Biol 215

Genetics

Fall 2015

**Quick pointers for labs/lab report #**1

Excellent job on your first lab! I was most impressed with the time and eagerness spent in the lab. Nonetheless, students are expected to spend extra time in the lab. Hopefully you have a new appreciation for the process of mitosis and the wealth of information you can obtain from onion roots. I still find it rewarding to see the beautiful organization of the cells and thrilling to see cells engaged in mitosis. (especially if I create the slide!).

* Clearly most students had read the lab and were prepared for completing the tasks. Keep up that habit!
* Most lab handouts will have some questions to think about while you’re doing the lab. They are designed to help you think more deeply about the topics. You may not be able to answer them on the spot---don’t worry. Reading them carefully is important. They are not meant to be a worksheet to hand in, but rather a source of ideas for discussion for you and your lab partner and for the lab report.
* Use the example report as a guide. Don’t copy it or think it is perfect or complete. Use all your resources---lecture, text, lab materials---including the guidelines give out at the first lab---AND your own experience when you write
* Don’t redraw or make computer-generated sketches. Use lab time to sketch and sketch what you see! Include magnification and label parts of the cell clearly. For example, if you draw in nucleoli in interphase cells, label them as such.
* Include all the data you collected and discuss. (Even when it means a return to the lab to take another look).
* Discuss your observations, data collected etc. The discussion section should be more than opinion or likes and dislikes.

-----Points to ponder…

In our lab, root growth was stimulated by water. A second way of increasing the mitotic index of a sample of cells is to stop them from *completing* mitosis. Two chemicals are routinely used by cytogeneticists to increase the percentage of blood cells with nice fat, visible chromosomes. *Cholchicine* and *Cholcimid* are plant chemicals that interfere with formation of the spindle in animal cells. Cells treated with Cholchicine get stuck in metaphase so a sample of blood cells will over time accumulate cells with nice fat chromosomes to analyze!

Do some outside research to learn how a karyotype is made!