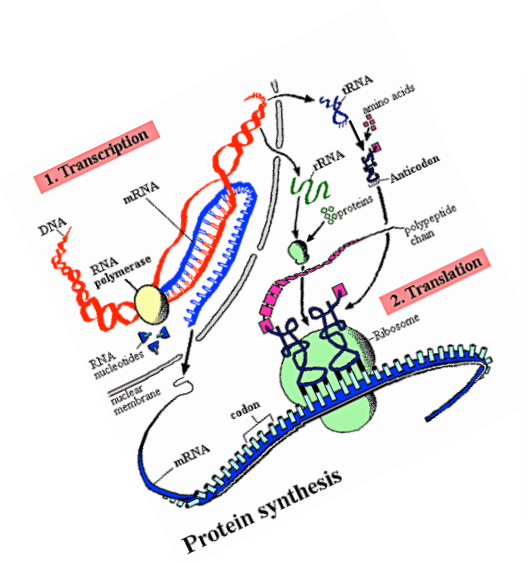
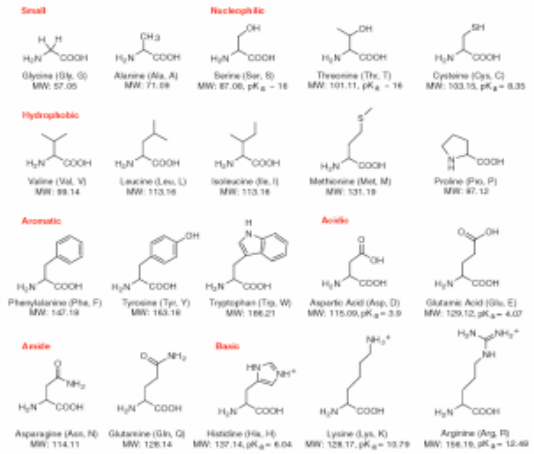
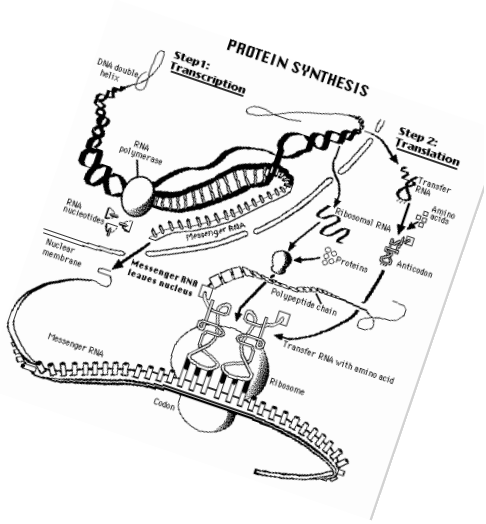
Protein Synthesis







Proteins are widely used in cells to serve diverse functions. Some proteins provide the structural support for cells while others act as enzymes to catalyze certain reactions.

Since the beginning of evolution, cells have developed the ability to synthesize proteins. They can produce new proteins either for reproduction or to simply replace a degraded one. To manufacture proteins, cells follow a very systematic procedure that first transcribes DNA into mRNA and then translates the mRNA into chains of amino acids. The amino acid chain then folds into specific proteins.

Answer the following statements or questions using GOOGLE SLIDES:

- *Include a basic picture of protein synthesis*
- *Include a picture of at least two amino acids with their names (chemical formula/structure)*
- *Include a picture of the Universal Genetic Code*
- What is a protein? Be sure to include the type of bond and the final step that is needed for a protein to function.
- Describe transcription and where it takes place.
- Describe translation and where it takes place.
- Describe RNA in terms of its similarities and its differences from DNA.
- What are the start codon and the three stop codons?
- What is a mutation and tell me the position of the mutation that causes cystic fibrosis. Be sure to include the chromosome that is affected.

Info:
http://library.thinkquest.org/C004535/protein_synthesis.html
Pic 1

"Protein Synthesis." *Access Excellence @ the National Health Museum*. Web. 18 Oct. 2011.

<http://www.accessexcellence.org/RC/VL/GG/protein_synthesis.php>.
Pic 2

"Protein." *The Worlds of David Darling*. Web. 18 Oct. 2011. <http://www.daviddarling.info/encyclopedia/P/protein.html>.

Amino Acids Pic

http://www.strongleanfit.com/page/3/