Pacing Guide

Course: AP Biology **Grade: 11, 12**

Months/Days	UNITS	STANDARDS	CONTENT Topics being covered? What do students need to know? (*nouns*)	ACTIVITIES w/Integration of Technology & Career Ready Practices	ASSESSMENTS What evidence (formative/summative) is utilized to establish that the content, standards, & skills have been mastered?
September / 19	**Chemistry of Life / Cell Structure and Function**	**SCI.HS-LS1-1, SCI.HS-LS1-2, SCI.HS-LS1-3, SCI.HS-LS1-4**	**Scientific thinking, chemistry, properties of water, cell anatomy and physiology, cell membrane structure and function**	**Organic molecule presentation, marshmallow challenge, mystery box lab**	**Inorganic / organic chemistry test, cell anatomy and physiology test**
October / 20	**Cell Structure and Function / Cellular Energetics**	**SCI.HS-LS1-3, SCI.HS-LS1-5, SCI.HS-LS1-6, SCI.HS-LS2-3, SCI.HS-LS2-4, SCI.HS-LS2-5**	**Cellular respiration, fermentation, photosynthesis**	**Respiration lab, fermentation lab, Chromatography lab, cell physiology poster projects**	**Respiration quiz, photosynthesis quiz, energetics test**
November / 16	**Cellular Energetics / Cell Communication and Cell Cycle**	**SCI.HS-LS1-1, SCI.HS-LS1-4, SCI.HS-LS3-1, SCI.HS-LS3-2, SCI.HS-LS3-3**	**Cell cycle, cellular respiration, fermentation, photosynthesis**	**Respiration lab, fermentation lab, Chromatography lab, cell physiology poster**	**Cell cycle test, respiration quiz, photosynthesis quiz, energetics test**

				projects	
December / January / 36	**Natural Selection**	**SCI.HS-LS4-1, SCI.HS-LS4-2, SCI.HS-LS4-3, SCI.HS-LS4-4, SCI.HS-LS4-5**	**Darwinian evolution, fossils and geological time scale, origin of life on earth, radiometric dating, primate evolution; Natural selection, population changes, other mechanisms of evolution, Hardy-Weinberg equilibrium, isolating mechanisms / speciation**	**Origin of life project, amino acid comparison lab, Peppered moth virtual lab, natural selection virtual lab**	**Darwinian evolution test, origin of life quiz, primate evolution lab; Natural selection test, speciation quiz**
February / 18	**Heredity / Gene Expression and Regulation**	**SCI.HS-LS2-8, SCI.HS-LS4-1, SCI.HS-LS4-2, SCI.HS-LS4-3, SCI.HS-LS4-4, SCI.HS-LS4-5**	**DNA discovery / structure / function, gene expression, cell cycle, cancer, Mendelian inheritance, Punnett squares, DNA technology, genetic engineering**	**Gel electrophoresis, DNA extraction, virus labs**	**DNA structure / replication test, Mendelian genetics / meiosis test, gene expression test, DNA technology test**

March / April / 38	**Ecology**	**SCI.HS-LS2-1, SCI.HS-LS2-2, SCI.HS-LS2-6**	**Biotic / abiotic factors, habitats and niches, community interactions, population growth patterns, succession, climate, biomes, ecosystem types. Human population growth, natural resources, air and water quality, greenhouse effect / global warming, ozone depletion**	**Predator / prey simulation lab, biome project; body system project presentations**	**Ecology test, biome quiz**
May / 19	**AP test prep / Independent Projects**	**SCI.HS-ESS3-1, SCI.HS-ESS3-4, SCI.HS-ESS3-5, SCI.HS-ESS3-6, SCI.HS-ETS1-3, SCI.HS-LS2-1, SCI.HS-LS2-7**	**Scientific inquiry, problem solving, experimental design, data collection and analysis**	**AP test prep, project design and set-up**	**Independent project work / summaries / analysis**
June / 14	**Independent Projects**	**SCI.HS-ESS3-3, SCI.HS-ETS1-1, SCI.HS-ETS1-2, SCI.HS-ETS1-3, SCI.HS-ETS1-4,**	**Scientific inquiry, problem solving, experimental design, data collection and analysis**	**Project work, Final papers and presentations**	**Final paper and presentation**

		SCI.HS-LS2-7, SCI.HS-LS4-6			