

Chapters 10,11, 13, and 14

Where applicable, be able to define, describe, and/or illustrate, know examples of, know the Biological significance of and know Biological principles relating to each of the following:

James Watson and Francis Crick	RNA Processing	Carolus Linnaeus
Deoxyribonucleic Acid (DNA)	Introns	Georges Cuvier
Double Helix	Exons	Catastrophism
DNA Nucleotides	Spliceosome Enzymes	Comparative Anatomy
Complementary Base Pairing	5' Cap	Comparative Embryology
Adenine and Thymine	Poly A Tail	The Fossil Record
Cytosine and Guanine	Messenger RNA (mRNA)	Molds
RNA Nucleotides	Translation	Casts
Uracil	Codon	Petrifications
5' and 3' Ends of DNA	Anticodon	Inclusions
DNA Replication	Transfer RNA (tRNA)	Jean Batiste De Lamarck
DNA Polymerase Enzyme	Ribosomes	Inheritance of Acquired Traits
Origins of Replication	Ribosomal RNA (rRNA)	Charles Lyell
Replication Forks	Gene Mutation	The Principles of Geology
Primase Enzyme	Francois Jacob and Jacques Monod	Gradualism
RNA Primers	Inducible Operon	Charles Darwin
Deoxynucleoside	Repressible Operon	Alfred Wallace
Triphosphates (DNTPs)	Regulator Gene	Natural Selection
Leading Strand	Repressor Protein	Comparative Anatomy
Lagging Strands	Promoter Sequence	Homologous Structures
Telomeres	Operator Sequence	Analogous Structures
Telomerase	Structural Gene(s)	Divergent Evolution
The Central Dogma	Transcription Unit	Convergent Evolution
Transcription	Promoter Proximal Element	Artificial Selection
RNA Polymerase Enzyme	Transcription Factors	Adaptations
	Aristotle	Microevolution
	Species	Hardy Weinberg Equilibrium
	Systematics	Macroevolution
		Environment

Similarities and differences between DNA and RNA in structure and function(s)

What is the "Problem" with Linear DNA? What are the consequences?

When and Where does DNA Replication occur in a cell? What enzymes are involved?

Know where in a cell and during what specific event, complementary base pairing occurs between:

DNA and DNA, DNA and RNA, and RNA and RNA

What molecules are involved in Transcription, RNA Processing, and Translation and where do they occur in a cell?

How are genes regulated in Prokaryotes and Eukaryotes?

Know how to properly write or recognize a formal scientific name of an organism

Know the people and their historic contributions to the development of evolutionary thought

What are the conditions that need to be met for a population to be in Hardy Weinberg Equilibrium?