

hey

Compare and Contrast

The 3 Chemical modifications

Acetylation:

- enzyme HAT
- Adds acetyl group

Methylation:

- enzyme methyltransferase
- adds methyl group

Phosphorylation:

- enzyme kinase
- adds phosphate group

Euchromatin Versus Heterochromatin

euchromatin - uncoiled and active

heterochromatin - coiled and inactive (stained)

DNA and RNA

DNA - double stranded, deoxyribose, thymine

RNA - single stranded, ribose, uracil

Phosphodiester bonds Versus Hydrogen bonds

phosphodiester - make backbone of DNA ladder

Hydrogen - bonds complementary bases

B-DNA, D-DNA, E-DNA, and Z-DNA

B - biologically active

D & E - lack guanine

Z - left handed helix

Mitosis Versus Meiosis

mitosis - results in 2 identical daughter cells ($2n$)

meiosis - results in 4 unique cells (n)

r - mRNA, tRNA, and mRNA

r - structural component of ribosomes

m - template, carries genetic info from gene to ribosome

t - brings Amino Acids for protein synthesis

Transcription Versus Translation

transcription - copies DNA into RNA

translation - copies RNA into a protein

DNA $\rightarrow$ RNA $\rightarrow$ protein