

BIOL 210 Notebook Minimal Entries (do keep it up-to-date; it may be checked at any time for currency)

Table of Contents (all pages numbered)	Key:  = see  = sketch & label  = graph or calculate  = describe
Each lab day (all pages dated)	Date, time of sunrise/set, photoperiod, temperature & weather
L1: Microscope etc. L2: Cell Form	Sketch () human RBCs, frog RBCs, human buccal squamous epithelium, a living “animicule;” Calculate () diameter of hRBC
L4: Histology	 skeletal, visceral & smooth muscle; bone, cartilage, areolar connective tissue, adipose, blood stratified squamous, cuboidal, columnar epithelial tissues; neurons & neuroglia
L2: Cell Division; Excel exploration	 Interphase and phases of mitosis;  Estimate the length of each phase when mitosis takes one hour. Document successful use of >1 Excel sample.
Diffusion & <i>The Case of the 6% Solution</i>	Predict outcome of the “ion race,” run it,  and debrief result. Calculate sucrose concentration to equal the osmotic effect of a 1% NaCl solution.
L3a Meiosis & VGL: Virtual Genetics Lab	Model meiotic changes in three pairs of chromosomes using two colors of clay (one for each parent); show one crossover event;  result.
Gene Explorer & VGL	 Outline of strategic plan of fruit fly crosses to assess genetic models of three different traits. Notes & results.
L3bc: Embryology	 Sketch embryonic stages: zygote, early cleavage, late cleavage (morula), blastula, gastrula, and a named stage beyond (echinoderm & amphibian)
Globin Space	 Research phylogenetic relationships inferred from analysis of DNA sequence data collected online. Document steps followed & present conclusions in the form of a “family tree” for at least 7-10 species.
L25c: Cool behavior	 experimental setup used,  sketch it, complete multiple trials, record &  graph results with calculation of Q10. Submit mini-paper at next lab.
L23a: Beetle Sex	 setup used; prepare a table for a census of beetle adults and larvae every 2 weeks through May; graphs & discussion expected after last count.
L5: Cladograms & a dichotomous key	Cladogram to be submitted at end of class; dichotomous key of entire class to be preserved in notebook with one copy per table group at next lab.
L7: Porifera	 an asconoid or leuconoid sponge, spongin, spicules;  <i>Euplectella</i>
L8: Cnidaria	 <i>Hydra</i> , w.m., c.s.; <i>Obelia</i> , polyp & medusa w.m.; <i>Metridium</i> , c.s.;  <i>Hydra</i>
L9: Platyhelminthes	<i>Dugesia</i> , <i>Schistosoma</i> & another trematode; a cestode scolex & each stage of proglottid;  <i>Dugesia</i> behavior;  &  cestode & trematode life cycles
L10: Rotifera & Nematoda	 <i>Ascaris</i> , w.m. & c.s.; <i>Enterobius: Necator; Trichina</i> ;  rotifer & “vinegar eel” behavior;  /  parasite life cycle: single-host & one with 1° & 2° hosts)
L11: Mollusca	 clam, <i>Loligo</i> ;  snail behavior
L12: Annelida ✂	 <i>Lumbricus terrestris</i> ,  <i>Nereis</i> ;  earthworm behavior
L14: Crustacea ✂	 Crayfish, dors. & vent., + serial homol; <i>Daphnia</i> or other “micro-crusty”
L1: Order among hexapods	 a hexapod and a chelicerate
L16: Echinodermata ✂	 seastar oral and aboral
L17 Lancelets & L18: Fish	 <i>Branchiostoma</i> , w.m. & c.s.; lamprey ammocoetes larva, w.m. & c.s.; tunicate c.s.; ✂ fish w.m.
L20: Bone & reptiles	 responses to Comp Anat (download from Zoology 210 web page)