

DNA structure

- Nucleosomes are _____
- Non-coding regions of DNA could be _____, _____ or _____
- Regulators of gene expression are _____
- Introns are _____
- telomeres are _____
- tRNA genes are _____

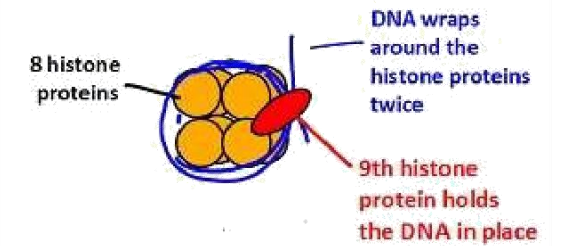
DNA replication (in prokaryotes) – Enzyme functions

- Helicase _____
- DNA gyrase _____
- single strand binding proteins _____
- DNA primase _____
- DNA polymerases I _____
- DNA polymerase III. _____

What part do nucleosomes play in supercoiling?"

A Nucleosome

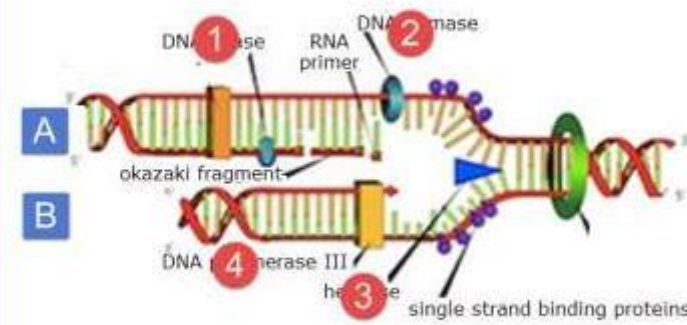
Made from DNA and nine histone proteins.



Applications

- Crossing over during prophase I of meiosis causes gamete chromosomes to more varied than _____
- Deoxynucleic acids are used in base sequencing because _____
- Tandem repeats are short blocks of DNA repeated over and over. This makes them useful in DNA profiling because. _____
- Hersey chase experiment used a virus-infecting bacteria to provide evidence that DNA was _____

Name the four enzymes and the strands A & B



Compare & contrast DNA replication in leading stand with the lagging stand.

Transcription & control of gene expression

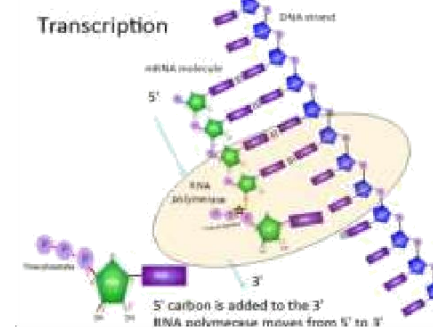
Nucleosomes can regulate transcription by _____

Gene expression can be regulated using proteins that bind to specific _____ in the DNA.

The environment of a cell can also affect _____ and heritable epigenetic factors.

mRNA is modified by splicing after transcription to remove _____ or to increase the number of different _____ made by a single gene.

5' to 3' direction



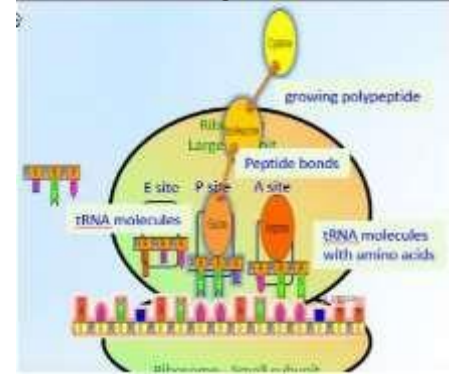
Outline the three stages of translation

Initiation _____

Synthesis _____

Termination _____

Ribosome binding sites



Compare & contrast free ribosomes and bound ribosomes

Free ribosomes	Bound ribosomes

• State what makes primary structure in a protein

• Describe these secondary structures

Alpha helix _____

Beta pleated sheet _____

Describe tertiary and quaternary structure in proteins using a diagram