Vocabulary

- Protein Synthesis
- Transcription
- DNA
- Messenger RNA (mRNA)
- RNA
- RNA Polymerase
- Codon
- Translation
- Polypeptide
- Transfer RNA (tRNA)
- Anticodon

Protein Synthesis

1. Describe the process of transcription, its machinery, and end products. Use vocabulary terms in your description.

2. Describe the process of translation, its machinery, and end products. Use vocabulary terms in your description.

3. How do genes direct the production of proteins?

4. For the mRNA sequence shown:

    - Write the corresponding DNA sequence from which the mRNA was made above the mRNA.
    - Use the codon/amino acid chart to determine the amino acid sequence encoded by this mRNA sequence.

DNA:

mRNA: AUG – UUU – CGC – GUG – CCC – CCG – CAC – UCG – AAA – GAC - UAA

Amino acid sequence:

First Base	Second Base: U	Second Base: C	Second Base: A	Second Base: G	Third Base
U	Phenylalanine	Serine	Tyrosine	Cysteine	U
	Phenylalanine	Serine	Tyrosine	Cysteine	C
	Leucine	Serine	Stop	Stop	A
	Leucine	Serine	Stop	Tryptophan	G
C	Leucine	Proline	Histidine	Arginine	U
	Leucine	Proline	Histidine	Arginine	C
	Leucine	Proline	Glutamine	Arginine	A
	Leucine	Proline	Glutamine	Arginine	G
A	Isoleucine	Threonine	Asparagine	Serine	U
	Isoleucine	Threonine	Asparagine	Serine	C
	Isoleucine	Threonine	Lysine	Arginine	A
	Methionine	Threonine	Lysine	Arginine	G
G	Valine	Alanine	Aspartic Acid	Glycine	U
	Valine	Alanine	Aspartic Acid	Glycine	C
	Valine	Alanine	Glutamic Acid	Glycine	A
	Valine	Alanine	Glutamic Acid	Glycine	G