Name _____ Date _____

Section 12.3 DNA, RNA, and Protein (continued)

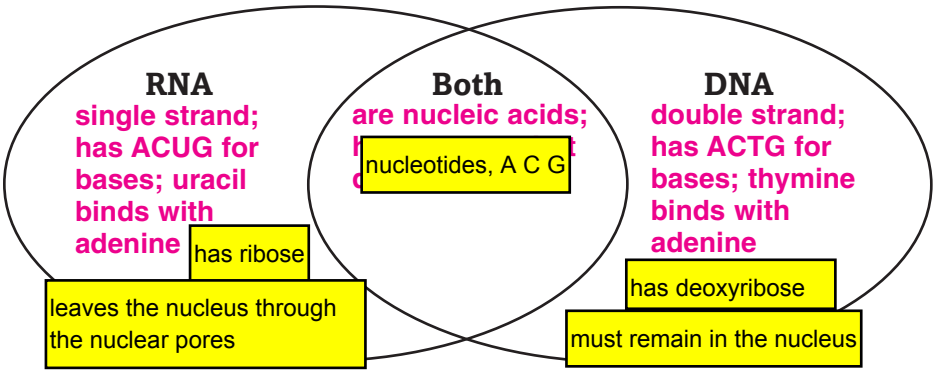
Main Idea — **Details**

Central Dogma

I found this information on page _____.

SE, pp. 336–337
RE, pp. 134–135

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



State *the central dogma of biology.*

"One gene makes one protein!"

DNA → codes for → mRNA → directs the synthesis of → amino acid chain / proteins / polypeptide / enzymes

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

Type of RNA	Function
mRNA messenger	carry genetic copy from the DNA in the nucleus to the cytoplasm to direct protein synthesis
rRNA ribosomal	form part of the ribosome
tRNA transfer	carry amino acids to the ribosome

Sequence *the steps in transcription of RNA.*

A portion of the DNA molecule unzips. → RNA polymerase joins RNA nucleotides using the DNA strand as a template. → The mRNA strand is released and the DNA strands rejoin. → The mRNA leaves the nucleus and enters the cytoplasm.

Name _____ Date _____

Section 12.3 DNA, RNA, and Protein (continued)

Main Idea

The Code, One Gene—One Enzyme

I found this information on page _____.

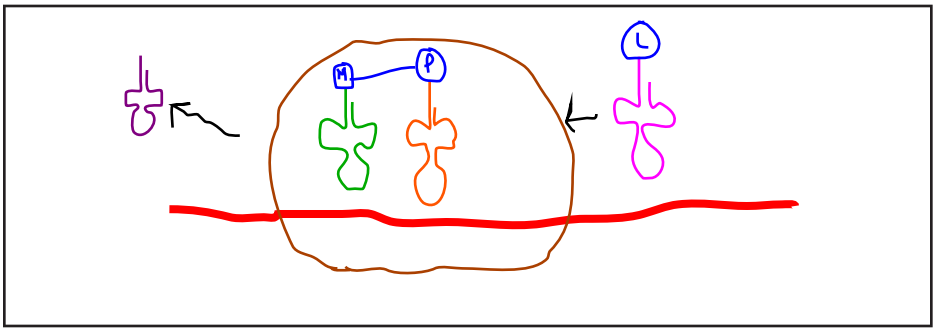
SE, pp. 338–341
RE, pp. 135–138

Details

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

1. (GCU) alanine
2. (AAA) lysine
3. (AUG) methionine, tells the ribosome that this is the start of the amino acid chain
4. (UAA) stop, tells ribosome that this is the end of the amino acid chain

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



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

One gene _____ codes for _____ one polypeptide _____.

SUMMARIZE

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

responses.