

## CHAPTER 14: From DNA to Protein

1. What was Beadle and Tatum's hypothesis regarding enzymes?

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2. How has that hypothesis been modified?

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3. What occurs during transcription?

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4. What occurs during translation?

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5. List the highlights of the three stages of **transcription**.

a. initiation \_\_\_\_\_

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b. elongation \_\_\_\_\_

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c. termination \_\_\_\_\_

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6. What happens to the transcript RNA before it leaves the nucleus in eukaryotes?

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7. What is the genetic code and why is said to be universal?

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8. List several features about the genetic code.

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9. Briefly explain how Marshall Nirenberg and Heinrich Matthaei "cracked the genetic code?"

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10. Identify the roles of the players of the translation process.

- tRNA – \_\_\_\_\_

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- ribosomes – \_\_\_\_\_

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11. List the highlights of the three stages of **translation**.

a. initiation \_\_\_\_\_

b. elongation \_\_\_\_\_

c. termination \_\_\_\_\_

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12. How does protein synthesis differ between prokaryotes and eukaryotes?

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13. Use the diagram (and the lecture notes!) to trace the flow of chemical information from the gene to the protein product.

