

Biology Honors

Text: Prentice Hall Biology: Biology in 21st Century Pacing Guide & Syllabus

Topic	Content	Approx. Class time
The Science of Biology	<u>Chapter 1</u> a) What is Science & What science is NOT? b) How scientists work/ Thinks & Processes c) ROLE of Theories, Laws, Hypotheses and d) Models e) Types Of Microscopes for cell structures. f) Studying Life g) Tools and procedures / Lab safety	1 Week
The Chemistry of Life	<u>Chapter 2</u> a) Properties of Water b) Carbon Molecules c) Chemical Reactions & Enzymes	2 Weeks
Cell Structure and Function	<u>Chapter 3</u> a) Life is Cellular b) Cell Theory c) Cell Organelles d) CELL MEMBRANE e) Diffusion and Osmosis f) Active Transport	2 Weeks
Origin of Plant Life	<u>Chapter 20, Sections 1 - 3</u> a) Origin of plant life b) Classification of plants c) Diversity of flowering plants	2 Weeks
Plant Structure and Function	<u>Chapter 21, Sections 1 - 4</u> a) Roots and Stems b) Leaves	2½ Weeks
Plant Growth, Reproduction	<u>Chapter 22, Sections 1 - 4</u> a) Plant life cycles b) Reproduction in flowering plants c) Seed dispersal and germination d) Asexual reproduction	2 Weeks
Cell and Energy	<u>Chapter 4</u> a) Chemical Energy and ATP b) Photosynthesis Overview c) Cell Respiration: Overview d) Fermentation	2 Weeks
Cell Growth & Cell Division	<u>Chapter 5</u> a) Cell Cycle b) Mitosis and Cytokinesis c) Regulation of cell Cycle d) Asexual Repro.& Multicellular Life	2 Weeks

Meiosis & Mendel	Chapter 6 a) Chromosomes and Meiosis b) Process OF Meiosis c) Mendel and Heredity d) Traits, genes and Alleles e) Trait and Probability f) Meiosis and Genetic Variation	2 Weeks
Mendelian Genetics	Chapter 7 a) Chromosomes and Phenotype b) Complex Patterns of Inheritance c) Human Genetics & Pedigrees	2 Weeks
From DNA to Proteins	Chapter 8 a) Identify DNA as the genetic material b) Structure of DNA c) DNA Replication d) Transcription e) Translation f) Gene Expression & Regulation g) Mutations	2 Weeks
Principles OF Evolution	Chapter 10 a) Darwin's Observation b) Theory of Natural Selection c) Evidence of Evolution d) Evolutionary Biology	1 week
Evolution of Populations	Chapter 11 a) Genetic variations within populations b) Natural selection in populations c) Other mechanisms of evolution d) Hardy Weinberg Equilibrium e) Speciation through isolation	1 Week
The History of Life	Chapter 12 a) Origin of life b) Early single-celled organisms c) Primate evolution	1 Week
The Tree of Life	Chapter 17 a) Linnaean System of classification b) Classification based on evolutionary relationships c) Domains and Kingdoms	1 Week
Nervous System	Chapter 29 CNS (Identify major parts of brain on diagram)	½ Week
Circulatory System	Chapter 30 a) The heart and circulation b) Blood Vessels and Transport	

Immune System	Chapter 31 a) Pathogens and Human illness b) Immune system c) Immunity and Technology d) Diseases that weaken the immune system	½ Week
Reproductive System	Chapter 34 a) Reproductive Anatomy b) Reproductive Processes c) Fetal Development d) Birth	
Principles Of Ecology	Chapter 13 a) Biotic and Abiotic factors b) Energy in ecosystems c) Food Chains and food webs d) Hydrologic Cycle e) Biogeochemical Cycles f) Pyramid models	2 Weeks
Interactions in Ecosystems	Chapter 14 a) Population density and distribution b) Population growth patterns c) Ecological succession	1½ Weeks
The Biosphere	Chapter 15 a) Life in the Earth system b) Climate c) Biomes d) Marine Ecosystems	1 Week
Human Impact on Ecosystems	Chapter 16 a) Human Population growth & natural resources b) Air Quality c) Water Quality d) Threats of biodiversity e) Conservation	1 Week
Review for Bio EOC		2 Weeks

The Biology EOC will be in May. All students must pass this EOC to receive a Florida High School Scholar Diploma.