Protein Synthesis

Protein synthesis is the construction of Protein by an organelle called the ribosome which is located in the cell. The genetic code of life is located in the nucleus. It is found in the DNA, a double helix structure made of Deoxyribose sugar, a phosphate group, which holds the sugars together and one of 4 nitrogen bases. These bases connect together using Chargaff's law which states that Adenine bonds to Thymine and Guanine bonds to Cytosine.

A scientist by the name of Griffith first came up with the idea that organisms could change, due to some biological means. This was later referred to as Transformation. Later, another scientist by the name of Avery proved that DNA was the genetic material responsible for the process of Transformation, which was originally identified by Griffith.

In the 1950's, Watson and Crick won a nobel prize for discovering the structure of the DNA molecule, which they called the double Helix. This was possible due to X ray crystallography work of a female biologist by the name of Rosalind Franklin. (video info off weebly)

When DNA is copied it happens in the Nucleus. A segment of the DNA is unzipped by an enzyme called DNA Polymerase and individual nucleotides of mRNA copy the DNA segment. Once the copy is complete, the m RNA leaves the nucleus and goes to the protein factory organelle called the ribosome. This is the end of the copying process called Transcription

Once transcription is complete and the mRNA is at the ribosome, the process of reading the 3 base triplets or codons on the mRNA begins. A special kind of RNA called r RNA reads the triplets or codons on the mRNA and instructs tRNA to bring back the correct Amino Acid Acid from the cytoplasm so the protein can be constructed. The t RNA has an anti- codon, which is complimentary to the mRNA codon. The tRNA brings the correct amino acid back to the ribosome and a protein is assembled according to the codon sequence on the mRNA. The amino acids are bonded together by peptide bonds. This is the way DNA is copied.