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

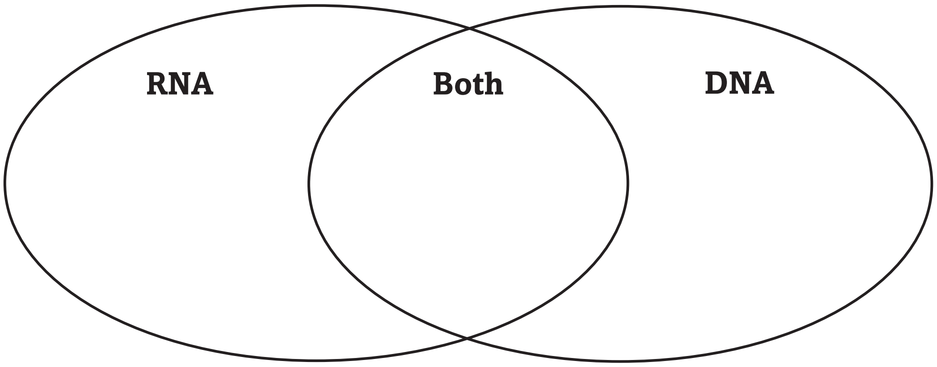
Main Idea

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 | **Details**

The Code and One Gene—One Enzyme

I found this information on page ________.

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.