



Biology Teaching & Learning Framework				
Unit 1 3 wks BL/7 wks YR	Unit 2 4 wks BL/8 wks YR	Unit 3 3 wks BL/6 wks YR	Unit 4 2 wks BL/6 wks YR	Unit 5 3 wks BL/6 wks YR
Cells SB1	Genetics SB2, SB3	Evolution SB6	Organisms SB4	Ecology SB5/EOC Review
<p><b>SB1. Obtain, evaluate, and communicate information to analyze the nature of relationships between structures and functions in living cells</b></p> <p>Explain homeostasis maintenance by the interaction of cell structures and organelles <b>(SB1a)</b></p> <p>Model the role of cellular reproduction in maintaining genetic continuity <b>(SB1b)</b></p> <p>Argue how the structure of macromolecules is related to their interactions in cellular processes <b>(SB1c)</b></p> <p>Investigate the role of cellular transport in maintaining homeostasis <b>(SB1d)</b></p> <p>Explain the roles of photosynthesis and respiration in the cycling of matter and flow of energy within a cell <b>(SB1e)</b></p>	<p><b>SB2. Obtain, evaluate, and communicate information to analyze</b></p> <p>how genetic information is expressed in cells</p> <p>Explain how DNA and RNA lead to expression of info in the cell through replication, transcription, and translation <b>(SB2a)</b></p> <p>Argue to support the claim that inheritable genetic variations may result from new genetic combinations through meiosis, non-lethal errors during replication, and heritable mutations caused by environmental factors <b>(SB2b)</b></p> <p>Communicate information about the use and ethical considerations of biotechnology <b>(SB2c)</b></p> <p><b>SB3 Obtain, evaluate, and communicate information to analyze how biological traits are passed on to successive generations</b></p> <p>Mendel's laws and the role of meiosis in reproductive variability <b>(SB3a)</b></p> <p>Predict and explain patterns of inheritance <b>(SB3b)</b></p> <p>Argue the advantages and disadvantages of sexual and asexual reproduction <b>(SB3c)</b></p>	<p><b>SB6. Obtain, evaluate, and communicate information to assess the theory of evolution.</b></p> <p>Explain how understandings of Earth's history, emergence of new species, and genetics have influenced our understanding of biology <b>(SB6a)</b></p> <p>Analyze and interpret data to explain patterns of diversity that result from speciation <b>(SB6b)</b></p> <p>Argue the claim that all living organisms are related by way of common descent using evidence from comparative morphology, embryology, biochemistry, and genetics <b>(SB6c)</b></p> <p>Model mathematically how genetic changes in natural selection and genetic drift have led to changes in populations <b>(SB6d)</b></p> <p>Model the role of natural selection in biological resistance <b>(SB6e)</b></p>	<p><b>SB4. Obtain, evaluate, and communicate information to illustrate the organization of interacting systems within single-celled and multi-celled organisms.</b></p> <p>Argue/explain patterns in structure and function among clades of organisms (archaea, bacteria, eukaryotes) <b>(SB4a)</b></p> <p>Analyze and interpret data to develop models based on patterns of common ancestry and theory of evolution to determine relationships among major groups of organisms <b>(SB4b)</b></p> <p>Argue to compare and contrast the characteristics of viruses and organisms <b>(SB4c)</b></p>	<p><b>SB5 Obtain, evaluate, and communicate information to assess the interdependence of all organisms on one another and their environment.</b></p> <p>Investigate and explain factors affecting ecosystems' biodiversity and populations <b>(SB5a)</b></p> <p>Model the cycling of matter and flow of energy within ecosystems (photosynthesis, respiration, food webs, energy pyramids, nutrient cycles) <b>(SB5b)</b></p> <p>Argue and predict the impact of environmental change on an ecosystem <b>(SB5c)</b></p> <p>Design a solution to reduce human impact on the environment <b>(SB5d)</b></p> <p>Explain and predict an organism's ability to survive within changing environmental limits <b>(SB5e)</b></p>