**Week 1: Introduction**

Learning Objectives for First Week in Lab

*Skills*

* Locate safety equipment
* Accurately pipet a given volume with one of three pipets (1 – 1000 µL)
* Calculate serial dilutions and solution concentrations

*Cognitive*

* Devise efficient method for serial dilutions

**Pre-Lab**

Before you come to lab:

1) Read “How to use a Pipetman” so you can be ready for lab.

[www.bio.davidson.edu/113/weekly\_Labs/Micropipettor.pdf](http://www.bio.davidson.edu/113/weekly_Labs/Micropipettor.pdf)

2) Watch 3 videos and download 1 Excel file.   
<<https://www.bio.davidson.edu/people/macampbell/113/2iterationsGGAstudent_S2024.html>>

3) Answer each of these four questions in two sentences or less. You will be called upon randomly for the answer you found.

A) What is the volume difference between a liter and these amounts?   
milliliter, microliter, nanoliter

B) What is a serial dilution?

C) What is the most efficient way to make a serial dilution over a large range of concentrations?

D) Which pipet is broken most often due to improper usage by students?

**In-Lab**

During lab:

1. Submit CATME Team Maker data (<https://www.catme.org/login/index>)
2. Answer questions A – D collectively.
3. Get certified on using pipets
4. Calculate how to set up your first serial dilutions. Devise a method to make serial dilutions next week, and tell your instructor.