* What is the function of topoisomerase?
* What is the function of DNA ligase?
* What is the function of DNA polymerase I?
* Describe the general process of initiating transcription.
* How is the binding of transcription factors regulated in eukaryotic genomes?
* What is the structure of chromatin?
* What is the difference between euchromatin and heterochromatin?
* What is the effect of methylation on gene expression?
* Describe a type of pre-transcriptional regulation of gene expression.
* Describe a type of post-transcriptional regulation of gene expression.
* Describe a type of post-translational regulation of gene expression.
* How does a prion disease work?
* What is the difference between a virus and a retrovirus?
* How can a virus make you susceptible to cancer?
* What is the difference between an oncogene and a proto-oncogene?
* What is the difference in the effects of a mutation in a proto-oncogene versus a tumor-suppressor gene?
* What is a transposon?
* What are the three ways in which bacteria can acquire DNA from other sources?
* Describe Hershey and Chase’s experiment and the significance of their findings.
* Describe Meselsohn and Stahl’s experiment and the significance of their findings.
* Describe Griffith’s experiment and the significance of his findings.
* What does it mean that DNA is antiparallel?
* How are nucleotides on the same strand linked together?
* What is the effect of a frameshift mutation on a polypeptide?
* What is the effect of a substitution mutation on a polypeptide?
* How can a mutation be “silent”?
* What enzyme binds amino acids to tRNA molecules?
* What are the letters of the mRNA “Start” codon?
* What type of bond forms a polypeptide during translation?
* What part of a protein dictates its final 3-dimensional structure?
* What molecules help RNA polymerase bind to the promoter?
* What is the purpose of the operator in an operon?
* What does it mean if tryptophan acts as a “corepressor” in the *trp* operon?
* Nucleic acid synthesis occurs in what direction?
* What is the purpose of primers in DNA replication?
* What is RNA editing and what is its purpose?