

Ch 14.1 & 14.2: RNA, Ribosomes & Protein Synthesis

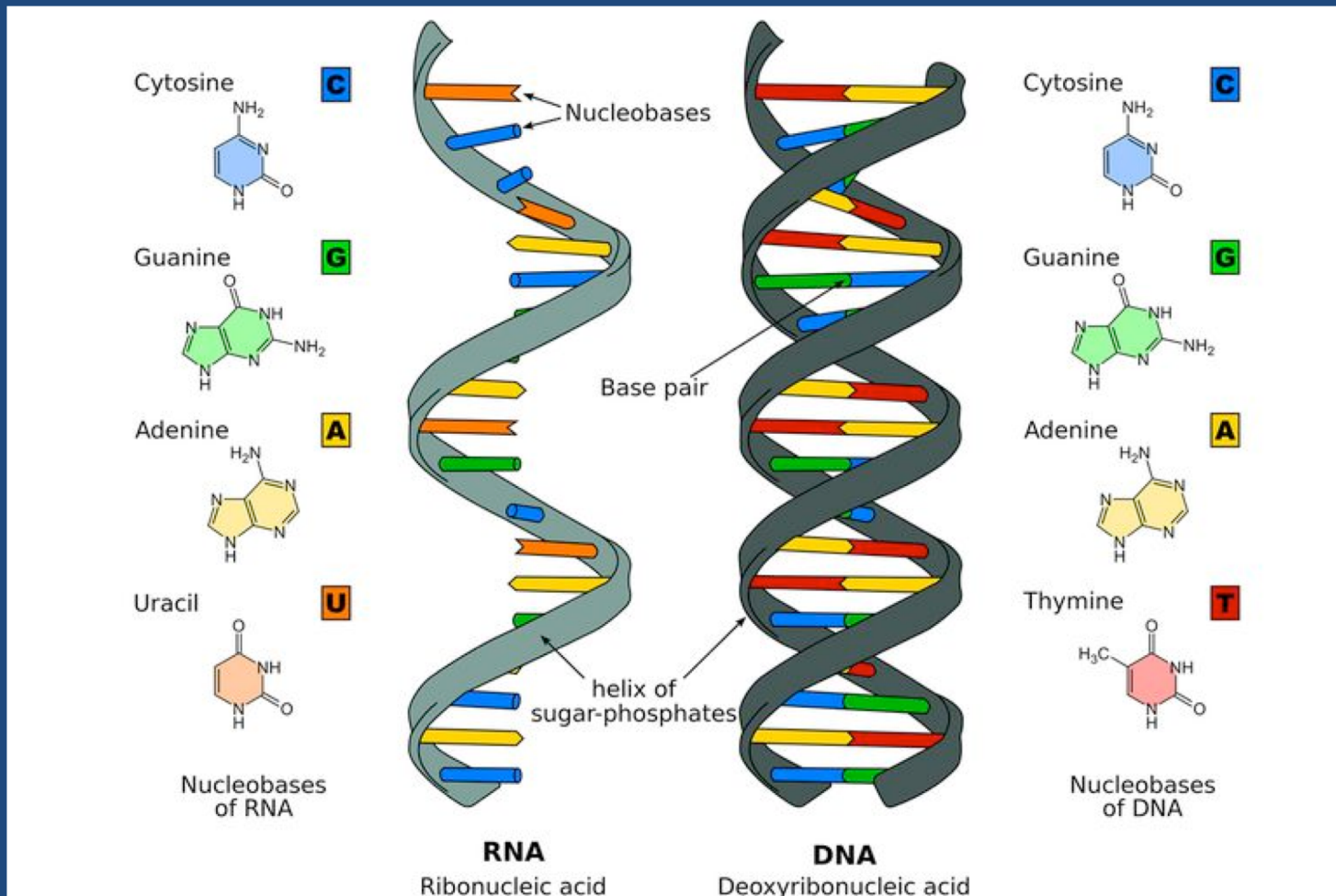
Essential Questions:

- How does RNA differ from DNA?
- How does the cell make RNA?
- How does the genetic code work?
- What role does the ribosome play in assembling proteins?
- How does molecular biology relate to genetics?

- RNA

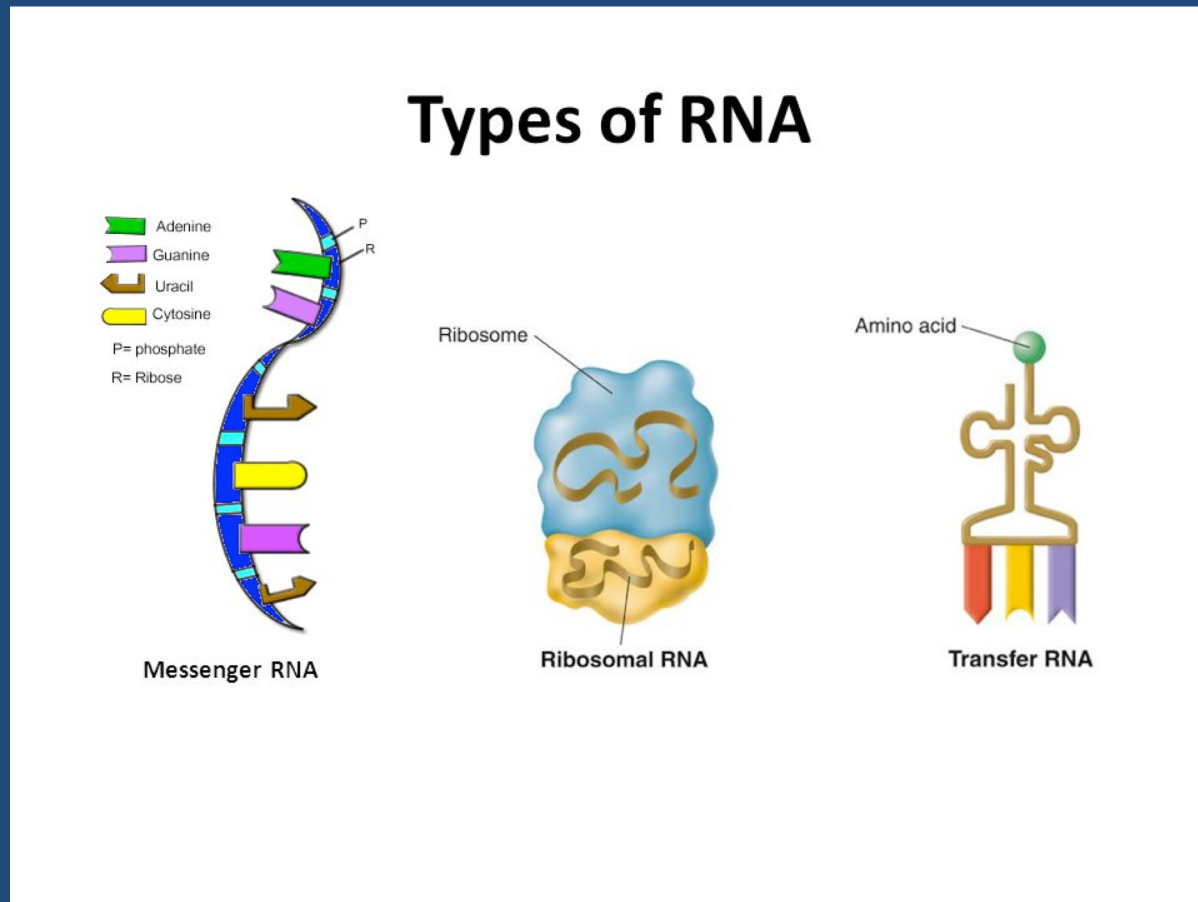
- The Role of RNA

- Comparing RNA & DNA



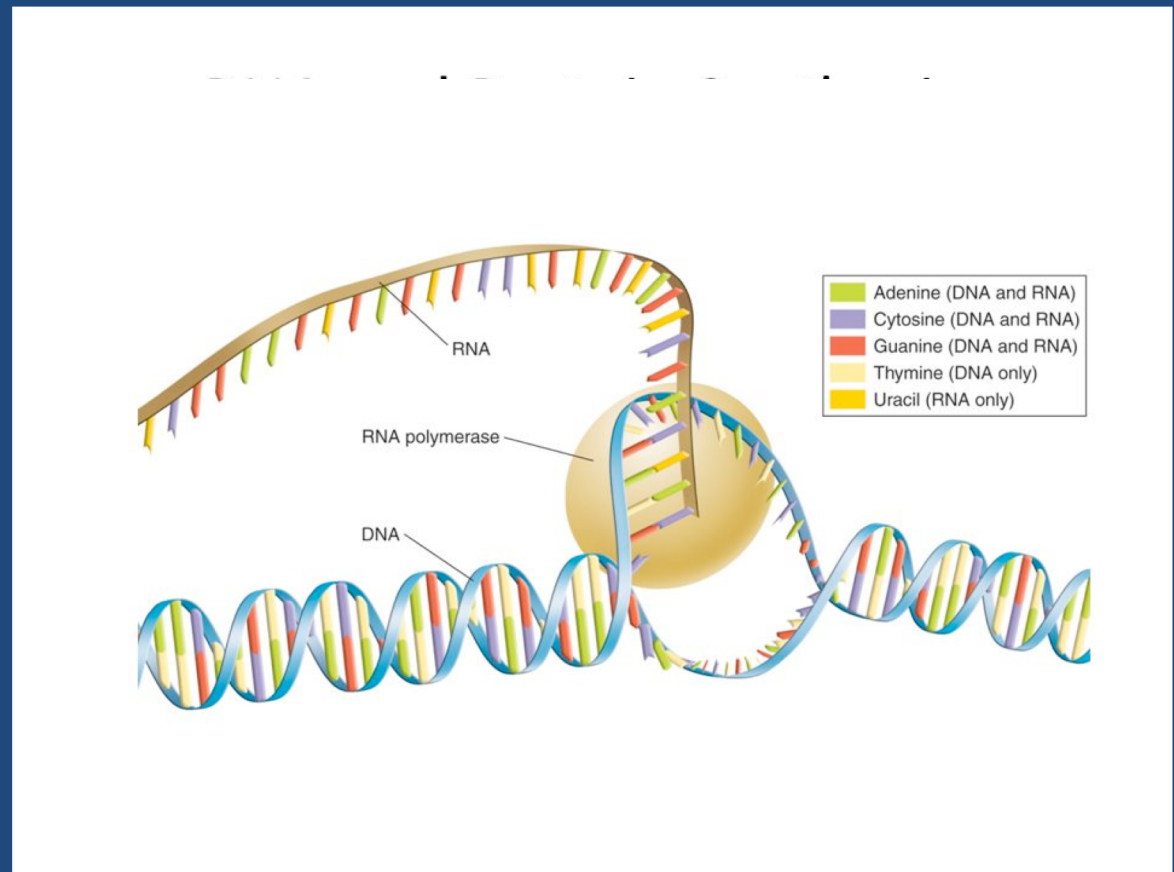
– 3 Main Types of RNA

- Messenger RNA (mRNA)
- Ribosomal RNA (rRNA)
- Transfer RNA (tRNA)



– RNA Synthesis

- Transcription
 - RNA polymerase
- Promoters
- RNA editing
 - Introns
 - Exons



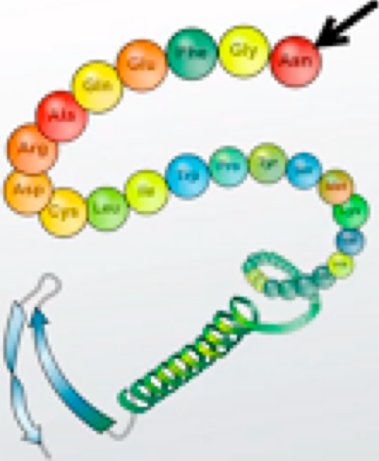
- Ribosomes & Protein Synthesis

- The Genetic Code

- Polypeptides
 - Genetic code
 - Codon

POLYPEPTIDES

amino acids



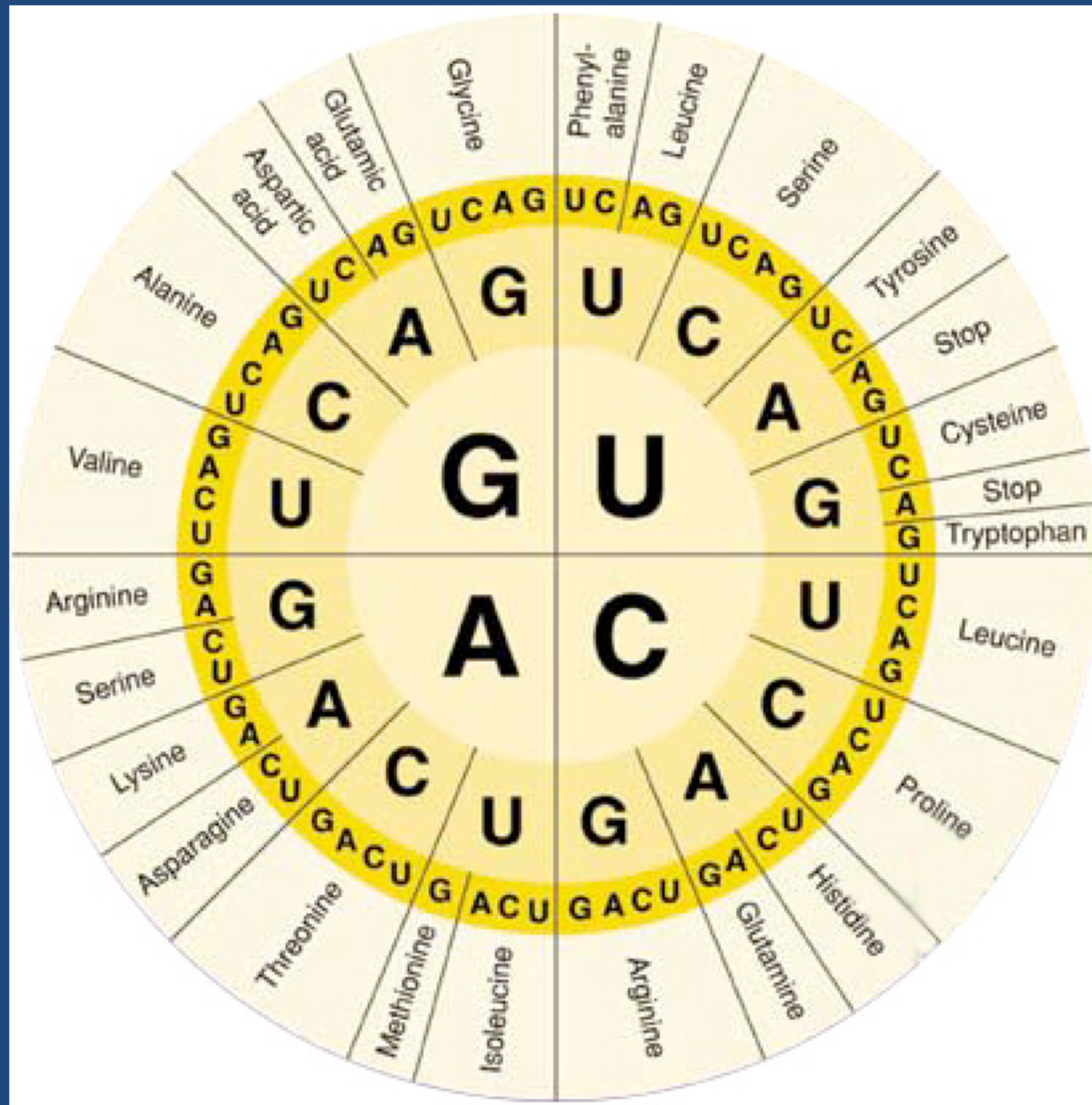
The diagram illustrates a polypeptide chain. At the top, a sequence of amino acids is shown as a chain of colored beads: Arg, Ala, Glu, Cys, Thr, Gly, and Asn. An arrow points to the Asn bead. Below this, the chain is shown in a more complex, folded structure, including a beta-sheet and an alpha-helix. The amino acids are labeled with their three-letter codes: Arg, Asp, Cys, Leu, Ile, Thr, Thr, Thr, Ser, Val, and Asn.

polypeptides

help make up proteins by bonding numerous amino acids together

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- How to read codons
- Start and stop codons



– Translation

- Steps in translation
 - Anticodon
- Roles of tRNA & rRNA in translation

– Molecular Genetics

