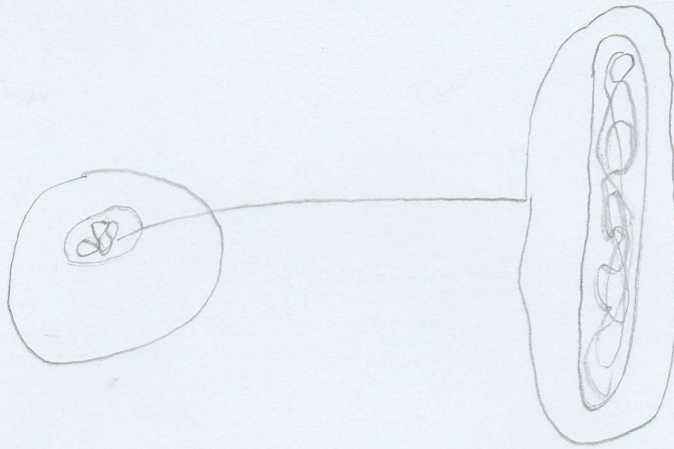


21/01/2021

Protein Synthesis

Key elements : DNA, RNA, Ribosomes, carrier molecule, complementary base pairs.

Step 1



DNA

A
A
T
G
C
G
G
A
T

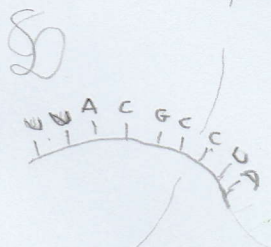
RNA

U
U
A
C
G
C
C
U
A

A gene is copied by the RNA, as this whole stage is copied in the nucleus. If the actual DNA left the nucleus it is at risk of being broken down by enzymes.

Step 2

Nucleus



mRNA

Cytoplasm

Ribosome

Cell membrane

The RNA leaves the Nucleus and then moves to the ribosomes in the cytoplasm.

Step 3

Diagram of a ribosome moving along an mRNA strand. The ribosome is shown as a green oval with a red dot inside. The mRNA strand has the sequence U U A C G C C U A U A. The ribosome is currently positioned over the U U A sequence.

amino acid

carrier molecule

Ribosome

In the cytoplasm, carrier molecules deliver an amino acid to the mRNA for every three bases. Once it is delivered, the ribosome attaches them together and then continues this moving across the strand.