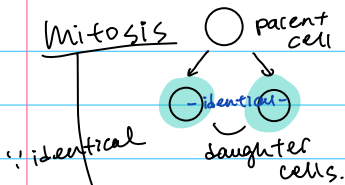


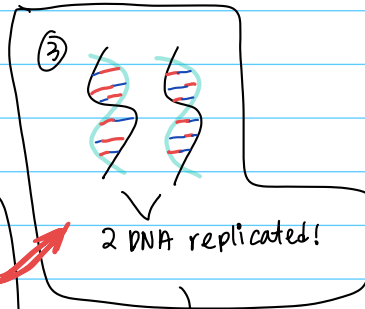
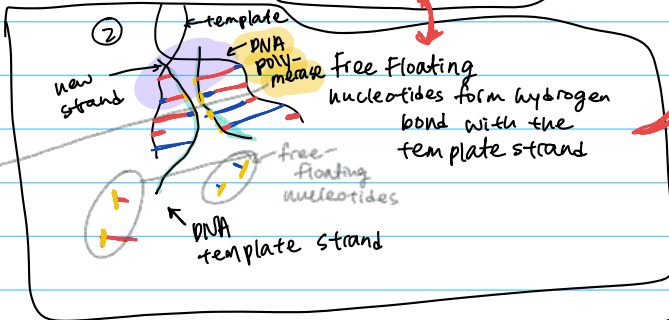
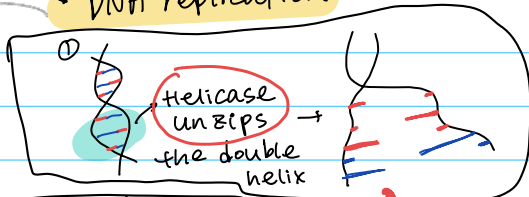
Protein synthesis

Topics

- ① DNA replication
- ② DNA → RNA → protein
- ③ Mutations → cancer



DNA replication

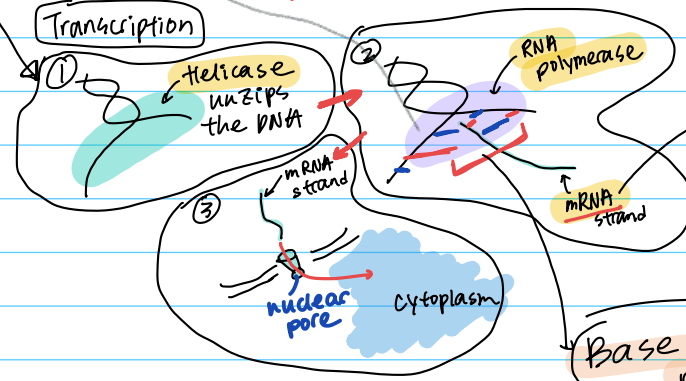
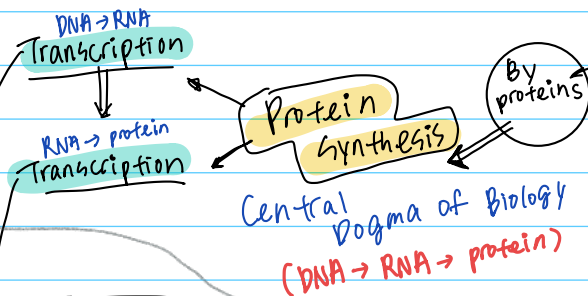


DNA replication
 → DNA is only a template
 → the enzymes are actually doing the work

In DNA replication / protein synthesis, DNA just works as templates

Enzymes are the ones doing the real copying work.

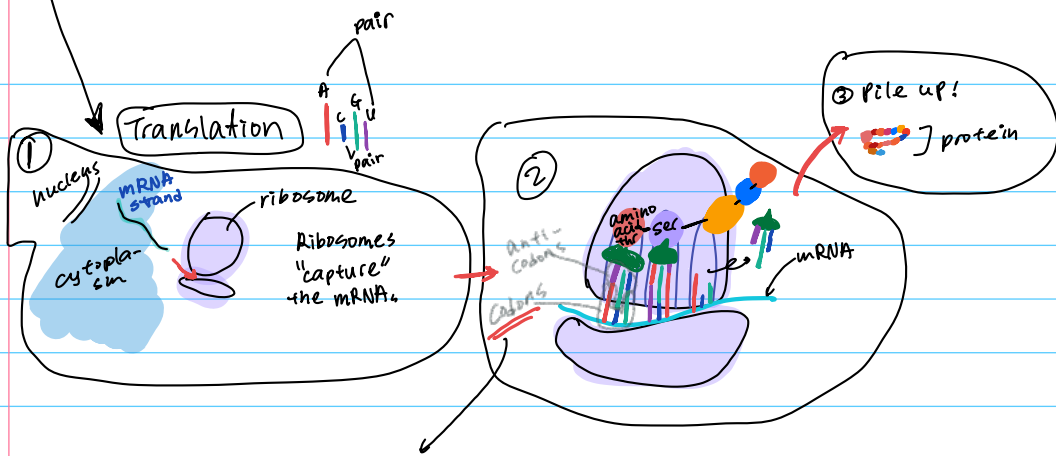
How do genetic information carry out of cells?



- 3 types of RNAs
- mRNA messenger RNA
 → carries genetic info from DNA out to cytoplasm
 - rRNA ribosomal RNA
 → make up the ribosomes
 - tRNA transfer RNA
 → transports amino acids out of the ribosome

Base pair rules

- DNA replication - A T G C / T A C G
- DNA → RNA - A T G C (DNA) / U A C G (RNA)



Codons

• universal codon chart

- ↳ in total 64 codons
- ↳ 17 amino acids