

# Transcription (to re-write)

- creation of RNA (ribose-nucleic acid)

## Differences between DNA + RNA

<u>DNA</u>	<u>RNA</u>
1. deoxyribose	ribose - name
2. double stranded	single stranded
3. Thymine	Uracil
└──────────┘ partnered w/ Adenine	

## Main points

- only transcribe 1 section of DNA at a time
- replace thymine (T) with uracil (U)
- small segments → depending on needs of cell/body
- 3 types:
  - mRNA : messenger → makes proteins
  - tRNA : transfer → brings amino acid to protein chain
  - rRNA : ribosomal → makes up ribosomes

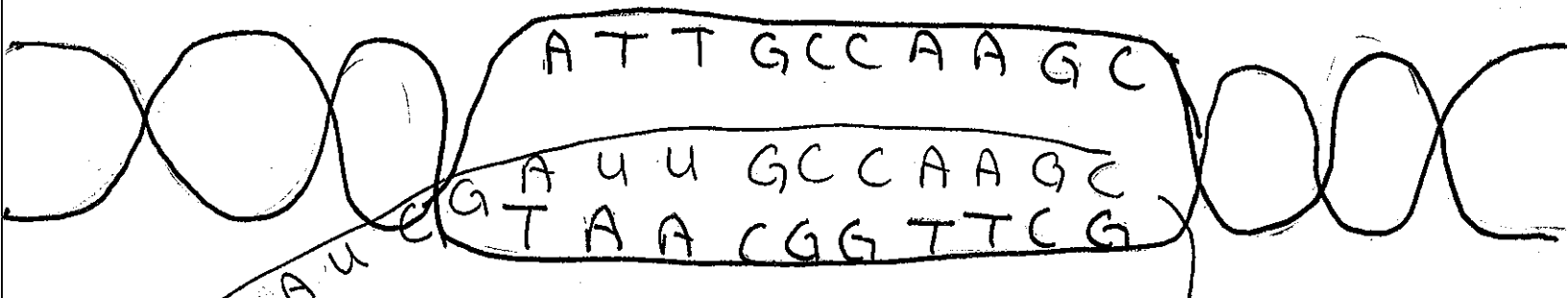
# Translation (change language)

- reading of mRNA to make proteins for cell use
- occurs in cytoplasm with ribosomes

## Rules:

1. Ribosome attaches to start of mRNA (AUG)
2. bases are read in threes (triplet codon) → codes for 1 amino acid
3. ribosome reads triplet codon → sends signal for correct tRNA (anti-codon → matches triplet codon) → tRNA brings correct amino acid
4. As ribosome moves down mRNA, each new tRNA accepts growing protein (polypeptide chain)
5. upon reading a STOP codon, ribosome releases mRNA + protein
  - mRNA may be read again or thrown away
  - protein moves on to its job

★ DNA codes for our traits (proteins) ★



Open segment of DNA → enzyme

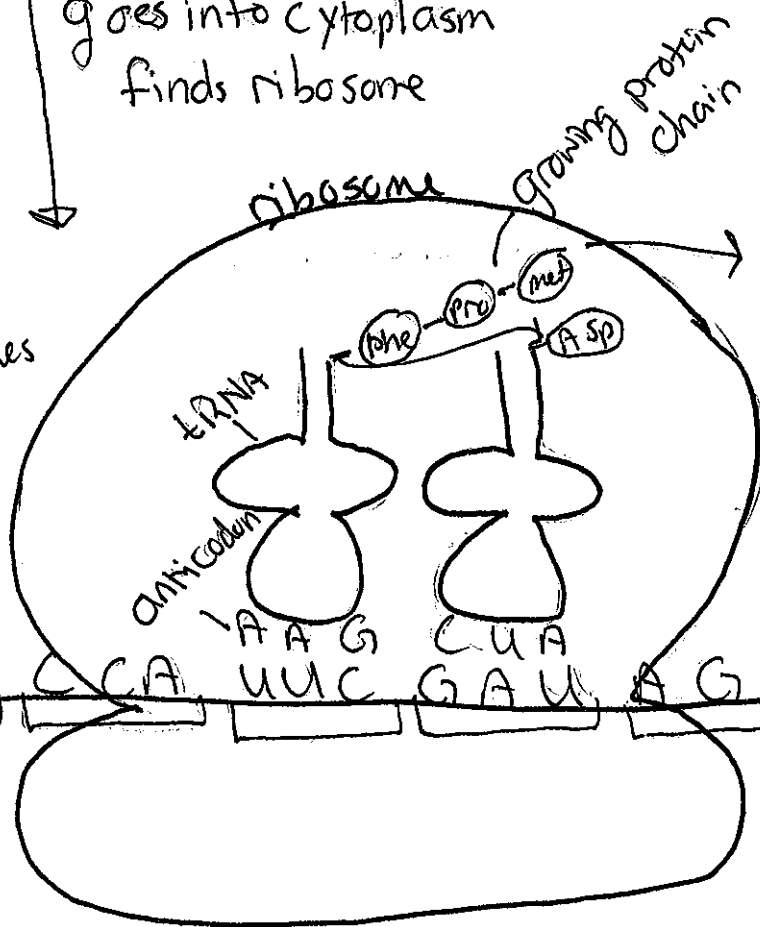
mRNA

Nucleus  
 goes into cytoplasm  
 finds ribosome

ribosome attaches at first codon

+ triplet codon

Codes for 1 amino acid



moves a long mRNA until hits stop

upon hitting stop protein released

1 mRNA can make multiple copies of a protein