DNA Structure, DNA Replication, Protein Synthesis Review for Quiz

- DNA Structure and DNA Replication
  - Backbone is comprised of what two parts?
  - "Rungs" of ladder are comprised of what four bases?
  - Overall shape of DNA is called?
  - Enzyme responsible for "unzipping" DNA: _____ (ase)
  - Enzyme responsible for adding new nucleotides: _____ (ase)
  - What three parts comprise a nucleotide (draw a nucleotide)?
  - What role does DNA replication play in the cell cycle (new cells coming from existing cells)?
  - C pairs with _____?
  - A pairs with _____?
  - Why is base pairing important?
  - List three examples when DNA replication needs to take place.
  - How is DNA replication different from transcription (list two specific ways)?
  - What is the final product of DNA replication?

- Protein Synthesis (transcription and translation)
  - In what organelle does transcription take place?
  - What enzyme is responsible for the "unzipping" of DNA and for bringing in new nucleotides in transcription?
  - What is copied during transcription (i.e.; what is the original "template")
  - What is the name of the "copy"?
  - Once the mRNA copy is constructed, what organelle does it travel to?
  - How many bases make up a codon?
  - What, specifically, does ONE codon code for?
  - What is the final product of translation?
  - What does rRNA do?
  - What are the monomers of a protein?
  - What is a gene?
  - Why is a gene important during transcription and translation (protein synthesis)
  - What is a mutation?
  - List three ways that a mutation can affect the final protein product.
  - List three ways that a mutation can affect the final protein product.