



AP Biology Scope and Sequence 2027

STANDARDS

IFD

PLC HUB

OTHER

(Quarter 1+2- amount of time per unit subject to change)

PACING	TN STANDARDS	TEXT/RESOURCES	LEARNING TARGETS	ASSESSMENT/PROJECTS
<i>Days/ Weeks</i>	From College Board: Big Idea 1: Evolution- The process of evolution drives the diversity and unity of life. Big Idea 2: Energetics- Biological systems use energy and molecular building blocks to grow, reproduce, and maintain dynamic homeostasis. Big Idea 3: Information Storage and Transmission- Living systems store, receive, transmit, and respond to information essential to life processes. Big Idea 4: Systems Interactions- Biological systems interact, and these systems and their interactions exhibit complex properties.	Unit 6: Gene Regulation and Expression Unit 7: Evolution Unit 8: Ecology Campbell Biology Textbook 12th Edition College Board MCQ and FRQ AP Final Exam Review (250 pages)	Enduring Understanding: 1.A Change in the genetic makeup of a population over time is evolution. 1.C Life continues to evolve within a changing environment. 1.D The origin of living systems is explained by natural processes. 2.A Growth, reproduction and maintenance of the organization of living systems require free energy and matter. 2.B Growth, reproduction and dynamic homeostasis require that cells create and maintain internal environments that are different from their external environments. 2.D Growth and dynamic homeostasis of a biological system are influenced by changes in the system's environment. 3.A Heritable information provides for continuity of life. 3.D Cells communicate by generating, transmitting and receiving chemical signals. 4.A Interactions within biological systems lead to complex properties. 4.B Competition and cooperation are	Chapter 17 Quiz Chapter 18 Quiz Chapter 19 Quiz Chapter 20 Quiz Chapter 21 Quiz Chapter 22 Quiz Chapter 23 Quiz Chapter 24 Quiz Chapter 25 Quiz Chapter 26 Quiz Chapter 40 Quiz Chapter 48 Quiz Chapter 51 Quiz Chapter 52 Quiz Chapter 53 Quiz Chapter 54 Quiz Chapter 55 Quiz Chapter 56 Quiz Chapter 17-21 Test Chapter 22-26 Test Chapter 27, 40, 48, 51 Test Chapter 52-56 Test FRQ Gel Electrophoresis Lab

			important aspects of biological systems. Essential Knowledge: 1.A.4: Biological evolution is supported by scientific evidence from many disciplines, including mathematics. 1.B.1 Organisms are linked by lines of descent from common ancestry. 1.C.3: Populations of organisms continue to evolve. 1.D.1: There are several hypotheses about the natural origin of life on Earth, each with supporting scientific evidence. 1.D.2: Scientific evidence from many different disciplines supports models of the origin of life. 2.A.1: All living systems require constant input of free energy. 2.A.2: Organisms capture and store free energy for use in biological processes. 2.B.1: Cell membranes are selectively permeable due to their structure. 2.B.2: Growth and dynamic homeostasis are maintained by the constant movement of molecules across membranes. 2.B.3: Eukaryotic cells maintain internal membranes that partition the cell into specialized regions. 2.C.1 Organisms use feedback mechanisms to regulate growth and reproduction, and to maintain dynamic homeostasis. 2.D.4: Plants and animals have a variety	Cytochrome C Lab College Board Unit Progress Checks College Board Videos **Assortment of Worksheets/Activities AP Exam Review (250 page review) Review Days
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			of chemical defenses against infections that affect dynamic homeostasis. 3.A.1: DNA, and in some cases RNA, is the primary source of heritable information. 3.D.2: Cells communicate with each other through direct contact with other cells or from a distance via chemical signaling. 4.A.1: The subcomponents of biological molecules and their sequence determine the properties of that molecule 4.A.2: The structure and function of subcellular components, and their interactions, provide essential cellular processes. 4.B.1: Interactions between molecules affect their structure and function. 4.C.1: Variation in molecular units provides cells with a wider range of functions.	
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	unity of life. Big Idea 2: Energetics- Biological systems use energy and molecular building blocks to grow, reproduce, and maintain dynamic homeostasis. Big Idea 3: Information Storage and Transmission- Living systems store, receive, transmit, and respond to information essential to life processes. Big Idea 4: Systems Interactions- Biological systems interact, and these systems and their interactions exhibit complex properties.	Unit 7- Evolution Unit 8- Ecology AP Exam Review Campbell Biology Textbook 12th Edition College Board	descent from common ancestry. 1.C Life continues to evolve within a changing environment. 3.A Heritable information provides for continuity of life. 3.B Expression of genetic information involves cellular and molecular mechanisms. 3.C The processing of genetic information is imperfect and is a source of genetic variation. Essential Knowledge: 1.A.2: Natural selection acts on phenotypic variations in populations. 1.A.3: Evolutionary change is also driven by random processes. 1.A.4: Biological evolution is supported by scientific evidence from many disciplines, including mathematics. 1.B.1: Organisms share many conserved core processes and features that evolved and are widely distributed among organisms today. 1.C.3 Populations of organisms continue to evolve. 3.A.1: DNA, and in some cases RNA, is the primary source of heritable information. 3.A.2: In eukaryotes, heritable information is passed to the next generation via processes that include the cell cycle and mitosis or meiosis plus fertilization. 3.A.3: The chromosomal basis of inheritance provides an understanding of	
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			the pattern of passage (transmission) of genes from parent to offspring. 3.A.4: The inheritance pattern of many traits cannot be explained by simple Mendelian genetics. 3.B.1: Gene regulation results in differential gene expression, leading to cell specialization. 3.B.2: A variety of intercellular and intracellular signal transmissions mediate gene expression. 3.C.1: Changes in genotype can result in changes in phenotype. 3.C.2: Biological systems have multiple processes that increase genetic variation. 3.C.3: Viral replication results in genetic variation, and viral infection can introduce genetic variation into the hosts	
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