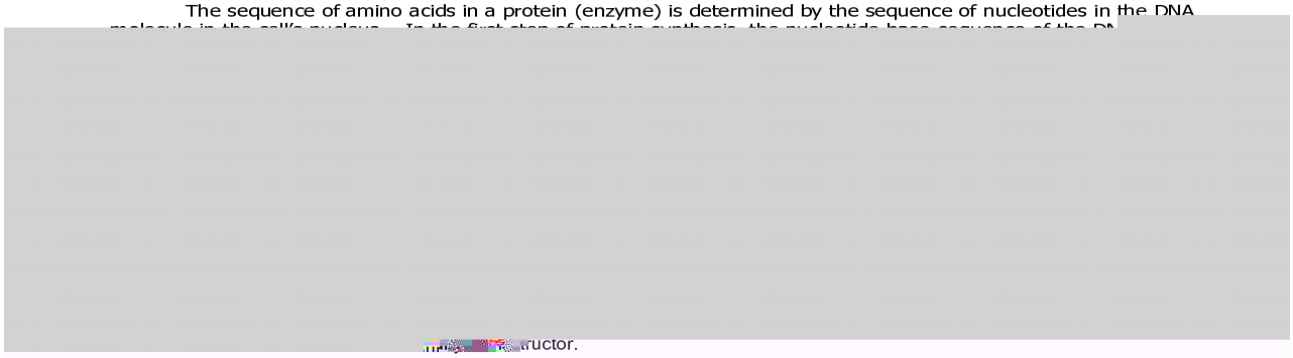
PROTEIN SYNTHESIS SIMULATION

Background: DNA carries the information for the synthesis of all proteins in an organism. Protein molecules are large and complex, composed of 1000's of amino acids. All the proteins are made of combinations of only 20 different amnion acids. In each kind of protein, the amino acids are linked in a definite sequence, much like letters link to form words. If the letters are rearranged the word is different. So too would a rearrangement of the amino acids change a protein. This is particularly important to the cell because enzymes, which control all chemical reactions in the cell, are proteins. If the amino acids sequence in an enzyme is changed then the enzyme will cease to function and that important reaction will not happen in the cell. That is often a fatal turn of events.

The sequence of amino acids in a protein (enzyme) is determined by the sequence of nucleotides in the DNA molecule in the cell's nucleus. In the first step of protein synthesis, the nucleotide base sequence of the DN



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