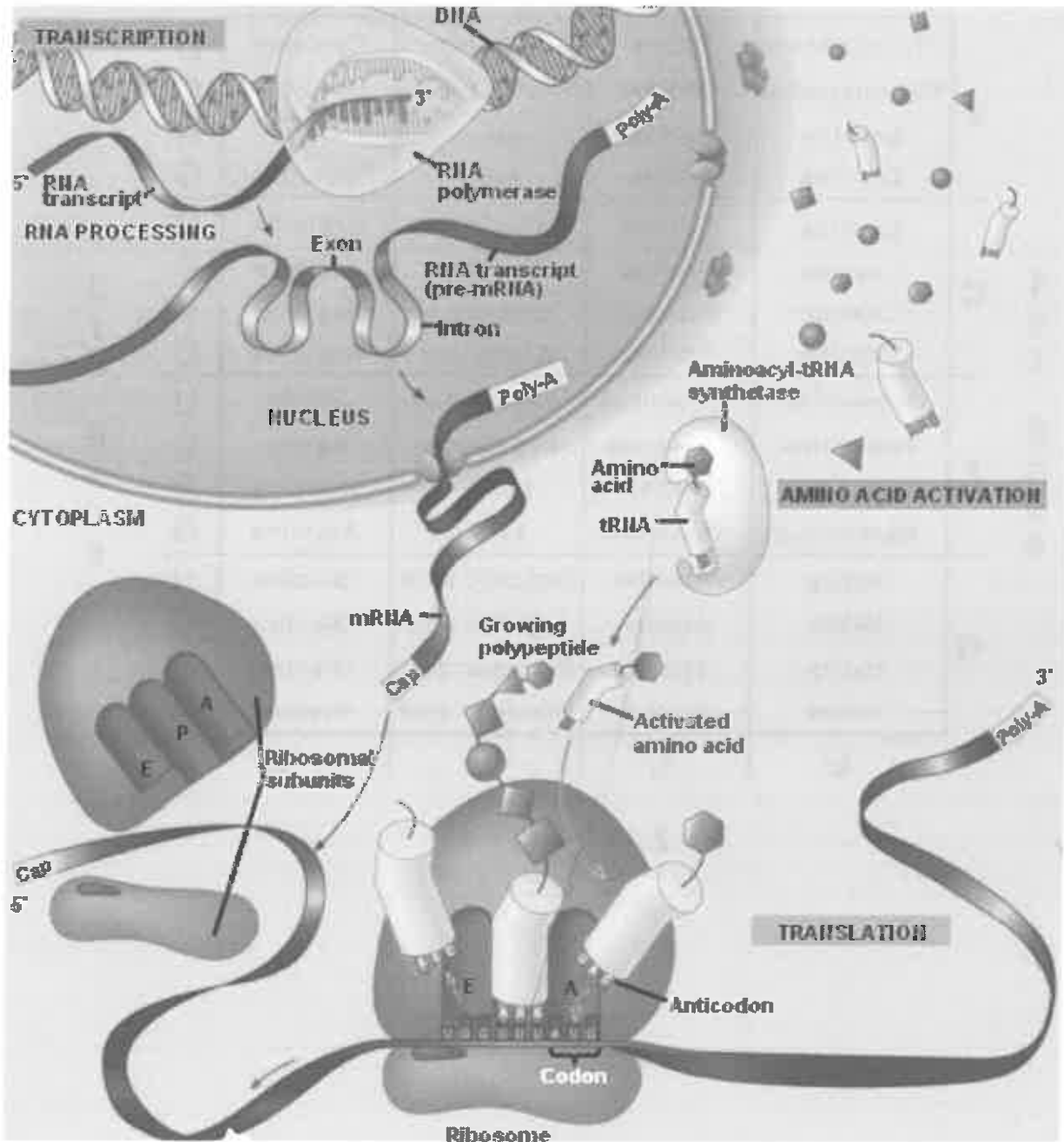


Name: Answer Key

Date: \_\_\_\_\_

### Translation Worksheet



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

Date: \_\_\_\_\_

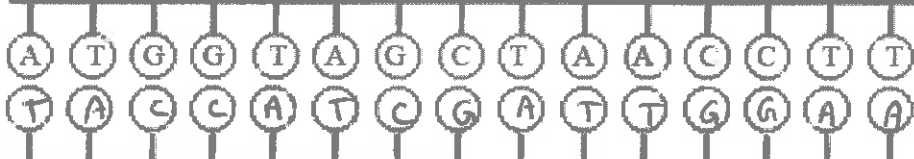
### CODON TABLE

1 s t  B a s e	U	Phenylalanine	Serine	Tyrosine	Cysteine	U C A G
		Phenylalanine	Serine	Tyrosine	Cysteine	
		Leucine	Serine	Stop	Stop	
		Leucine	Serine	Stop	Tryptophan	
	C	Leucine	Proline	Histidine	Arginine	U C A G
		Leucine	Proline	Histidine	Arginine	
		Leucine	Proline	Glutamine	Arginine	
		Leucine	Proline	Glutamine	Arginine	
	A	Isoleucine	Threonine	Asparagine	Serine	U C A G
		Isoleucine	Threonine	Asparagine	Serine	
		Isoleucine	Threonine	Lysine	Arginine	
		Methionine	Threonine	Lysine	Arginine	
	G	Valine	Alanine	Aspartic acid	Glycine	U C A G
		Valine	Alanine	Aspartic acid	Glycine	
		Valine	Alanine	Glutamic acid	Glycine	
		Valine	Alanine	Glutamic acid	Glycine	
		U	C	A	G	
2nd Base						

## Protein Synthesis Worksheet

**Directions:**

- 1<sup>st</sup> Fill in the complimentary DNA strand using DNA base pairing rules.
- 2<sup>nd</sup> Fill in the correct mRNA bases by transcribing the bottom DNA code.
- 3<sup>rd</sup> Translate the mRNA codons and find the correct amino acid using the Codon Table
- 4<sup>th</sup> Write in the amino acid and the correct anti-codon the tRNA molecule.
- 5<sup>th</sup> The answer to the questions about protein synthesis below the amino acids.

1.  **DNA**

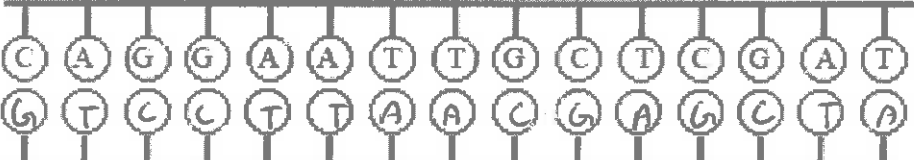
2.  **mRNA**

3.  **tRNA**

4.  **Amino Acids**

5. mRNA is synthesized in translation or transcription?

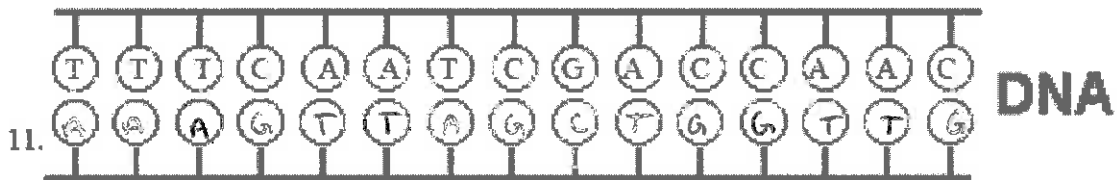
6. mRNA has codon or anti-codons?

7.  **DNA**

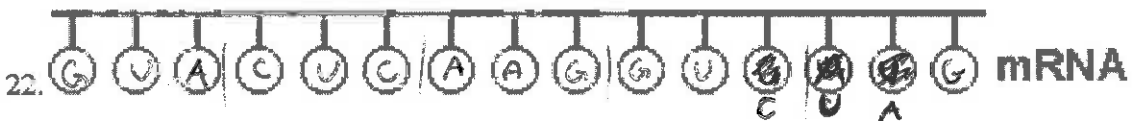
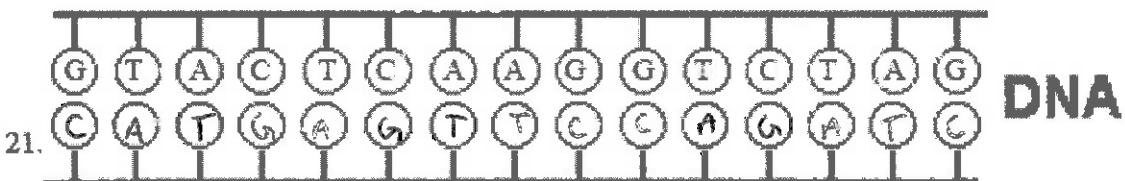
8.  **mRNA**

9.  **tRNA**

10.  **Amino Acids**



15. 1 or 3 codons equal one amino acid?
16. tRNA brings amino acids to the nucleus or ribosome?
17. A polypeptide is a sequence of proteins or amino acids?
18. tRNA has codons or anti-codons?
19. tRNA transfers amino acids during translation or transcription?
20. Ribosomes are the site where translation or transcription takes place?



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

Date: \_\_\_\_\_

DNA Code Worksheet

Amino Acid	DNA code	mRNA code	tRNA code
Alanine	1. <u>CGA</u>	GCU	2. <u>CGA</u>
Arginine	3. <u>GCT</u>	4. <u>CGA</u>	GCU
Asparagine	5. <u>TTG</u>	AAC	6. <u>VUG</u>
Aspartic acid	CTG	7. <u>GAC</u>	8. <u>CVG</u>
Cysteine	9. <u>ACA</u>	UGU	10. <u>ACA</u>
Glutamic acid	CTC	11. <u>GAG</u>	12. <u>CVG</u>
Glutamine	13. <u>GTC</u>	CAG	14. <u>GUC</u>
Glycine	15. <u>CCC</u>	16. <u>GGG</u>	CCC
Histidine	GTA	CAU	17. <u>GUA</u>
Isoleucine	18. <u>TAA</u>	AUU	19. <u>UAA</u>
Leucine	20. <u>GAA</u>	21. <u>CUU</u>	GAA
Lysine	TTT	AAA	20. <u>VUU</u>
Methionine	23. <u>TAC</u>	AUG	24. <u>UAC</u>
Phenylalanine	AAG	25. <u>UUC</u>	26. <u>AAG</u>
Proline	GGT	27. <u>CCA</u>	28. <u>GGU</u>
Serine	29. <u>AGT</u>	UCA	30. <u>AGU</u>
Threonine	31. <u>TGT</u>	32. <u>ACA</u>	UGU
Tryptophane	33. <u>ACC</u>	UGG	ACC
Tyrosine	ATG	34. <u>UAC</u>	35. <u>AUG</u>
Valine	CAC	36. <u>GUG</u>	CAC

