of VNTR

Use in genetic analysis

**VNTRs** were an important source of RFLP genetic markers used in linkage analysis (mapping) of diploid genomes. ... **VNTR** analysis is also being used to study genetic diversity and breeding patterns in populations of wild or domesticated animals.

[https://en.m.wikipedia.org](https://en.m.wikipedia.org/wiki) › wiki

[Variable number tandem repeat - Wikipedia](#)

MORE RESULTS



About Featured Snippets



Feedback

variation changing in structure of c



ALL

VIDEOS

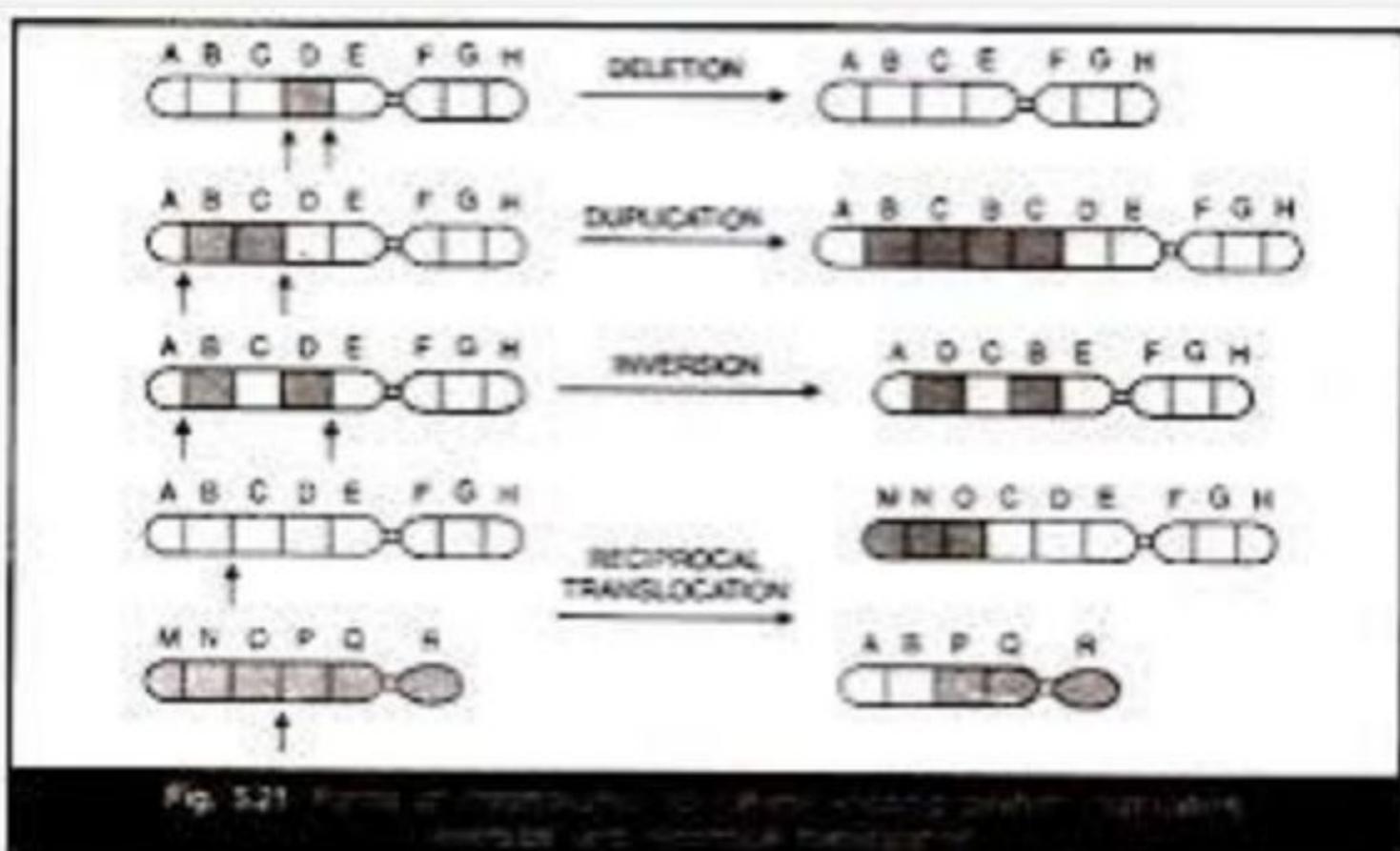
IMAGES

NEWS

BOOKS

Showing results for **variation** changing in structure of chromosomes

Search instead for **variation** changing in structure of chromosomes



Any alteration, addition or deletion of **chromosomal** part leads to alteration of number, position or sequence of genes in the **chromosome**. Such **change of structure** is referred to as **chromosomal** aberrations or **chromosomal** mutations. ... The **chromosome** becomes shorter due to loss of one or more genes (Fig. 5.21).

loss of one or more genes (Fig. 5.21).

 [www.biologydiscussion.com](http://www.biologydiscussion.com) › struct...

## Structural Change in the Structure of Chromosomes - Biology Discussion

 About Featured Snippets

 Feedback

### PEOPLE ALSO ASK

What type of changes may occur to change the structure of a chromosome? 

These **changes** are most often brought on by problems that **occur** during meiosis (division process of gametes) or by mutagens (chemicals, radiation, etc.). **Chromosome** mutations **can** result in **changes** in the number of **chromosomes** in a cell or **changes** in the **structure of a chromosome**. Apr 13, 2019

 <https://www.thoughtco.com> › chrom...

[How Chromosome Mutations Occur - ThoughtCo](https://www.thoughtco.com)

[More results](#)

process of gametes) or by mutagens (chemicals, radiation, etc.). **Chromosome mutations can result in changes in the number of chromosomes in a cell or changes in the structure of a chromosome.** Apr 13, 2019

 <https://www.thoughtco.com> › chrom...

[How Chromosome Mutations Occur - ThoughtCo](https://www.thoughtco.com)

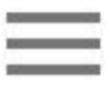
### More results

What are the structural changes in chromosome? 

What is chromosome variation? 

Changes in **chromosome** number can occur by the addition of all or part of a **chromosome** (aneuploidy), the loss of an entire set of **chromosomes** (monoploidy) or the gain of one or more complete sets of **chromosomes** (euploidy). Each of these conditions is a **variation** on the normal diploid number of **chromosomes**.

 <https://www.ndsu.edu> › number1



mutation



ALL

IMAGES

BOOKS

VIDEOS

NEWS

## Mutation



A **mutation** is a change that occurs in our DNA sequence, either due to mistakes when the DNA is copied or as the result of environmental factors such as UV light and cigarette smoke.

Jan 25, 2016

 <https://www.yourgenome.org> › facts

[What is a mutation? | Facts | yourgenome.org](https://www.yourgenome.org)

People also search for: [Genotype](#), [Genetics](#), [Cancer](#), [Heredity](#), [Carcinogen](#), [more](#)



More about Mutation



https://www.google.com

1



Google



mutation types



ALL

IMAGES

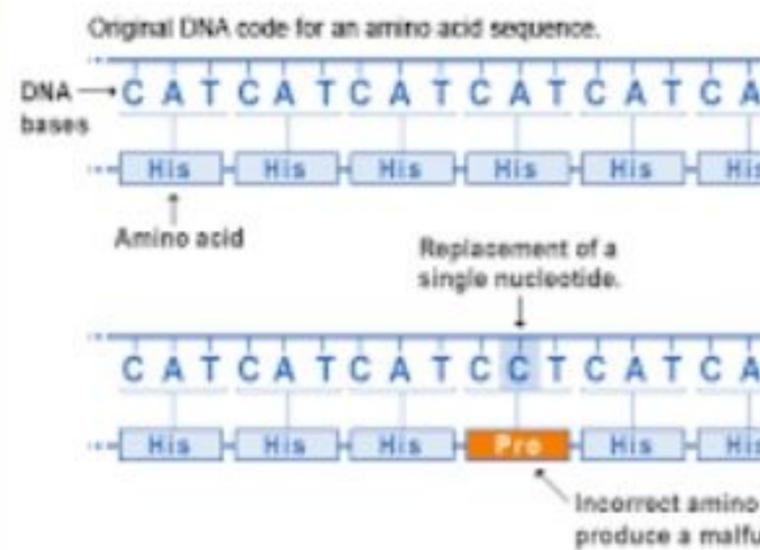
VIDEOS

NEWS

BOOKS

Point mutation	Point mutations		
	Silent	Nonsense	Missense
TTC	TTT	ATC	TCC
AAG	AAA	UAG	AGG
Lys	Lys	STOP	Arg

Missense mutation

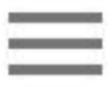


U.S. National Library of Medicine

**There are three types of DNA Mutations: base substitutions, deletions and insertions.**

- Base Substitutions. Single base substitutions are called point **mutations**, recall the point **mutation** Glu ----> Val which causes sickle-cell disease.
- Deletions. ...
- Insertions.





mutation types examples



ALL

IMAGES

VIDEOS

NEWS

BOOKS

### The types of mutations include:

- Missense **mutation**: This **type of mutation** is a change in one DNA base pair that results in the substitution of one amino acid for another in the protein made by a gene.
- Nonsense **mutation**: A nonsense **mutation** is also a change in one DNA base pair.

[More items...](#)

<https://openoregon.pressbooks.pub> › ...

[Types of Mutations – Mt Hood Community College Biology 102 - ...](#)



About Featured Snippets



Feedback

PEOPLE ALSO ASK



🔒 <https://www.google.com>

1



Google



is mutation is control disease  

ALL

NEWS

IMAGES

VIDEOS

BOOKS

When a **mutation** alters a protein that plays a critical role in the body, it can disrupt normal development or cause a medical condition. A condition caused by **mutations** in one or more genes is called a genetic **disorder**.

7 days ago



<https://ghr.nlm.nih.gov/primer>

[How can gene mutations affect health and development? - ...](#)



About Featured Snippets



Feedback

PEOPLE ALSO ASK

What is... Mutation... 6

7 days ago



<https://ghr.nlm.nih.gov/primer>

[How can gene mutations affect health and development? - ...](#)



About Featured Snippets



Feedback

### PEOPLE ALSO ASK

What diseases are caused by mutations?



Can we prevent genetic disorders?



**Genetic disorders** may cause such severe health problems that they are incompatible with life. ... This experimental technique involves changing a person's **genes** to **prevent** or **treat** a **disease**. **Gene** therapy, along with many other treatment and management approaches for **genetic** conditions, are under study in clinical trials. Jul 16, 2019

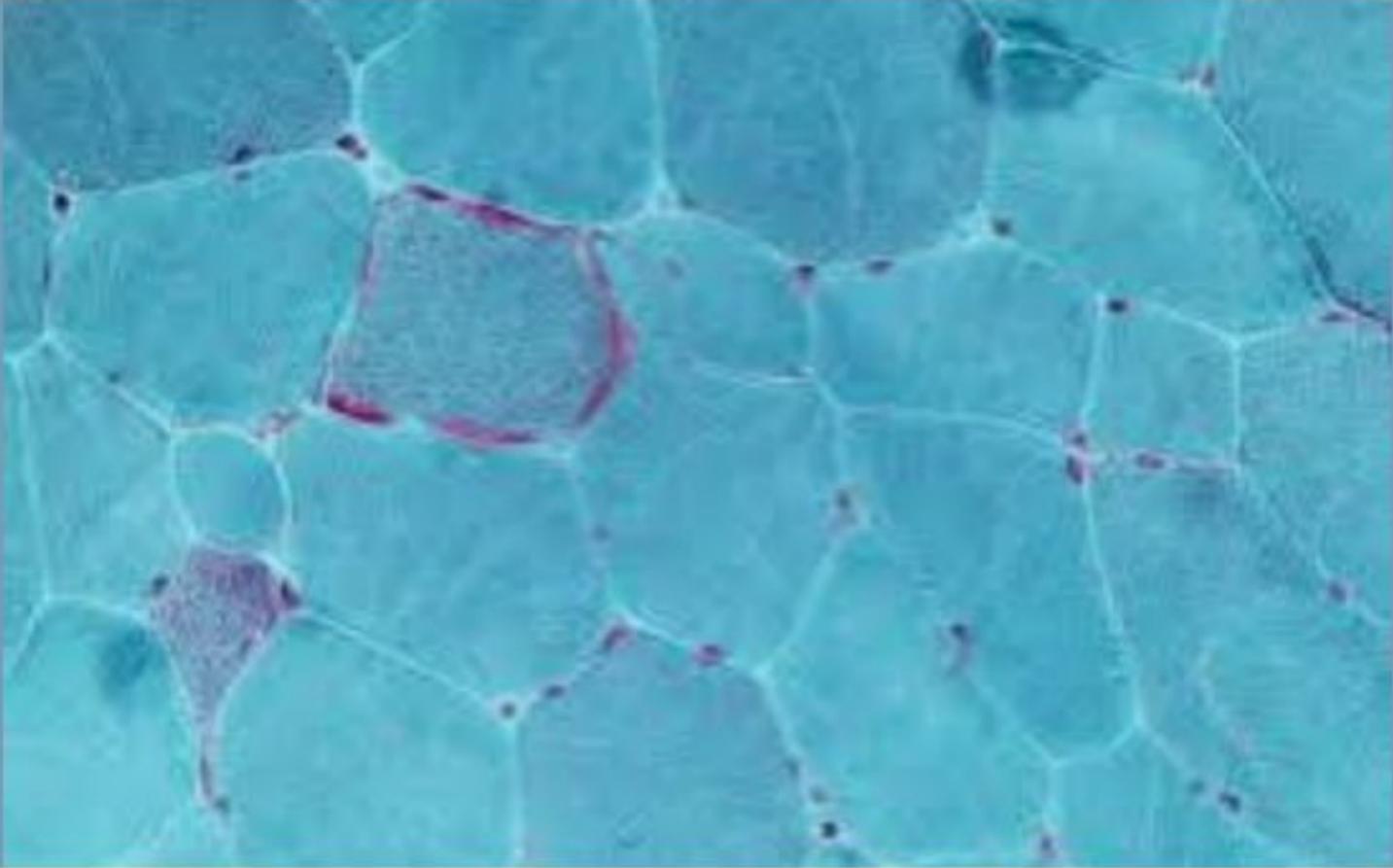


<https://ghr.nlm.nih.gov/treatment>

[How are genetic conditions treated or managed? - Genetics Home ...](#)

**mitochondrial** ... - Goto - Cited by 2096

... for the prevention of inherited **mitochondrial diseases** - Amato - Cited by 93



### Examples of mitochondrial diseases include:

- **Mitochondrial** myopathy.
- Diabetes mellitus and deafness (DAD) ...
- Leber's hereditary optic neuropathy (LHON) ...
- Leigh syndrome, subacute sclerosing encephalopathy. ...
- Neuropathy, ataxia, retinitis pigmentosa, and ptosis (NARP) ...
- Myoneurogenic gastrointestinal encephalopathy (MNGIE)

[More items...](#)

MC190203159: AMIR HUSSAIN

BIO301:Quiz#2

Time Left 10 sec(s)

Quiz Start Time: 12:02 AM, 22 July 2019

Question # 5 of 10 ( Start time: 12:08:44 AM, 22 July 2019 )

Total Marks: 1

Base analogs have similar structures with \_\_\_\_\_.

Select the correct option

- Nucleotides
- Nucleoside
- Standard bases of DNA
- DNA polymerase

Click to Save Answer & Move to Next Question

MC190203159: AMIR HUSSAIN

BIO301:Quiz#2

Time Left 37 sec(s)

Quiz Start Time: 12:02 AM, 22 July 2019

Question # 6 of 10 ( Start time: 12:10:07 AM, 22 July 2019 )

Mutation that changes a mutant phenotype back into the wild type.

Total Marks: 1

Select the correct option

- Forward mutation
- Reverse mutation
- Neutral mutation
- All

Click to Save Answer & Move to Next Question

MC190203159: AMIR HUSSAIN

BIO301:Quiz#2

Time Left 38 sec(s)

Quiz Start Time: 12:02 AM, 22 July 2019

Question # 7 of 10 ( Start time: 12:11:06 AM, 22 July 2019 )

Total Marks: 1

Mutations which convert a DNA sequence into a stop codon.

Select the correct option

- Missense mutation
- Nonsense mutation
- Inversion mutation
- Deletion mutation

Click to Save Answer & Move to Next Question

MC190203159: AMIR HUSSAIN

BIO301:Quiz#2

Time Left 5 sec(s)

Quiz Start Time: 12:02 AM, 22 July 2019

Question # 9 of 10 ( Start time: 12:13:33 AM, 22 July 2019 )

Total Marks: 1

Mutation which produces a change in amino acid sequence in protein product (e.g Histidine in for Arginine).

Select the correct option

- Missense mutation
- Nonsense mutation
- Addition mutation
- Deletion mutation

Click to Save Answer & Move to Next Question

Time Left 44 sec(s)

MC190203159: AMIR HUSSAIN

Quiz Start Time: 12:02 AM, 22 July 2019

BIO301:Quiz#2

Total Marks: 1

Question # 1 of 10 ( Start time: 12:02:55 AM, 22 July 2019 )

Mutations that cause loss of functions are usually

▶ Select the correct option

- Recessive
- Dominant
- Over-dominant
- Co-dominant

Click to Save Answer & Move to Next Question

MC190203159: AMIR HUSSAIN

Time Left 7 sec(s)

BIO301:Quiz#2

Quiz Start Time: 12:02 AM, 22 July 2019

Question # 1 of 10 ( Start time: 12:02:55 AM, 22 July 2019 )

Total Marks: 1

Mutations that cause loss of functions are usually

Select the correct option

- Recessive
- Dominant
- Over-dominant
- Co-dominant

Click to Save Answer & Move to Next Question

MC190203159: AMIR HUSSAIN

BIO301:Quiz#2

Time Left 13 sec(s)

Quiz Start Time: 12:02 AM, 22 July 2019

Question # 4 of 10 ( Start time: 12:07:23 AM, 22 July 2019 )

Hypomorph alleles causes decline in function of

Total Marks: 1

Select the correct option

- Lipids
- Carbohydrates
- Proteins
- DNA

Click to Save Answer & Move to Next Question

MC190203159: AMIR HUSSAIN

Time Left 81 sec(s)

BIO301:Quiz#2

Quiz Start Time: 12:02 AM, 22 July 2019

Question # 3 of 10 ( Start time: 12:05:52 AM, 22 July 2019 )

Total Marks: 1

A genetic disease or disorder appear as a result of mutations in an individual's \_\_\_\_ .

Select the correct option

- DNA
- RNA
- Proteins
- Ribosomes

Click to Save Answer & Move to Next Question

## MCR's from quizzes.

- Mutations which convert a DNA sequence into a stop codon Nonsense mutation.
- Base analogs have similar structures with standard bases of DNA.
- Mutations in both alleles of a gene causes condition Autosomal Recessive.
- Mutations that causes loss of functions are usually Recessive.
- Mutation which produces a change in amino acid sequences in protein product (e.g. Histidine in for Arginine) is Missense Mutation.
- Which one of the following is not influenced by silent mutations, Phenotype.
- Mutations that changes a mutant phenotype back into wild type. Reverse Mutation.
- A condition in which some people with an appropriate genotype fail to express the phenotype is known as Incomplete penetrance.
- Hunter's disease is an example of X-linked recessive disorder.
- A genetic disease or disorder appear as a result of mutations in an individual's DNA.
- Which one is severely influenced by insertions, protein.
- Organisms that exhibit suppressor mutations is/are double mutant.
- Hypomorph alleles causes decline in function of Proteins.
- The term Ashkenazi refers to a specific people of following population Jews population.

③

\_\_\_\_\_ is a common strategy used to escape from predator.

Oleander Plant.

Foul tasting.

Stinging

nettles.

Chemical warfare ✓

\_\_\_\_\_ is a kind of coloration or pattern that help an animal to

appear to blend with its environment.

Camouflage ✓

Crypsis,

Esophage

Bacteriophage

Commensalism is a relationship.

Harmful for both species. Useful for both species.

Useful for one species & harmful for other.

Useful for one species & second is neither helped nor harmed.

Pollutants come from two types of sources.

Point sources & non-point sources.

Point sources & point mutation

Source point, Sources & non, p-s.

The process that involves the cyclic movement of nutrients between biotic & abiotic environment of earth is termed as

Geochemical cycle ✓ Biogeochemical cycle.

Oxygen cycle water cycle

Water cycle involves in Three major steps.

Three, & a half, Two, four, Three ✓

# ZOO507 QUIZ 2

\* A mutualistic association between algae & fungus in which both the partners get benefit from each other is known.

Lichen ✓

Crustose

Parasitism

Ascomycetes

is a measure of evenness in distribution of the individual organism among the species present.

Dominance

Succession

Diversity ✓

Coevolution

Carbon dioxide gas makes up the volume of atmosphere and also dissolve in water.

0.138%

0.039%

0.037%

0.038% ✓

What is lichens?

Association between Algae & fungus. ✓

Association // Animal & Plant.

//

//

Algae & Animal

//

//

Plant & viruses.

- 1 Recessive
- 2 DNA
- 3 Protein
- 4 Standard bases of DNA
- 5 Recessive mutation
- 6 Nonsense mutation
- 7 Nonsense mutation

1) Mutation that causes loss of function are usually Recessive

Hunter's disease example of X-linked recessive.

Which one of the following is not influenced by silent mutation. Phenotype

Organisms that exhibits suppressor mutation Double mutant.

Base analogs have similar structure standard bases of DNA.

A genetic disorder or disease appear as a result DNA.

Which one is severely influenced by insertion protein.

The term Ashkenazi refers to a specific people Jews population.

Hypomorph alleles causes decline in function of proteins.

Mutation that changes a mutant phenotype back into wild type Reverse mutation

Mutations which convert a DNA sequence into a stop codon Nonsense mutation.

A condition in which some people with an appropriate ~~phenotype~~ phenotype falls to express Incomplete penetrance.

Mutation which produces a change in amino acid Missense Mutation.

Mutation is both alleles cause Autosomal recessive.

Mutation which convert a DNA sequence into a stop codon

Nonsense Mutation