

# Notes 2/18

**Cytosine** [C]

NC1=NC(=O)NC=C1

**Guanine** [G]

NC1=NC2=C(N1)C(=O)N=CN2

**Adenine** [A]

NC1=NC=NC2=C1N=CN2

**Uracil** [U]

O=C1NC=CC(=O)N1

replaces Thymine in RNA

**Nitrogenous Bases**

*one strand*  
AUGC's

**RNA**

Ribonucleic acid

*double strand*  
ATCG's

**DNA**

Deoxyribonucleic acid

**Cytosine** [C]

NC1=NC(=O)NC=C1

**Guanine** [G]

NC1=NC2=C(N1)C(=O)N=CN2

**Adenine** [A]

NC1=NC=NC2=C1N=CN2

**Thymine** [T]

CC1=CNC(=O)NC1=O

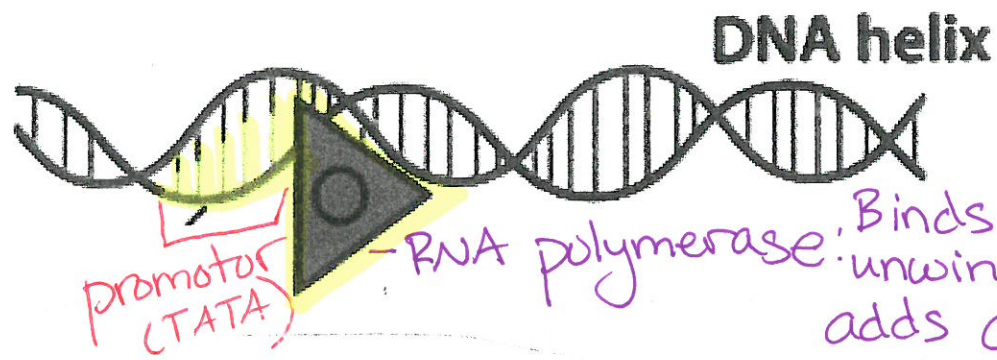
**Nitrogenous Bases**

RNA	DNA
single strand (helical)	double strand (helical)
Uracil	Thymine
Ribose sugar backbone	<u>Deoxyribose sugar</u>

Notes

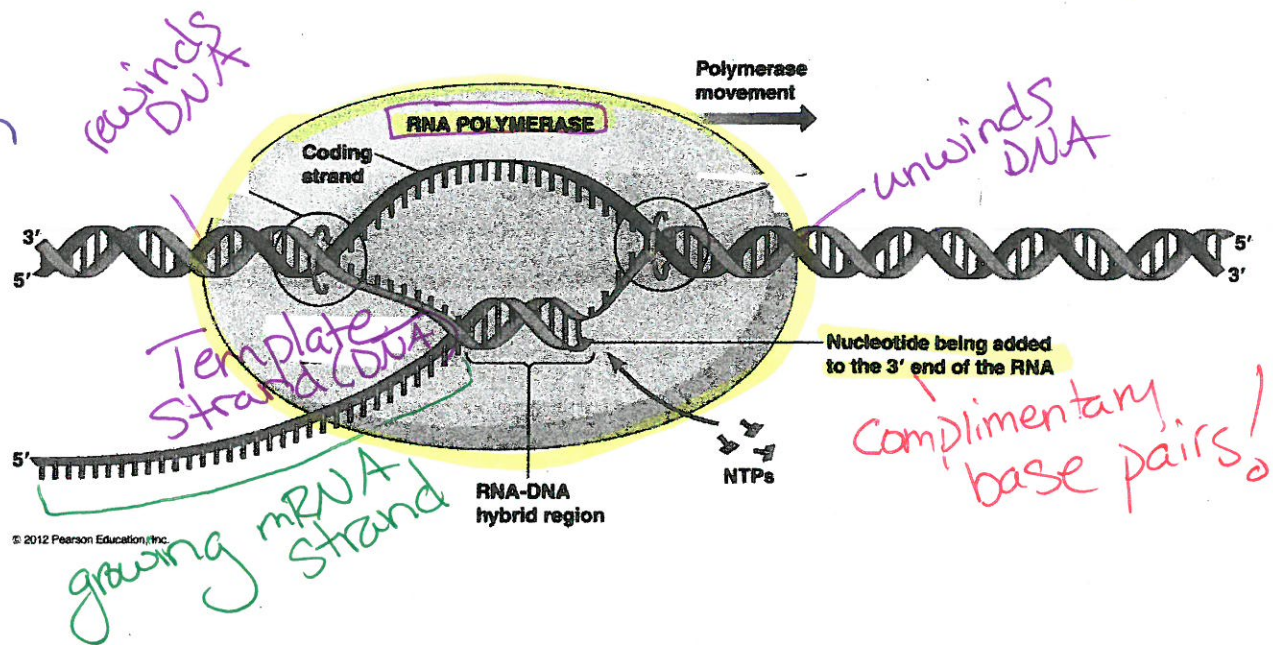
Transcription (occurs in the nucleus!)

Step 1:  
Initiation



Binds to promotor  
unwinds DNA  
adds complimentary  
base pairs

Step 2:  
Elongation

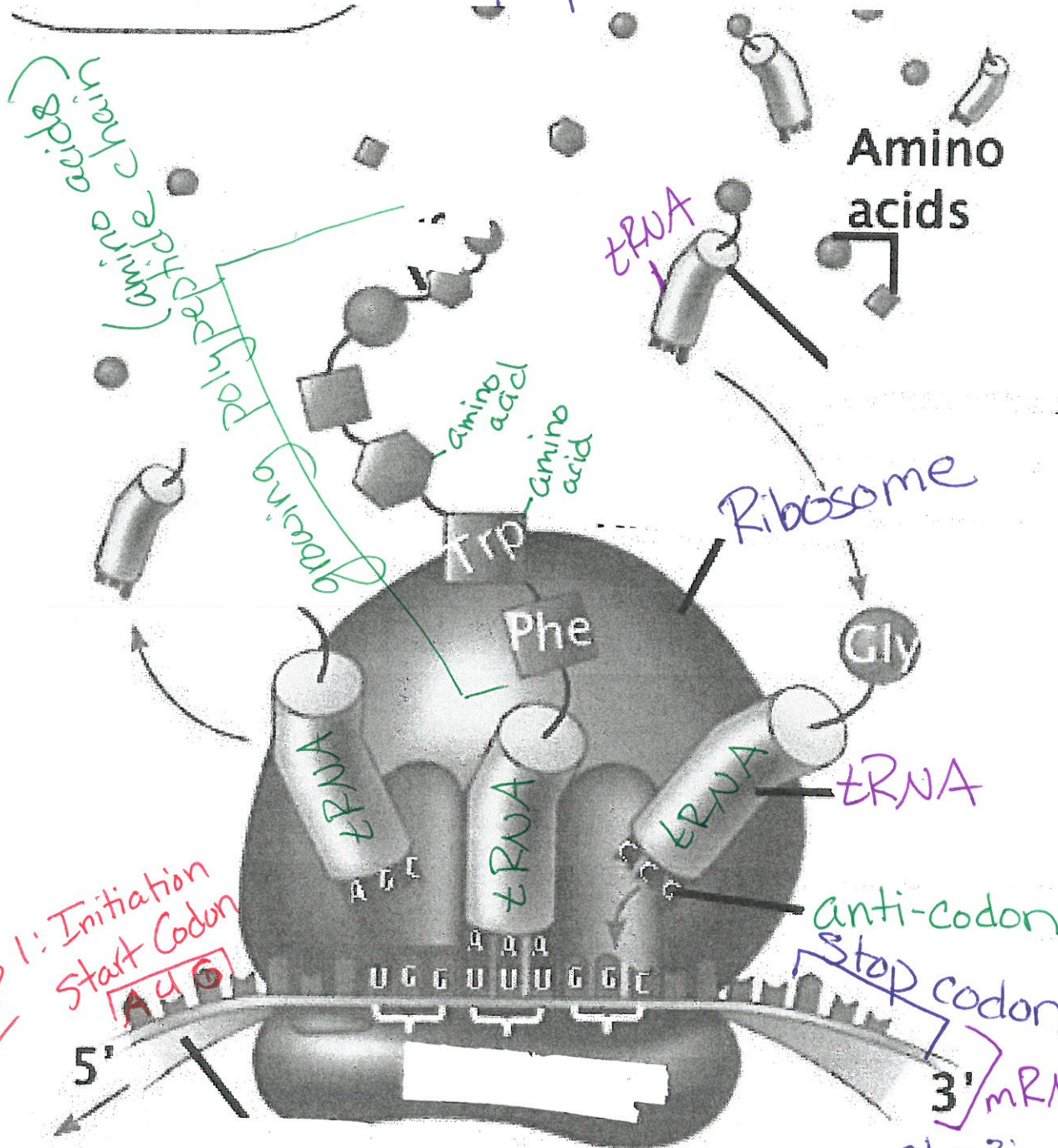


Step 3:  
Termination



Notes

# Translation: From RNA → Protein in cytoplasm



Step 1: Initiation  
Start Codon  
AUG

mRNA binds to ribosome

Step 2: Elongation  
→ tRNA adds correct amino acid to growing polypeptide chain  
↳ protein

Step 3: Termination  
→ at stop codon mRNA falls off + protein folds.

→ length of chain diff. for diff. proteins