Learning Goals

By the end of the Biology Unit you should be able to:

* Relate organelles to their function within the cell
* Identify the contents of the nucleus: chromosomes, DNA, genes, and nucleolus
* Relate the genetic code to the assembly of different proteins
* Summarize factors that may lead to different types of mutations, distinguish among positive, neutral, and negative effects of various mutations and their impact on evolution
* Apply the principles that govern the inheritance of traits to solve problems involving simple Mendelian genetics including: Punnett squares, complete dominance, co-dominance, incomplete dominance, sex-linked inheritance
* Explain how species adapt or fail to adapt to environmental conditions, with reference to the following: natural selection, artificial selection, selective pressure (eg. Adaptations and extinction, invasive species), adaptive radiation
* Analyze implications of current and emerging biomedical, genetic and reproductive technologies including: genomics, GMOs, gene therapy, cloning, stem cells, reproductive technology, species, population and ecosystems, forensics, genetic engineering
* Analyze ethical implications including: the health, environmental, social, and political implications of modern genetics