

Exploring Mutations

LT: I can use text and video information to describe types of mutations and how mutations can impact the organism. Standard: 3.1d

Tasks:

1. Visit the following links:

<https://www.youtube.com/watch?v=GieZ3pk9YVo>

<https://www.youtube.com/watch?v=EA0qxhR2oOk&feature=youtu.be>





















<https://learn.genetics.utah.edu/content/disorders/>

2. Respond to the following:

- a. How do mutations in DNA cause changes in an organism's traits?
- b. Why do insertions and deletions have the potential to be most dangerous?
- c. The mRNA codon CUU could mutate to C_____ and still code for Leucine, which could be a neutral mutation.
- d. What is nondisjunction?
- e. Why is the Sickle Cell mutation gene considered to be a disadvantage and an advantage?

Amino Acid Codon Chart

		Second Letter					
		U	C	A	G		
First Letter	U	UUU	UCU	UAU	UGU	U	
		UUC	UCC	UAC	UGC	C	
		UUA	UCA	UAA	UGA	STOP	A
		UUG	UCG	UAG	UGG	W	G
C	CUU	CCU	CAU	CGU	U		
	CUC	CCC	CAC	CGC	C		
	CUA	CCA	CAA	CGA	R	A	
	CUG	CCG	CAG	CGG	G	G	
A	AUU	ACU	AAU	AGU	S	U	
	AUC	ACC	AAC	AGC	S	C	
	AUA	ACA	AAA	AGA	R	A	
	AUG	ACG	AAG	AGG	R	G	
		START					
G	GUU	GCU	GAU	GGU	U		
	GUC	GCC	GAC	GGC	C		
	GUA	GCA	GAA	GGA	A		
	GUG	GCG	GAG	GGG	G		

Amino acid side chains									
 A Alanine (Ala)	 C Cysteine (Cys)	 D Aspartic acid (Asp)	 E Glutamic acid (Glu)	 F Phenylalanine (Phe)	 G Glycine (Gly)	 H Histidine (His)	 I Isoleucine (Ile)	 K Lysine (Lys)	 L Leucine (Leu)
 M Methionine (Met)	 N Asparagine (Asn)	 P Proline (Pro)	 Q Glutamine (Gln)	 R Arginine (Arg)	 S Serine (Ser)	 T Threonine (Thr)	 V Valine (Val)	 W Tryptophan (Trp)	 Y Tyrosine (Tyr)