

2017-2018 AP Biology Pacing Guide

Text: Campbell *Biology* (8th ed)

Dates	Topic	Chapters	Activities / Labs
Summer	Evolution	22-25	Study guides (Holtzclaw)
Aug1 – Aug 24	Evolution	22 – 25	Study guides POGIL: Evolution and selection Online simulation: Natural selection bunny simulation (phet.colorado.edu) Hardy-Weinberg practice Lab: Natural selection (brine shrimp) Lab 8: Population genetics and evolution Lab: Origin of life
Aug 24 – Sept 15	Chemistry/Biochemistry	2 – 5	Study guides Atomic bonding activity Molecule model building activity Lab 9: Transpiration Organic molecule model building activity
Sept 16 – Oct 10 (incl fall break week)	Cell/Cell Processes	6 – 7	Study guides Cell size activity Lab: Animal, plant cell organelle comparison Build a cell membrane activity Lab 1: Diffusion and osmosis (all parts)
Oct 15 – Nov 4	Cell communication/Cell Cycle and Division	11 – 13	Study guides POGIL: Cellular communication POGIL: Signal transduction pathways Article “Cell Linkages: Integrins” summary Pop bead mitosis/meiosis modeling Lab 3: Plant cell mitosis and Sordaria crossing over in meiosis Chi square practice Lab: M & M chi square Online karyotyping activity (Learn.Genetics-U of Utah) Flinn: Cancer and loss of cell cycle

Nov 1 – Dec 13 (incl Thanksgiving week)	Bioenergetics	8 - 10	Study guides Lab: Factors affecting enzyme activity (liver or yeast) Online activity: Enzymes Lab 2: Enzyme catalysis POGIL: Cellular respiration overview POGIL: Glycolysis and Krebs cycle POGIL: Chemiosmosis Lab 5: Cell respiration Lab 4: Plant pigments and photosynthesis (part A)
Jan 7 – Jan 19	Mendelian genetics	14 – 15	Study guides Lab 7 (alternate): Mendelian genetics of corn Chi square analysis
Jan 20 – Feb 7	Molecular genetics	16 - 18	Study guides DNA – protein modeling
Feb 7 – Mar 3	Biotechnology	19 – 21	Study guides Foglia: Cloning paper plasmid Biologycorner.com: DNA analysis: simulating recombination Lab 8 (new): Bacterial transformation Simulation: Who ate the cheese? Lab 9 (new): Restriction enzyme analysis of DNA Lab 3 (new): Comparing DNA sequences (may be used w/ evolution)
Mar 4 – Apr 12	Ecology (incl lab equip names and usage, safety, experimental design)	52 – 56	Dotti: Population dynamics game Dotti: Population dynamics of the Kaibab deer Lab 12: Dissolved oxygen and primary productivity Gilda: Energy pyramid activity
Apr 13 – Apr 23	Animal physiology	Overview of nervous, endocrine, respiratory, circulatory, excretory, immunity, reproductive systems	POGIL: Blood sugar POGIL: Neuron structure
Apr 24 – May 12	Review		Topic reviews w/ assoc quizzes Free response practice

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