PROTEIN SYNTHESIS and MUTATIONS Review Sheet
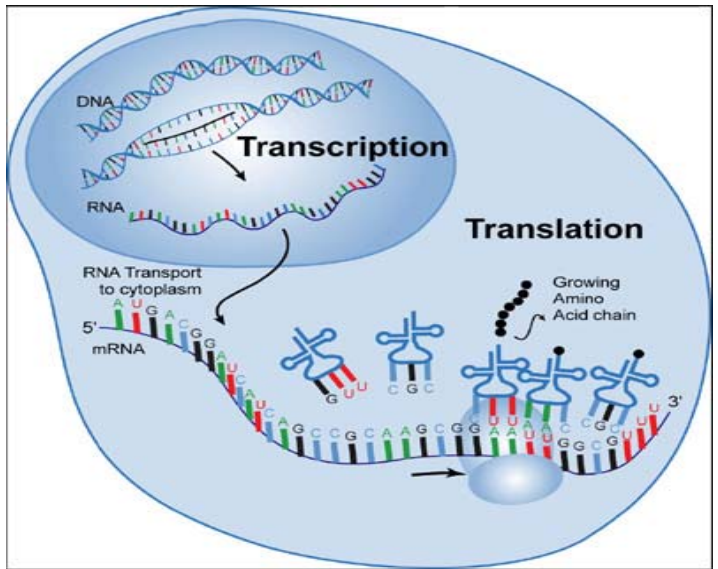
Answer the following questions about transcription and translation.

1. What is the source code of transcription?

    _____

2. What nucleotide base is part of the product of transcription that is not a part of DNA? What does it replace in DNA?

    _____

3. Complete the following table about transcription and translation.

Transcription		Translation
	Where does it occur?	
	What is the product of this process?	
	What carries out this process?	
	What must match in order for the process to work?	
	What happens to the product when the process is finished?	

4. Why are transcription and translation two separate but necessary steps for protein synthesis? In other words, why can't the DNA code be read and translated directly?

    _____

    _____

Complete the following table about chromosomal mutations.

Mutation	Description	Drawing
Deletion		
Duplication		
Inversion		
Translocation		
Nondisjunction		

Complete the following table, referring to the original gene sequence below. Use the codon chart in your notes to help.
Original gene sequence: TAC – CAA – TGT – ATC

New Gene Sequence	Translated Protein Sequence	Type of Mutation	How is the expressed protein affected?
TAC – CAA – TGA – ATC			
TAC – CAA – AGT – ATC			
TAC – CAA – TGT – AAT – C			
TAC – CAA – TGA – TC			
TAC – CAA – ATC			
TAC – CAA – TGT – ATC – GGG – CCC - ATC			