

Biology Syllabus Fall, 2009

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. 5 – Intro to class. Policies & procedures.

Aug. 6 – Procedure review. What is Biology? Characteristics of life. (Sec. 1-3; *Sec. 2-1*) Safety video.

Aug. 7 – Procedure **quiz**. Intro to biomolecules. Importance of water. (Sec. 2-2; *Sec. 4-1*)

Aug. 10 – Finish water. (*Sec. 2-2; Sec. 4-1*)

Aug. 11 – Carbohydrates (*Sec. 2-3; Sec. 4-3*)

Aug. 12 – Lipids. (*Sec. 2-3; Sec. 4-3*)

Aug. 13 – Proteins: structure, function, & enzymatic activity. (*Sec. 2-3 & 2-4; Sec. 4-3*) Begin nucleic acids: structure & function. (p. 291 – 294; *p. 141 – 145*)

Aug. 14 – Nucleic acids, cont. DNA extraction **lab**. (*Sec. 13-2; Sec. 12-2 & 12-3*)

Aug. 17 – Unit review, organic molecule **lab (dress appropriately)**

Aug. 18 – Unit review, organic molecule **lab cont. (dress appropriately).**

Aug. 19 – **Biochemistry Test**. Intro to prokaryotes. (p. 172-3, *Sec. 19-1; Sec. 17-2*)

Aug. 20 – Intro to eukaryotes. Organelle webquest (*Sec. 7-2; Sec. 5-2 & 5-3*) *Substitute – Picture Day*

Aug. 21 – Comparing prokaryotes, plant and animal cells. Inner Life of a Cell.

Aug. 24 – **Organelle quiz**. Microscope instruction. **Cell lab (dress appropriately)**

Aug. 25 – Passive transport. (*Sec. 7-3; Sec. 5-4*)

Aug. 26 - Active transport. (*Sec. 7-3; Sec. 5-4*). Discuss test.

Aug. 27 – Finish transport. **Transport quiz**. Discuss quiz. Begin photosynthesis if time.

Aug. 28 – Photosynthesis, stomata **lab**. (*Sec. 8-2 & 8-3; Sec. 6-1 & 6-2*)

Aug. 31 – Finish photosynthesis. Cellular respiration (Chapter 9; *Sec. 6-3 & 6-4*)

Sept. 1 - Compare photosynthesis & respiration. DNA replication. Intro to mitosis if time. (*Sec. 12-2; p. 144-145*)

Sept. 2 – Steps of mitosis, mitosis modeling **lab**. (*Sec. 10-1 & 10-2; Chapter 8*)

Sept. 3 – Mitosis through movement. Cancer. (*Sec. 10-3; Sec. 8-1*) Review.

Sept. 4 – Review. **Cell Test**

Sept. 7 – **Labor Day – No School**

Sept. 8 – Intro to Genetics. Three types of RNA, difference between DNA & RNA. Transcription. (*Sec. 12-3; Sec. 7-2*)

Sept. 9 – Transcription & translation. (*Sec. 12-3; Sec. 7-2 & 7-3*) Discuss test.

Sept. 10 – Translation **lab**.

Sept. 11 – **Quiz**, Common mutations. Test discussion. (*Sec. 12-4; Sec. 10-2*)

Sept. 14 – Mutation **lab**. Intro to meiosis. (*Sec. 11-4; Sec. 9-3*)

Sept. 15 – Meiosis. Difference between sperm and egg production. (*Sec. 11-4; Sec. 9-3*)

Sept. 16 – Problems in meiosis, karyotypes. (*Sec. 11-4, p. 341 & p. 352 -353; Sec. 9-3 & p. 235 – 236, p. 240-241*) *Very short day – district PLC.*

Sept. 17 - **Meiosis quiz, Bring photo of parents!** Genotype & phenotype. Human Characteristics **lab**. (p. 265-268; *p. 183 -187*)

Sept. 18 – Genetics vocabulary, intro to monohybrid Punnett squares. (*Sec. 11-1; Sec. 9-2*)

- Sept. 21** - Monohybrid crosses, continued. Begin Family Secrets.
- Sept. 22** – **Quiz on monohybrid crosses**, discuss. Codominance & incomplete dominance (p. 272-273; p. 197-198)
- Sept. 23** – Multiple alleles. (p. 350 -351; p. 237 – 239)
- Sept. 24** – Sex-linked traits. Review all crosses.
- Sept. 25** – Polygenetic inheritance, environmental effects on phenotype, pedigrees. (p. 342 - 343)
- Sept. 28** – Finish pedigrees. Catchup/review.
- Sept. 29** – Review for finals.
- Sept. 30** – Review for finals.
- Oct. 1** – **Final exams.**
- Oct. 2** – **Final exams.**
- Oct. 12** – Genetic disorders research for paper.
- Oct. 13** – Marfan scenario & bioethics. Discuss midterm.
- Oct. 14** – Gene therapy & cloning.
- Oct. 15** – **Unit paper due.** Take a Stand. Review for unit test.
- Oct. 16** – **Genetics Test.**
- Oct. 19** – Solving the Puzzle **lab**, inductive reasoning.
- Oct. 20** – Deductive Reasoning, Misconceptions about Evolution. (Sec. 1-2; Sec. 1-2 & 1-3)
- Oct. 21** – Darwin & the Voyage of the Beagle. (Sec. 15-1; Sec. 13-1)
- Oct. 22** – Natural selection. Ideas that influenced Darwin. (Sec. 15-2; Sec. 13-1, p.293-295)
- Oct. 23** – Natural selection **lab**
- Oct. 26** – **Quiz.** Evolution in action: antibiotic resistance (p. 403; *not in old book*)
- Oct. 27** – Speciation. (Sec. 16-3, Sec. 17-4, p. 398 - 399; Sec. 14-3 & 14-4)
- Oct. 28** – Macroevolution vs. microevolution. Hox genes. Causes of evolution foldable.
- Oct. 29** – Radioactive dating. Half-life of a Penny **lab**. (p. 420; p. 274-276)
- Oct. 30** – “How Long Did All This Take?” **lab**. The fossil record, the Law of Superposition, & Pangaea. (p.421, Sec. 17-1, 17-2, & 17-3)
- Nov. 2** – **Quiz.** Classification **lab** & cladogram practice (Sec. 18-1 and p.865).
- Nov. 3** – Evidence: Genetics & DNA. Cytochrome C activity (p. 865)
- Nov. 4** – Chromosome Clues **lab**
- Nov. 5** – Finish DNA evidence. Introduce unit paper. Evidence: structures and embryology. (p. 382-385, p.454-455; p. 283-285)
- Nov. 6** – Finish structures & embryology evidence.
- Nov. 9** – Human evolution.
- Nov. 10** – Review/catchup
- Nov. 11** – **Veterans Day – No School**
- Nov. 12** – **Evolution test, Paper Due.** “Who's Aping Who?”
- Nov. 13** – Organizational levels, biotic vs. abiotic. Terrestrial biomes. (Sec. 4-2 & 4-3; Sec. 47-2)
- Nov. 16** – Aquatic biomes and organization. (Sec. 4-4; Sec. 47-3)
- Nov. 17** – Habitats and niches
- Nov. 18** – **Quiz,** Types of interactions. (p. 91-92; p. 304-305) *Very short day – district PLC.*
- Nov. 19** – Predator – prey lab. (p. 68-71; p. 1022-1023, p. 1026-1027)
- Nov. 20** – Carrying capacity, factors affecting population changes. (Sec. 5-1 & 5-2)

Nov. 23 – Trophic levels, food webs, and energy flow, human population growth. “Food for Thought”. (Sec. 3-2, p. 93, p. 126; p. 1026-1027)

Nov. 24 – Age structure diagrams. Human population growth webquest. (Sec. 5-3; 1036-1040, Sec. 49-1)

Nov. 25 – Incident Reports

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

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

Nov. 30 – Biogeochemical cycles & human effect. (Sec. 3-3; p. 1023-1026)

Dec. 1 – Renewable and nonrenewable resources. “Story of Stuff”. (Sec. 6-2)

Dec. 2 – Kyoto Simulation

Dec. 3 – Environmental concerns: “An Inconvenient Truth” or “The Eleventh Hour” (*Substitute – NSTA Conference.*)

Dec. 4 – Finish film & discuss climate change. (*Substitute – NSTA Conference.*)

Dec. 7 – Lab time for Power Points.

Dec. 8 – Lab time for Power Points.

Dec. 9 – **Environmental Presentations**

Dec. 10 – **Environmental Presentations**

Dec. 11 – Finish presentations if necessary. Review/Catch up

Dec. 14 – **Test on Ecology**, Final exam study guide.

Dec. 15 – Review for finals / Catch up

Dec. 16 – Review for finals / Catch up

Dec. 17 – **Final Exams**

Dec. 18 – **Final Exams**