Name _____ Date _____

Molecular Genetics

Section 3 DNA, RNA, and Protein

Main Idea **Details**

Scan *the headings and boldfaced words for the section. Predict two things that you think might be discussed.*

1. _____

_____

2. _____

_____

Review Vocabulary

Use your book or dictionary to define synthesis.

synthesis

_____

_____

New Vocabulary

Write the correct term in the left column for each definition below.

_____ process in which RNA is synthesized from DNA

_____ a group of three nitrogenous bases in DNA or mRNA that code for one amino acid

_____ nucleic acid made of ribose, phosphate, and one of four nitrogenous bases—adenine, cytosine, guanine, or uracil

_____ intervening DNA sequences that are transcribed and then removed from the final mRNA

_____ process by which mRNA directs the synthesis of a protein

_____ long strands of RNA that are complementary to one strand of DNA

_____ protein coding sequences in DNA that are transcribed into mRNA and translated into protein

_____ small RNA molecules that transport amino acids to the ribosome

_____ an enzyme that catalyzes the synthesis of mRNA using a specific section of DNA as a template

_____ RNA molecules that make up part of the ribosome

Name _____ Date _____

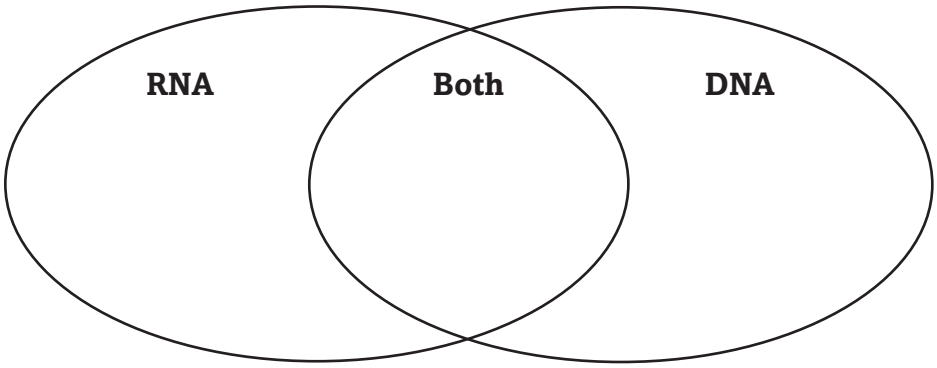
Section 3 DNA, RNA, and Protein (continued)

Main Idea | **Details**

Central Dogma

I found this information on page _____.

Compare and contrast *RNA and DNA by writing at least five characteristics of their structure and composition in the Venn diagram.*



State *the central dogma of biology.*

[ ] → codes for [ ] → directs the synthesis of [ ]

Compare *the function of each type of RNA molecule by completing the table.*

Type of RNA	Function
mRNA	
rRNA	
tRNA	

Sequence *the steps in transcription of RNA.*

Name _____ Date _____

Section 3 DNA, RNA, and Protein (continued)

Main Idea

The Code and One Gene—One Enzyme

I found this information on page _____.

Details

Identify *four examples of codons and state the instructions they encode.*

1. _____
2. _____
3. _____
4. _____

Model *the movement of tRNA molecules showing the translation process.*

State *the updated version of Beadle and Tatum's hypothesis.*

_____ codes for _____.

SUMMARIZE

Create a flow chart to describe the formation of a protein. Describe the activities of DNA and the three types of RNA.