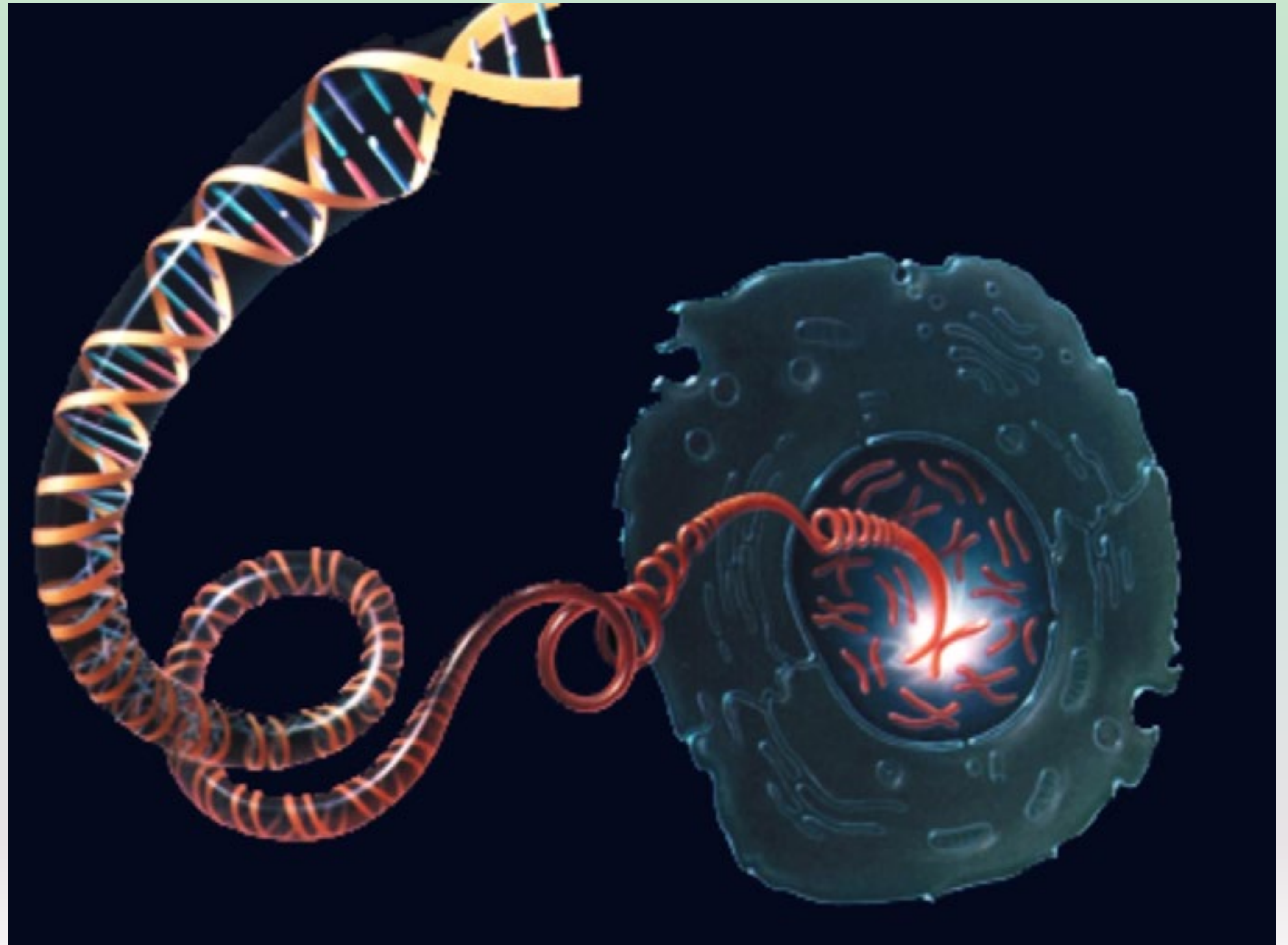


Biotechnology is using living organisms, parts of living organisms or their products to solve problems.

- Cells
- Genes
- Proteins



Biotechnology is a tool in solving problems

- Hunger / improved crop production
- Food safety
- Medicine / health / pharmaceuticals
- Environment
- Crime / forensics
- Paternity
- Climate change / petroleum alternatives

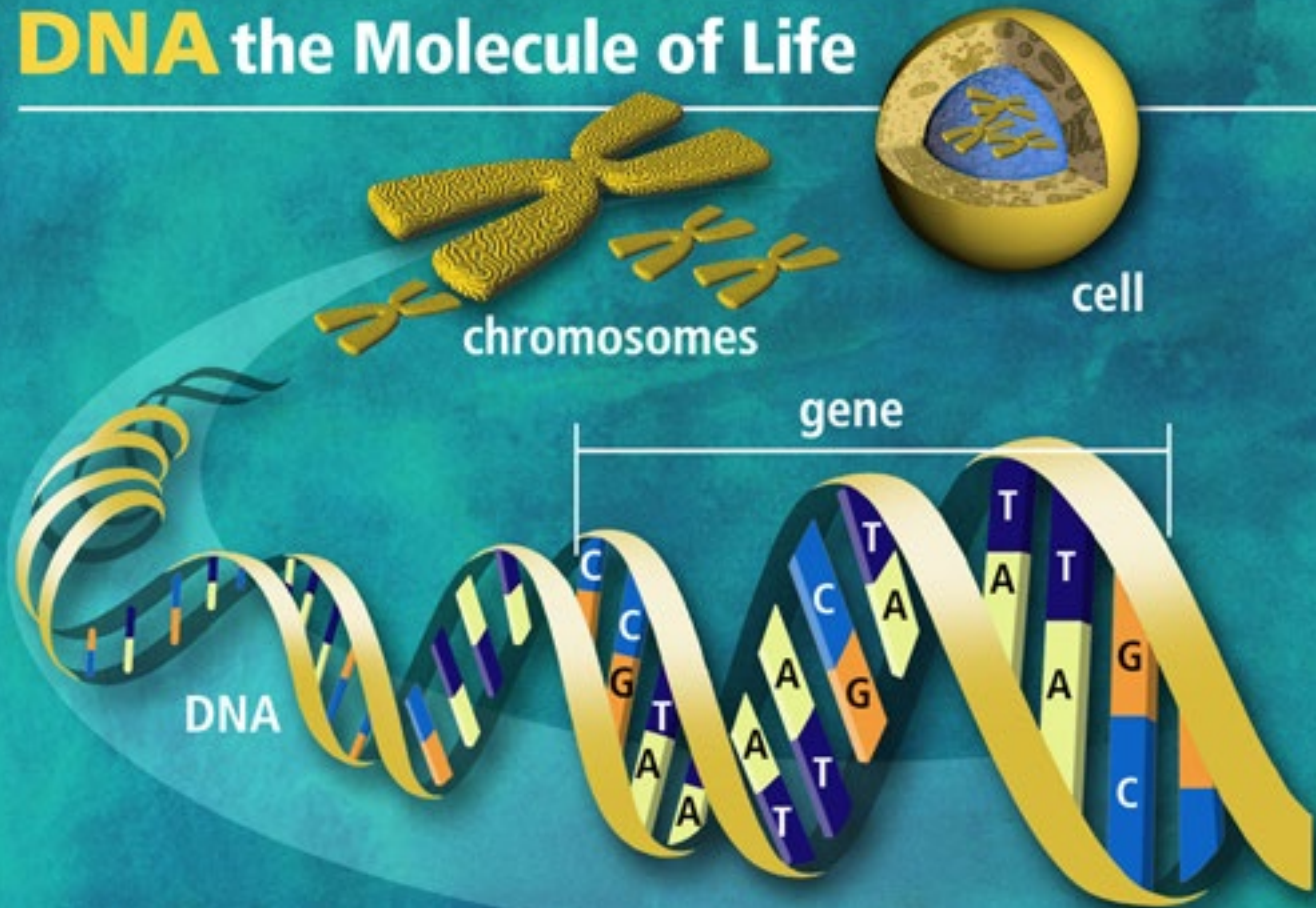
Ellyn Daugherty (textbook author) says:

- DNA is the flash
- Proteins are the cash

Why are proteins important?

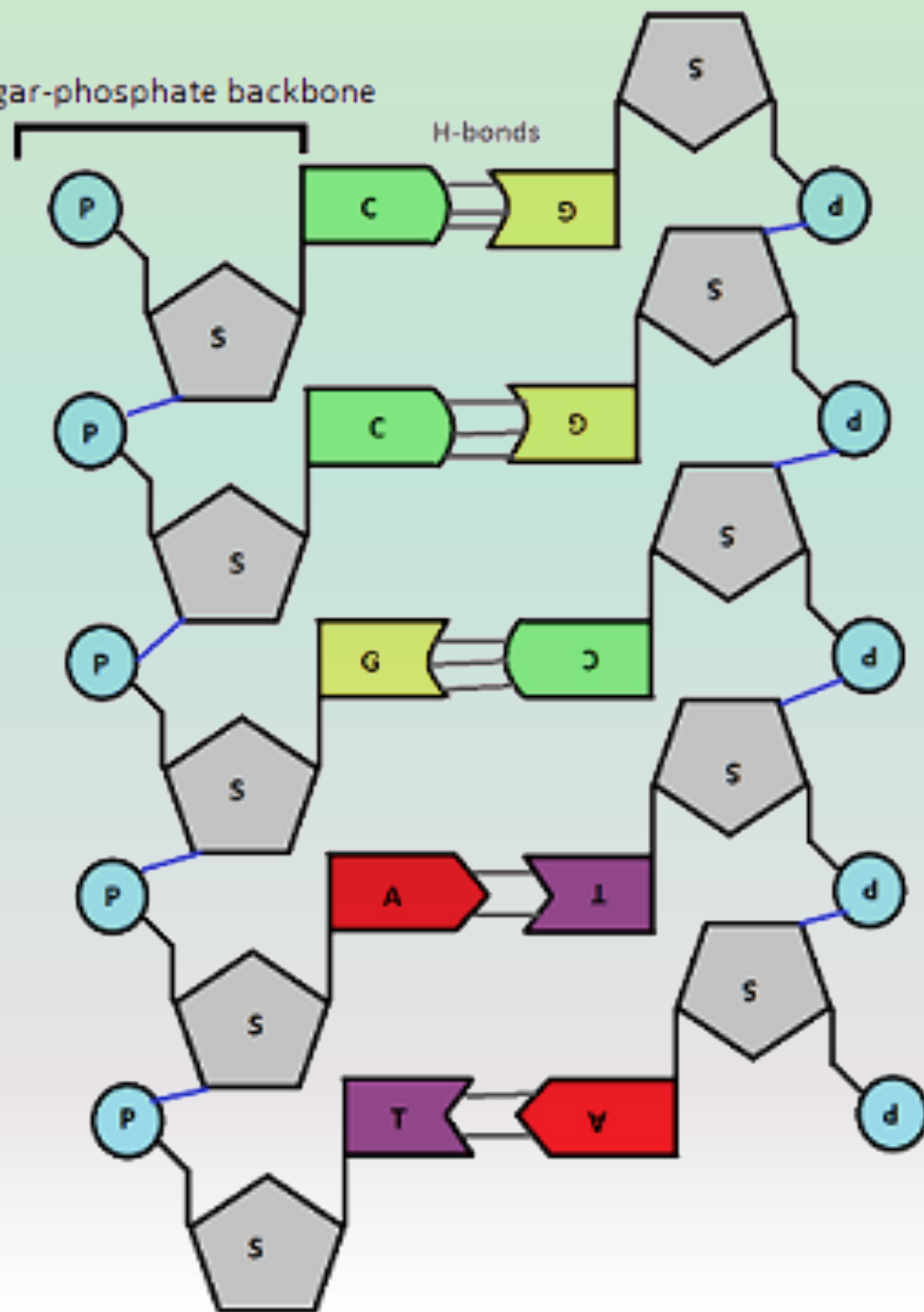
- Structure (collagen, keratin, elastin)
- Enzymes (lactase, pectinase, cellulase)
- Hormones (insulin)
- Antibodies
- Transport (hemoglobin)
- Receptors
- Motor/contractile (actin, myosin)

DNA the Molecule of Life

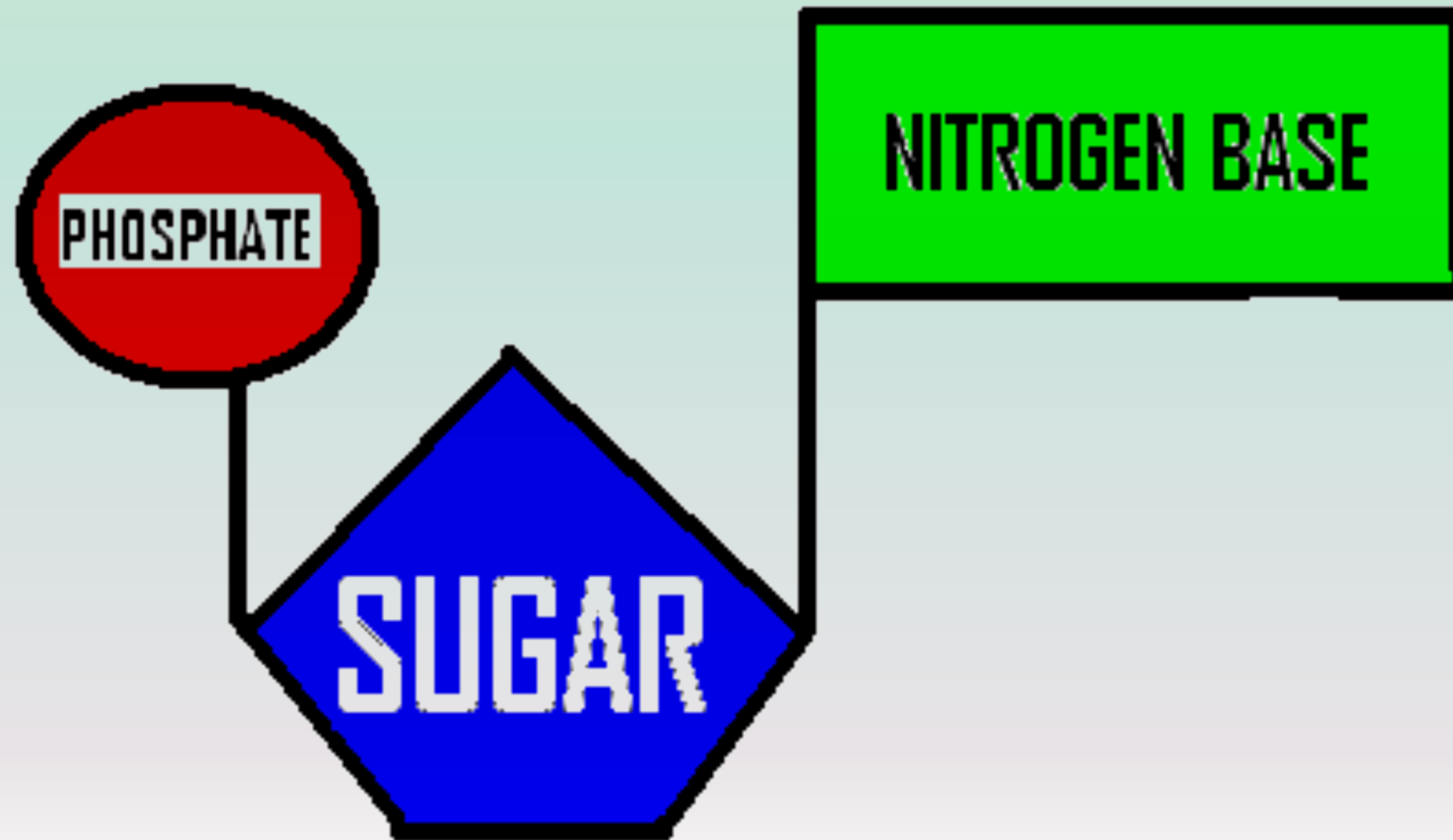


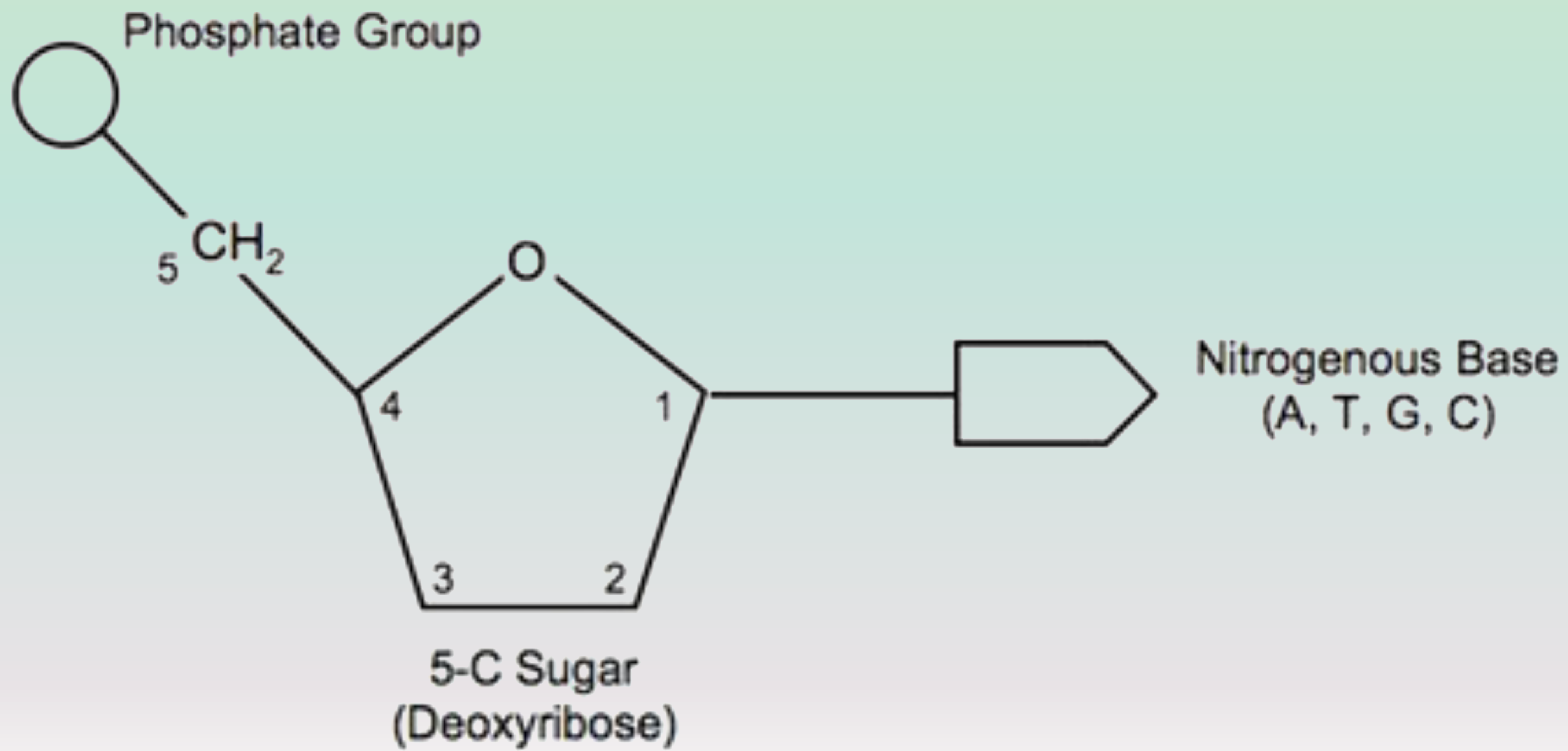
Sugar-phosphate backbone

H-bonds



DNA nucleotide





DNA nucleotide

