

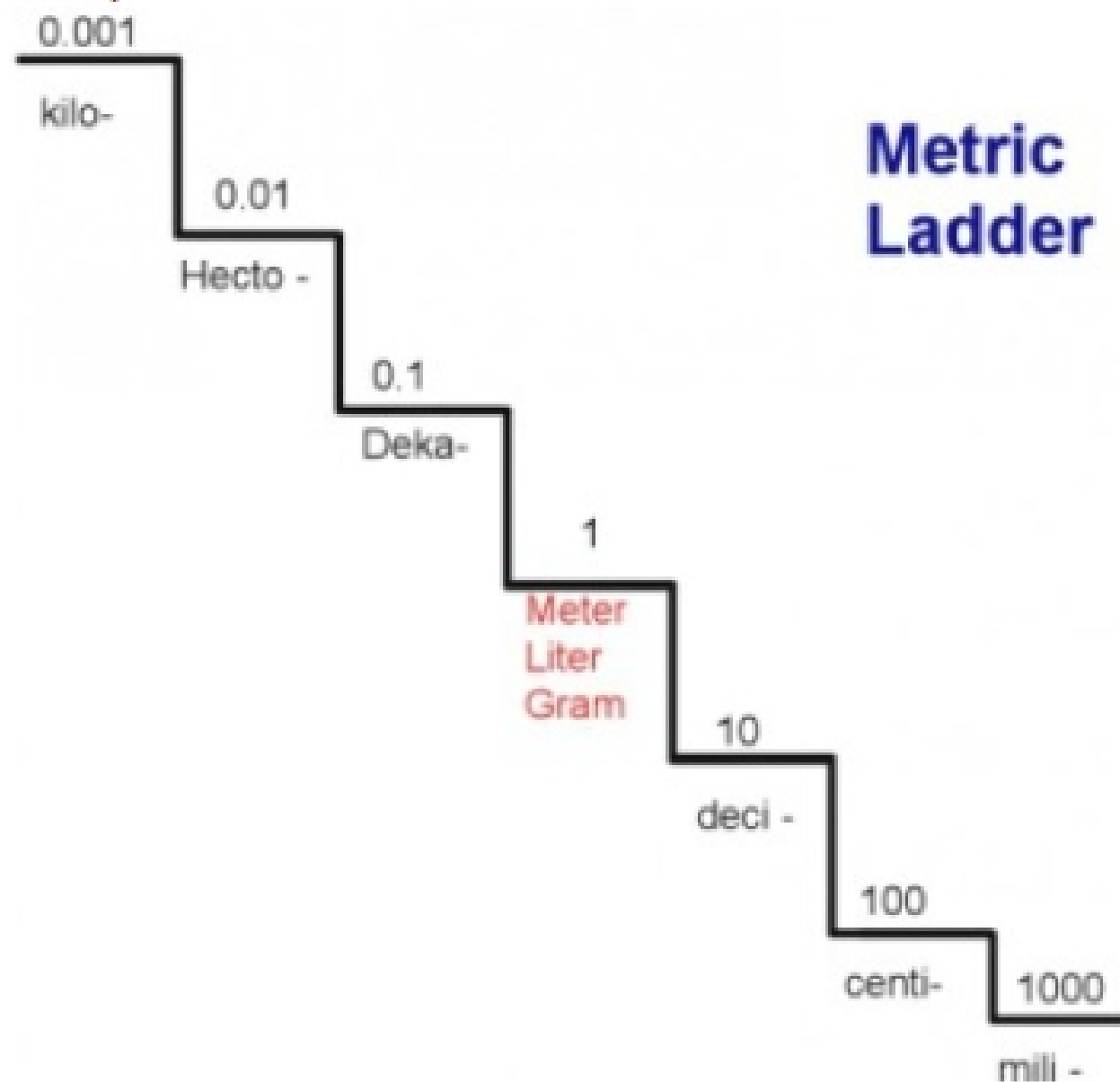
GBI – Final Lab Practical Review

In general:

- Review quizzes
- All of the post labs will be reposted on blackboard as 1 large test. You may retake this test as many times as you like. There will be no time limit, and it is NOT worth any points.
- Be able to identify cell types and structures for the slides you looked at in lab.
- Be familiar with all of the graphs you created in lab. Be able to read information from the graphs to answer interpretive questions.

Metric System

- Know how to do unit conversion using the metric system. (Remember the metric ladder)



- Be able to calculate how much liquid or powder is necessary to produce a certain volume of solution.
Formula: $\text{g/mL} \times 100 = \%$
Example: If you need to make 1L of 10% salt solution, how much salt do you need in grams?)

Scientific Method

- **What is a Control?**
The Control group is not subjected to the experimental manipulation.
- **Independent variable (Definition and be able to identify examples)**
The independent variable is the factor you manipulate.
- **Dependent variable (Definition and be able to identify examples)**
The dependent variable is the factor you measure
- **Which variables (dependent or independent) are on the x and y axes of a graph?**
D(ependent)

R(esponsive)

Y(axis)



M(anipulated) I(ndependent) X(axis)

Microscopes

- Be able to identify the parts of a microscope, including the types of lenses used in class (scanning 4x, low-power 10x, high-power 40x)

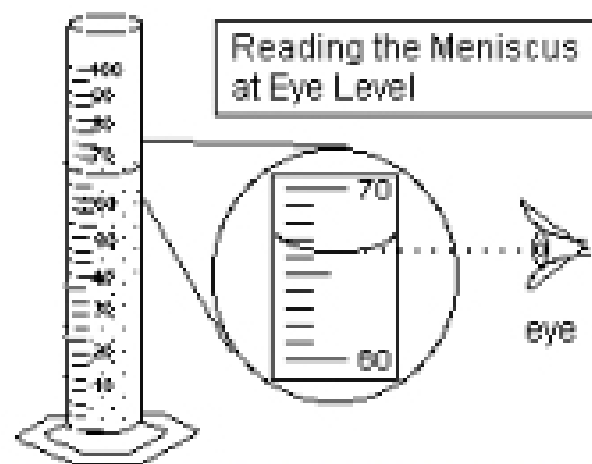
- Know how to calculate total magnification. (Objective power x ocular = total magnification)

Objective power	Ocular	Total magnification
(Scanning) 4x	10	40
(Low- power) 10x	10	100
(High- power) 40x	10	400

- Be able to use a microscope to focus on a specified object: Virtual microscope tour go to: <http://www.udel.edu/Biology/ketcham/microscope/>

Scientific Techniques

- **Blank** (Define and know which ingredients should go in the blank for a given experimental sample i.e. – spectrophotometer you would add all substances except what you want to measure)
The blank will contain all of the same components as the experimental sample except for the substance you want to measure for the experiment.
- When presented with a blank and experimental sample, be able to get an absorbance reading for the experimental sample.
- Be able to interpret spectrophotometer results. For example, could you determine the more concentrated sample from a spec reading?
The light that makes it through the sample (transmitted light) is measured by the detector
The greater the number of molecules of a particular type in a sample, the more light is absorbed and the less light is transmitted.
- Know the appropriate piece of glassware to use to measure different amounts of water.
- **Meniscus** (Know what it is and how to read volumes using the meniscus.)



- Be able to use a microscope to focus quickly and accurately.
- Know how to use an electronic balance to measure mass. (remember to tare scale to zero to subtract weigh boat). **MAKE SURE IT'S ON APPROPRIATE SETTING**
- Be able to use a pipette to measure a liquid.
http://www.phschool.com/science/biology_place/labbench/lab5/readpipe.html