**Bio111 Week 5**

Before you come to lab

1) Find out how antibiotic resistance works for the antibiotic you have chosen. What mutations have been documented, or what new genes do cells acquire to become resistant?

3) Answer each of these four questions in two sentences or less.

A) Are promoters more like on/off switches, or rheostats? (information)

B) What could you do to be sure you successfully cloned the promoter you wanted to clone? (information)

C) When you are performing your evolution experiment, do the cells only mutate their DNA in beneficial ways to survive? (evolution)

D) How will you know when the cells become antibiotic resistant? (evolution)

**Week 5 (Sept 22th)**

Information In Lab

1) Oral presentations. 10 minutes each group. Questions follow. PPT slide shows will be loaded on the front computer and projected.

2) Update your part on the [lab wiki](http://partsregistry.org/cgi/partsdb/pgroup.cgi?pgroup=lab&group=Campbell%20M%20Lab).

Evolution In Lab

3) Collect your data and determine MIC for your combination of cells and antibiotic.

4) Strategize on the best way to produce directed evolution of antibiotic resistance. What outcome do you want to produce? What method works better to drive evolution towards this trait? Do you want to grow cells in liquid media or on solid media? Search for papers that address non-chemical ways to accelerate mutation rates. Spend about 15 minutes on this.

5) Start your experiment.