

Replication:

- DNA is replicated

ACGTTATGGCCAATCGATTGC
 TGCAATACCGGTTAGCTAAGG

- Hydrogen bonds are broken by DNA Polymerase

ACGTTATGGCCAATCGATTGC
 TGCAATACCGGTTAGCTAAGG

TGCAATACCGGTTAGCTAAGG
 ACGTTATGGCCAATCGATTGC

green = original strand (DNA template)
 pink = new complementary strand

Separated
 2 identical DNA strands are created

DNA Polymerase
 brings in new nitrogen bases
 (ATCG)

Transcription:

- making mRNA from DNA template
- Gene

RNA Polymerase
 TGCAATAACCGGTAGCTAAGG
 ACGTTATGGCCAATCGATTGC

TGCAATAACCGGT
 ACGUUAUGGCCA

brings in RNA nitrogen bases
 A-U, C-G

detaches from DNA

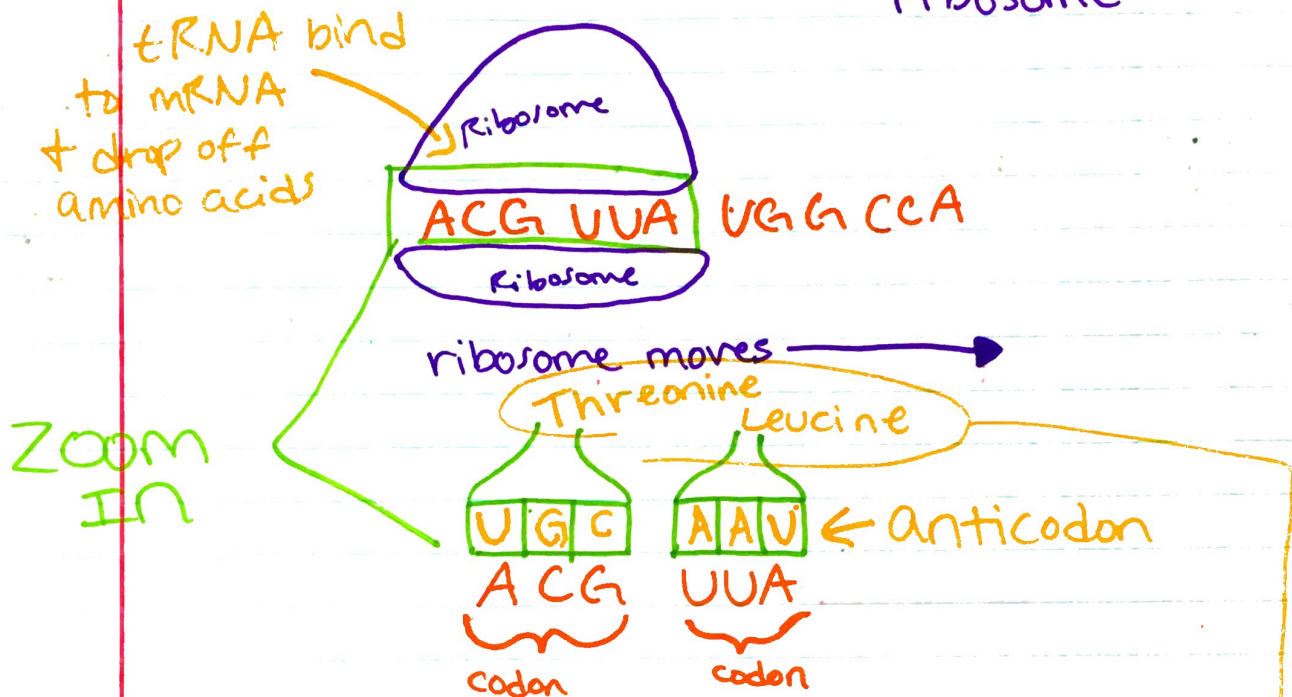
- mRNA = messenger RNA
- carries the message that a protein needs to be made

green = DNA template
 orange = mRNA

Translation:

- make a protein from mRNA

ACGUUAUGGCA → leave the nucleus and go to a ribosome



- tRNA = transfer RNA
 - transfers the message from mRNA into a protein made up of amino acids

Threonine — Leucine

- Peptide Bond: bond between amino acids in protein
- Polypeptide Chain: a chain of amino acids all bonded together
- ★ Protein: completed polypeptide chain.