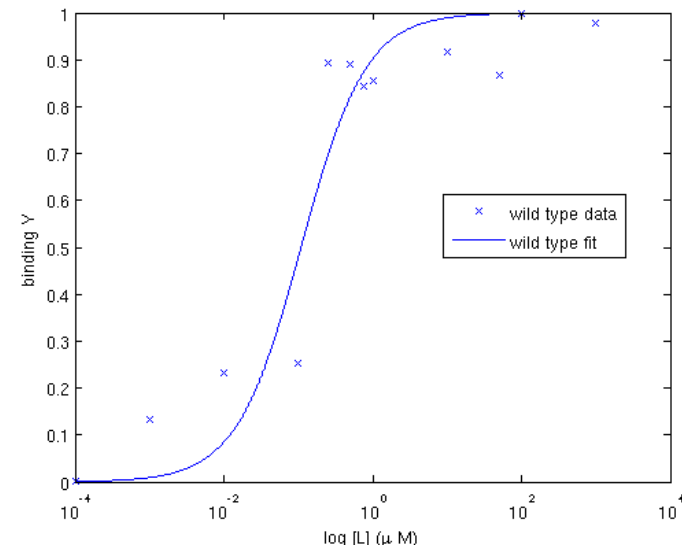
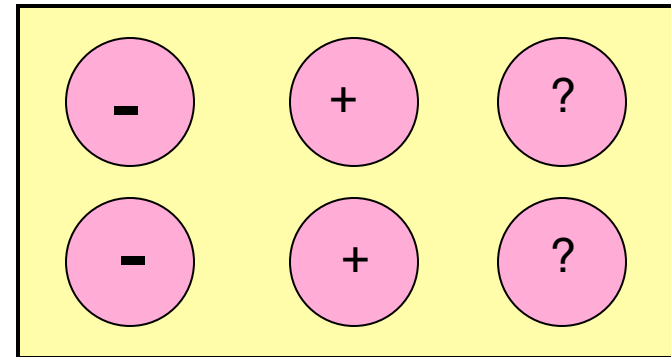


find a partner and a station

- Introductions
- 20.109 Goals and Philosophy
- Day-to-Day Workflow
- Semester-Long Workflow
- Lab Safety
- Self-/Guided Lab Tour

# After 20.109, you should be able to...

- Implement laboratory protocols
- Design novel experiments with appropriate controls
- Organize a lab notebook
- Interpret qualitative data
- Analyze quantitative data
- Recognize utility of models
- Examine the scientific literature
- Communicate to various audiences, in various styles
- Present salient points of your own and others' ideas



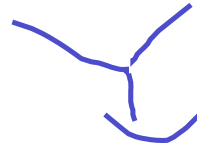
# 20.109: Promises and Expectations



Authentic investigation  
Constructive feedback

Const. Feedback (include ?'s)  
Support your peerw

LOTS of time and attention for us AND you



a collaboration b/w us all, an  
environment conducive to learning  
and knowledge creation

Our "syllabus" is Schedule and Assignments tabs on wiki

# Day-to-day workflow

- Hand in current HW, get old HW back
- Announcements and/or HW discussion
- Quiz 2-3 Q; 5-10' into sharp
- Pre-lab lecture
- Lab work
  - See wiki
- Hand in notebook pages before leaving

# Annotating protocols

1. Begin by adding the correct amount of water to a 200 ul PCR tube. Add that amount +1 ul to a second PCR tube.
2. Next add the primers to each reaction. Be sure to change tips between additions.
3. Next add template to the first reaction tube.
4. Finally add PCR Master Mix to each tube, pipetting up and down to mix. Leave your tubes on ice until the entire class

Print-outs are okay. You supply the info.  
When missing, changed, or ambiguous.

# Semester-long workflow

- Work in pairs
- Broader community collaboration
- Assessments
  - Minor: HW, quizzes, notebooks
  - Major: reports, presentations, blog
  - ***Ask if something is unclear***
    - Available over email, occasional **OH**
  - ***Plan ahead and manage your time***

20109 talk  
@gmail.com  
(jst - e)

A few days before major stuff is due

group - 16.336

16.319

1-67-1  
0.0

# Lab Safety

- Protection: gloves, glasses, coat, coverage
- Just in case... eyewashes, shower
- Hazards: *sharps; fire;* Materials: major chemical toxicity or minor irritant; biological
- Waste disposal  
*sharps bins*      *biohazard barrels*

Bio. and non-bio  
Broad definition  
No liquids or solids



Non-sharp  
Biol. waste  
Solids okay

Biol. liquids are bleached, sink; chemical waste in fume hood

**Time for demo and tour!**

You do have HW

No lab ntbk.