

Honors Biology Syllabus Fall, 2010

Note: While all of these topics will be covered this quarter, Mrs. Kohli reserves the right to adjust this schedule as she deems necessary. Textbook pages in normal print are from the new (dragonfly) book, textbook pages in italics are from the old (elephant) book.

Aug. 4 – Intro to class. Policies & procedures.

Aug. 5 – Procedure review. What is Biology? Characteristics of life. (Sec. 1-3; *Sec. 2-1*) Safety video.

Aug. 6 – Root word & procedure **quiz**. Habitats and niches

Aug. 9 – Types of interactions. Begin predator-prey lab (p. 68-71 & 91-92; *p. 304-305, 1022-1023, & 1026-1027*)

Aug. 10 – Finish predator – prey lab. Carrying capacity, trophic levels, food webs, and energy flow, (Sec. 3-2, p. 93, p. 126; *p. 1026-1027*)

Aug. 11 – Biodiversity & keystone species. Factors affecting population changes. (Sec. 5-1 & 5-2)

Aug. 12 – Human population growth – affluence, food availability, & reproductive rates. (Sec. 5-3; *1036-1040, Sec. 49-1*) **Quiz**.

Aug. 13 – Abiotic vs. biotic factors. Intro to biomes. Human effect on desert biomes. (Sec. 4-2 & 4-3; *Sec. 47-2*)

Aug. 16 – Human effect on rainforest biome.

Aug. 17 – Human effect on other terrestrial biomes. Succession.

Aug. 18 – Intro to aquatic biomes. Human effect on pelagic zone. (Sec. 4-4; *Sec. 47-3*)

Aug. 19 – Human effect on estuaries, wetlands, & intertidal zone. Gulf oil spill.

Aug. 20 – Personal impact webquest (Picture Day – Substitute)

Aug. 23 – Human effect on other aquatic biomes

Aug. 24 – Biogeochemical Cycles & how humans affect them.

Aug. 25 – Catchup / Review **Biogeochemical Cycle book due**

Aug. 26 – **Ecology Unit Test**, discuss. Aquatic biome clips.

Aug. 27 – Importance of water. (*Sec. 2-2; Sec. 4-1*)

Aug. 30 – Finish water, begin carbohydrates (*Sec. 2-3; Sec. 4-3*)

Aug. 31 - Carbohydrates, continued. (*Sec. 2-3; Sec. 4-3*)

Sept. 1 – Lipids (*Sec. 2-3; Sec. 4-3*)

Sept. 2 – Proteins: structure, function, & enzymatic activity. (*Sec. 2-3 & 2-4; Sec. 4-3*)

Sept. 3 – **Quiz** on carbs, lipids, & proteins. Nucleic acids: structure & function, DNA extraction **lab**. (*p. 291 – 294; p. 141 – 145*)

Sept. 6 – **Labor Day – No School**

Sept. 7 – PCR & gel electrophoresis. (*Sec. 13-2 & 13-3; Sec. 12-2 & 12-3*)

Sept. 8 – Catchup/ review organic molecule structure

Sept. 9 – Organic molecule **lab (dress appropriately)**

Sept. 10 – Organic molecule **lab cont. (dress appropriately)**; study guide for Biochemistry test.

Sept. 13 – **Biochemistry Test**. Prokaryotes vs. eukaryotes. (*p. 172-3, Sec. 19-1; Sec. 17-2*)

Sept. 14 – Bacteria **lab (dress appropriately)**.

Sept. 15 – Organelles (*Sec. 7-2; Sec. 5-2 & 5-3*) *Very short day – district PLC.*

Sept. 16 - Finish organelles & cellular structure

Sept. 17 – **Organelle quiz**. Osmosis & diffusion. (*Sec. 7-3; Sec. 5-4*)

Sept. 20 – Active transport. (Sec. 7-3; Sec. 5-4)

Sept. 21 – **Transport quiz.**

Sept. 22 – Photosynthesis (Sec. 8-2 & 8-3; Sec. 6-1 & 6-2)

Sept. 23 – Photosynthesis continued. Stomata **lab.**

Sept. 24 – Cellular respiration. (Chapter 9; Sec. 6-3 & 6-4)

Sept. 27 – Cellular respiration, cont.

Sept. 28 – **Quiz** on photosynthesis, & respiration. DNA supercoiling, histones, replication, & Okazaki fragments. Replication **lab.** (Sec. 12-2; p. 144-145)

Sept. 29 – Intro to mitosis, (Sec. 10-1 & 10-2; Chapter 8)

Sept. 30 – Mitosis **lab.**

Oct. 1 – Division regulators, & cancer. (Sec. 10-3; Sec. 8-1) Cell test study guide. **Late passes expire.**
Short period - Homecoming

Oct. 4 – Catchup/review

Oct. 5 – **Cell Test**

Oct. 6 – Review for midterm

Oct. 7 – No class – midterms in periods 1 & 2

Oct. 8 – **Midterm Exam**

Oct. 18 – Intro to Genetics. Three types of RNA, difference between DNA & RNA. Ribosomal subunits. Transcription, promoters, introns & exons. (Sec. 12-3; Sec. 7-2)

Oct. 19 – Translation. (Sec. 12-3; Sec. 7-3)

Oct. 20 – Translation **lab.**

Oct. 21 – Gene regulation, operons & the TATA box. (Sec. 12-5; Sec. 10-3)

Oct. 22 – **Quiz**, Mutation **lab.** Common mutations. (Sec. 12-4; Sec. 10-2)

Oct. 25 – Meiosis **lab** (Sec. 11-4; Sec. 9-3)

Oct. 26 – Difference between sperm and egg production, problems in meiosis. (Sec. 11-4, p. 341 & p. 352-353; Sec. 9-3 & p. 235 – 236, p. 240-241)

Oct. 27 – Karyotypes

Oct. 28 – Gene linkage & calculation of gene proximity. (Sec. 11-5; p. 206 – 209)

Oct. 29 – **Meiosis quiz, Bring photo of parents!** Genotype & phenotype. Human Characteristics **lab.** (p. 265-268; p. 183 -187)

Nov. 1 – Genetics vocabulary, intro to monohybrid Punnett squares. (Sec. 11-1; Sec. 9-2)

Nov. 2 – Monohybrid crosses, continued.

Nov. 3 – Codominance & incomplete dominance (p. 272-273; p. 197-198)

Nov. 4 – Multiple alleles. (p. 350 -351; p. 237 – 239)

Nov. 5 – Sex-linked traits. Review all crosses.

Nov. 8 – Genetic disorders research for paper.

Nov. 9 – **Quiz on crosses**, discuss. Dihybrid crosses. (p. 270 -271; p. 198-199)

Nov. 10 – Pedigrees. (p. 342-343)

Nov. 11 – **Veterans Day – No School**

Nov. 12 – Finish pedigrees. Clone Age, Part 1. Genetics study guide (Sec. 14-3; Sec. 11-4).

Nov. 15 – Gene therapy, Clone Age Part 2. Review. (Sec. 14-3; Sec. 11-4).

Nov. 16 – **Paper due. Genetics Test.**

Nov. 17 – Take A Stand. *Very short day – district PLC.*

Nov. 18 – Solving the Puzzle **lab**, inductive reasoning.

Nov. 19 – Deductive Reasoning, Misconceptions about Evolution. (Sec. 1-2; Sec. 1-2 & 1-3)

Nov. 22 – Darwin & the Voyage of the Beagle. (Sec. 15-1; Sec. 13-1)

Nov. 23 – Natural selection. Ideas that influenced Darwin. (Sec. 15-2; Sec. 13-1, p.293-295)

Nov. 24 – Evolution in action: antibiotic resistance (p. 403; *not in old book*) *Very short day – Thanksgiving Break*

Nov. 26 – **Thanksgiving Break – No School**

Nov. 27 – **Thanksgiving Break – No School**

Nov. 29 – **Antibiotic Resistance Pamphlet due.** Natural selection **lab**. (Not in new book; p. 297-298)

Nov. 30 – **Quiz**, Patterns of macroevolution & species formation. (Sec. 16-3, Sec. 17-4, p. 398-399; Sec. 14-3 & 14-4)

Dec. 1 – Evidence: The fossil record, the Law of Superposition, & Pangaea. (Sec. 17-1 & 17-3; p. 276-282)

Dec. 2 – Radioactive dating. Half-life of a Penny **lab**. (p. 420; p. 274-276)

Dec. 3 – “How Long Did All This Take?” **lab**. Miller & Urey, endosymbiotic theory, and the four eras of geologic time. (p.421, Sec. 17-2)

Dec. 6 – Classification **lab** (Sec. 18-1, p. 865). Evidence: Genetics & DNA. Introduce unit paper.

Dec. 7 – Evidence: structures and embryology. (p. 382-385, p.454-455; p. 283-285)

Dec. 8 – Chromosome Clues **lab** (Short period – awards assembly)

Dec. 9 – Finish Chromosome Clues, fusion at Chromosome 2. Begin human evolution.

Dec. 10 – Finish human evolution. Review. **Late passes expire.**

Dec. 13 – **Evolution test, Unit Paper due.** “Who’s Aping Who?”

Dec. 14 – Review/Catch up

Dec. 15 – Review for finals

Dec. 16 – **Final Exams**

Dec. 17 – **No class – period 1 & 2 finals**