

## Protein Synthesis Practice

*Directions:*

- Use the DNA sequence to create your mRNA codons.
- Use the mRNA codons to create your tRNA anticodons.
- Use the mRNA codons and a Codon Chart to determine your amino acid sequence.
- Answer any questions by selecting the correct answer.

1.

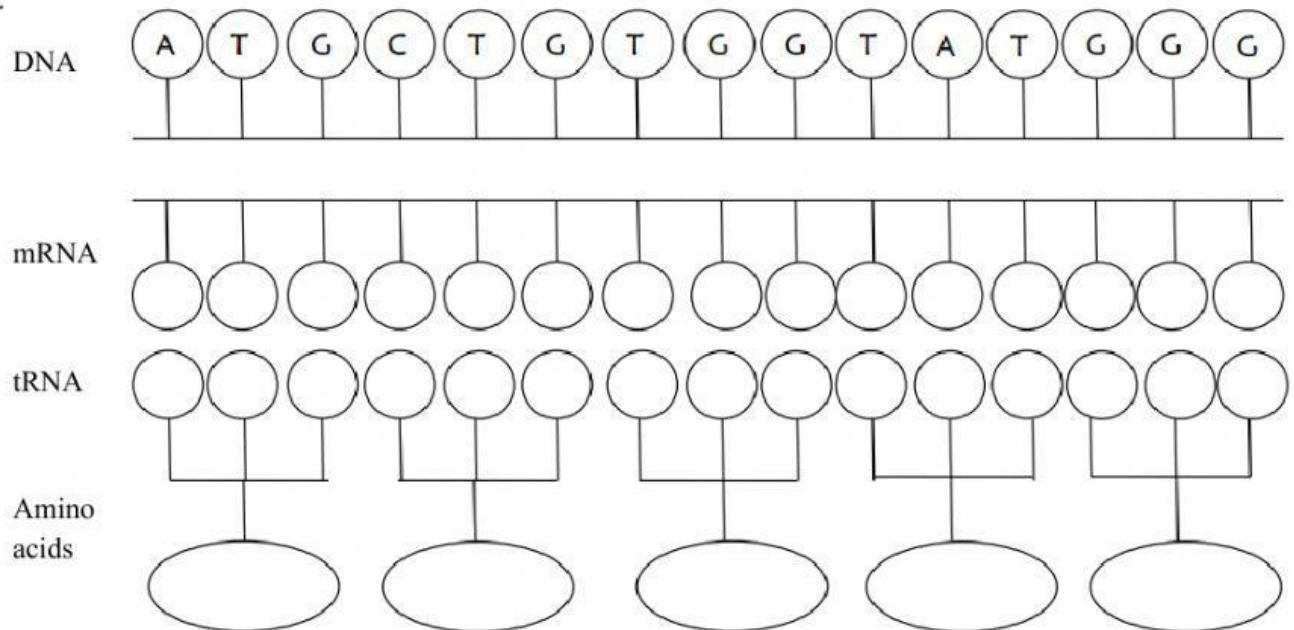
DNA	<div style="display: flex; justify-content: space-around;"> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; text-align: center; line-height: 30px;">T</div> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; text-align: center; line-height: 30px;">C</div> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; text-align: center; line-height: 30px;">C</div> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; text-align: center; line-height: 30px;">G</div> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; text-align: center; line-height: 30px;">C</div> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; text-align: center; line-height: 30px;">G</div> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; text-align: center; line-height: 30px;">C</div> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; text-align: center; line-height: 30px;">A</div> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; text-align: center; line-height: 30px;">G</div> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; text-align: center; line-height: 30px;">A</div> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; text-align: center; line-height: 30px;">G</div> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; text-align: center; line-height: 30px;">C</div> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; text-align: center; line-height: 30px;">T</div> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; text-align: center; line-height: 30px;">A</div> <div style="border: 1px solid black; border-radius: 50%; width: 30px; height: 30px; text-align: center; line-height: 30px;">G</div> </div>
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mRNA	
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Amino acids	<div style="display: flex; justify-content: space-around; height: 60px;"> <div style="width: 100px; height: 60px; border: 1px solid black; border-radius: 50%;"></div> <div style="width: 100px; height: 60px; border: 1px solid black; border-radius: 50%;"></div> <div style="width: 100px; height: 60px; border: 1px solid black; border-radius: 50%;"></div> <div style="width: 100px; height: 60px; border: 1px solid black; border-radius: 50%;"></div> <div style="width: 100px; height: 60px; border: 1px solid black; border-radius: 50%;"></div> </div>

2. mRNA is made during (transcription/translation).
3. mRNA is made in the (cytoplasm/nucleus).

4.

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5. DNA is located in the (nucleus/cytoplasm).
6. (mRNA/rRNA) is used to carry the genetic code from DNA to the ribosomes.
7. (tRNA/rRNA) makes up the ribosome.
8. (DNA/RNA) uses uracil instead of thymine.
9. (RNA/amino acids) make up a protein.
- 10.



11. Transcription takes place in the (nucleus/cytoplasm).
12. tRNA is used in (translation/transcription).
13. tRNA uses (anticodons/codons) to match to the mRNA.
14. Proteins are made at the (nucleus/ribosome).
15. (tRNA/mRNA) attaches the amino acids into a chain.
16. tRNA is found in the (nucleus/cytoplasm).
17. (Translation/Transcription) converts mRNA into a protein.
18. Translation takes place in the (cytoplasm/nucleus).
19. (DNA/RNA) can leave the nucleus.
20. (Translation/Transcription) converts DNA into mRNA.