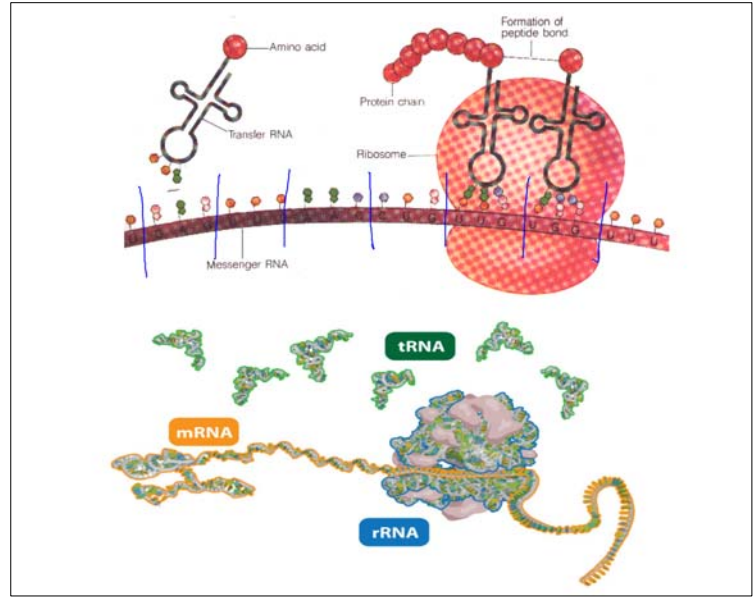
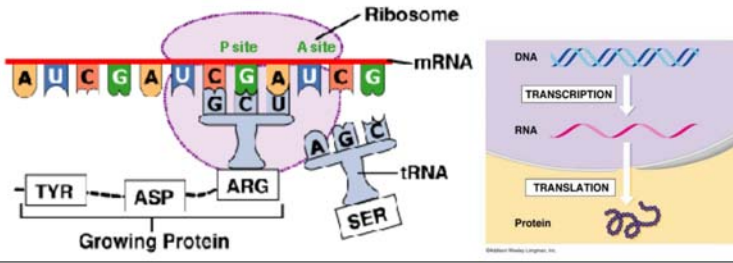


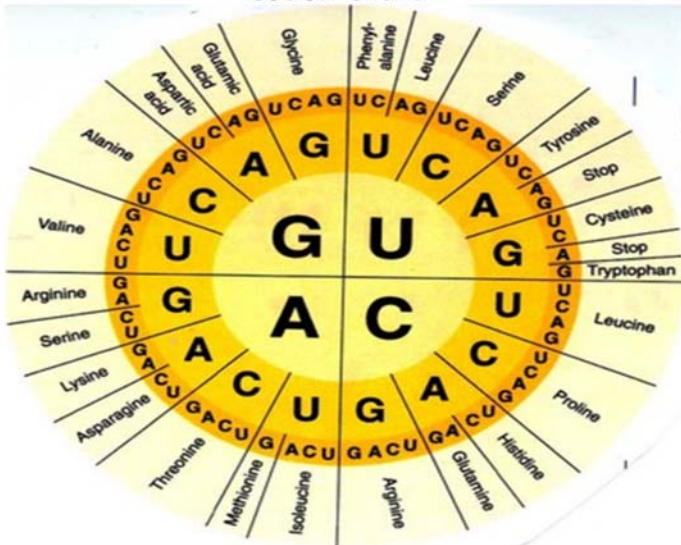
## TRANSLATION:

mature mRNA → Protein

- mRNA attaches to rRNA
  - every 3rd mRNA base = codon
- tRNA reads codons with anti-codons
  - tRNA carries amino acids
- tRNA transfers amino acid to ribosome



## Codon Chart:



## Transcription: DNA → mRNA (nucleus)

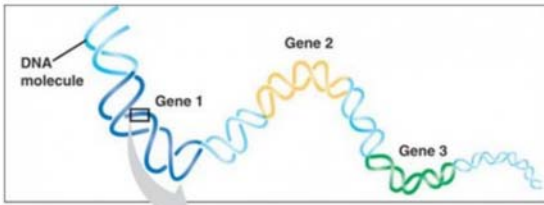


DNA: Exon 1 Intron 1 Exon 2 Intron 2 Exon 3  
 pre-mRNA: Exon 1 Intron 1 Exon 2 Intron 2 Exon 3  
 ↓ Splicing & 5' capping  
 mature mRNA: Exon 1 Exon 2 Exon 3

## Translation: mRNA → Protein (cytoplasm)



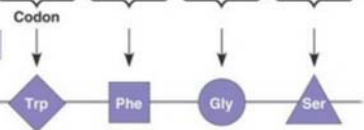
(strand)  
 Methionine-leucine-leucine-S  
 1. AA seq  
 2. 1D or helix or pleated sheet  
 3. 3-D (1 polypeptide)  
 4. 2+ polypeptides



DNA strand (template) 3' ACCAACAACCGAGT 5'

TRANSCRIPTION

mRNA 5' UGGUUGGCUCA 3'



Amino acid