

Directed Reading**Section: RNA and Gene Expression**

In the space provided, write the letter of the description that best matches the term or phrase.

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| _____ 1. ribonucleic acid (RNA) | a. the entire process by which genes are used to build proteins/traits. |
| _____ 2. uracil | b. a molecule made of linked nucleotides |
| _____ 3. transcription | c. the process of reading instructions on an RNA molecule to put together the amino acids that make up a protein |
| _____ 4. translation | d. the process of transferring a gene's instructions for making a protein to an RNA molecule |
| _____ 5. gene expression | e. a nitrogenous base used in RNA instead of the base thymine found in DNA |

Complete each statement by underlining the correct term or phrase in the brackets.

- Transcription begins when [RNA / RNA polymerase] binds to the gene's promoter.
- RNA polymerase adds complementary [DNA / RNA] nucleotides as it "reads" the gene.
- In eukaryotes, transcription takes place in the [nucleus / cytoplasm].

Read each question, and write your answer in the space provided.

9. What are two differences between transcription and DNA replication?

10. What determines where on the DNA molecule transcription begins and where it ends?
