

## Human Genomic Controversies: Personal Genomics

Situation 1:

1) How do you feel about this information?

2) Who would you share this information with?

3) Would this information change the way you lived?

## Human Genomic Controversies: Human Reproduction

Should we decide which traits are screened for and which are not? How would you decide?

### Terminology

**Sequence:** The order of DNA nucleotides.

**Transcribe:** Take genomic DNA and turn it into mRNA. The nucleotide T is replaced with U.

**Translate:** Taking mRNA and turning it into an amino acid sequence.

**THANKS FOR COMING!!!!**

# MSL OUTREACH GENOMICS

GRADE. 9 FIELD TRIP

Name: \_\_\_\_\_

<http://www.biotech.ubc.ca/>



# PHYSICAL AND CHEMICAL PROPERTIES OF DNA!

# THE INFORMATION IN DNA!

Write out your gene sequence.

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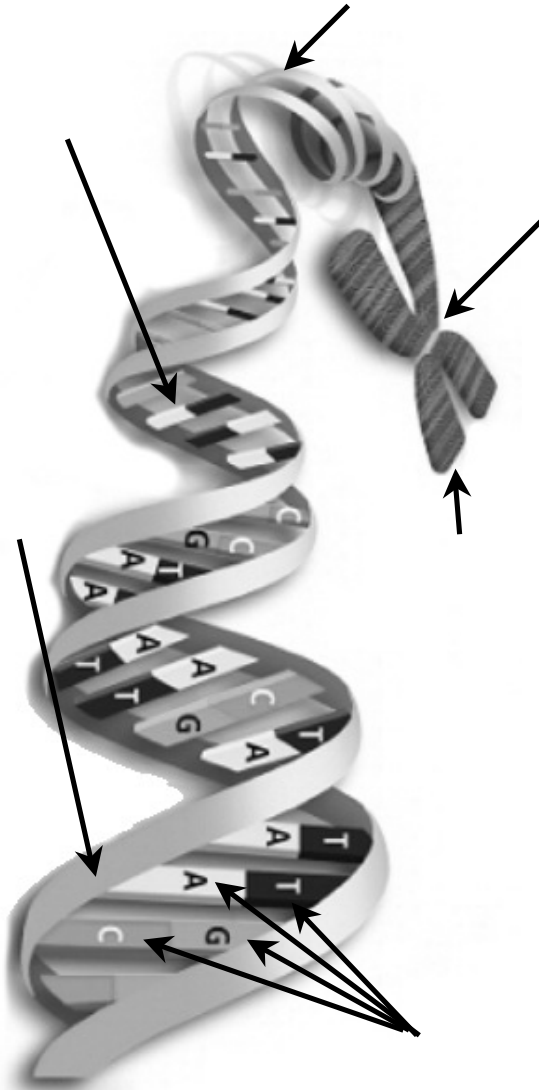


Transcribe your sequence.



Using the table below translate your sequence.

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Name the ingredients used to extract DNA!

1. \_\_\_\_\_
2. \_\_\_\_\_
3. \_\_\_\_\_

		Second base				
		U	C	A	G	
First base	U	UUU] Phenylalanine <b>F</b> UUC] Phenylalanine <b>F</b> UUA] Leucine <b>L</b> UUG] Leucine <b>L</b>	UCU] Serine <b>S</b> UCC] Serine <b>S</b> UCA] Serine <b>S</b> UCG] Serine <b>S</b>	UAU] Tyrosine <b>Y</b> UAC] Tyrosine <b>Y</b> UAA] Stop codon UAG] Stop codon	UGU] Cysteine <b>C</b> UGC] Cysteine <b>C</b> UGA] Stop codon UGG] Tryptophan <b>W</b>	U C A G
	C	CUU] Leucine <b>L</b> CUC] Leucine <b>L</b> CUA] Leucine <b>L</b> CUG] Leucine <b>L</b>	CCU] Proline <b>P</b> CCC] Proline <b>P</b> CCA] Proline <b>P</b> CCG] Proline <b>P</b>	CAU] Histidine <b>H</b> CAC] Histidine <b>H</b> CAA] Glutamine <b>Q</b> CAG] Glutamine <b>Q</b>	CGU] Arginine <b>R</b> CGC] Arginine <b>R</b> CGA] Arginine <b>R</b> CGG] Arginine <b>R</b>	U C A G
	A	AUU] Isoleucine <b>I</b> AUC] Isoleucine <b>I</b> AUA] Isoleucine <b>I</b> AUG] Methionine start codon <b>M</b>	ACU] Threonine <b>T</b> ACC] Threonine <b>T</b> ACA] Threonine <b>T</b> ACG] Threonine <b>T</b>	AAU] Asparagine <b>N</b> AAC] Asparagine <b>N</b> AAA] Lysine <b>K</b> AAG] Lysine <b>K</b>	AGU] Serine <b>S</b> AGC] Serine <b>S</b> AGA] Arginine <b>R</b> AGG] Arginine <b>R</b>	U C A G
	G	GUU] Valine <b>V</b> GUC] Valine <b>V</b> GUA] Valine <b>V</b> GUG] Valine <b>V</b>	GCU] Alanine <b>A</b> GCC] Alanine <b>A</b> GCA] Alanine <b>A</b> GCG] Alanine <b>A</b>	GAU] Aspartic acid <b>D</b> GAC] Aspartic acid <b>D</b> GAA] Glutamic acid <b>E</b> GAG] Glutamic acid <b>E</b>	GGU] Glycine <b>G</b> GGC] Glycine <b>G</b> GGA] Glycine <b>G</b> GGG] Glycine <b>G</b>	U C A G

# HUMAN GENOME PROJECT

What is a genome?

What is DNA sequencing?

Has the human genome been sequenced?