

Lab

Lab Intro

An introduction to lab section and additional resources.
Where we test concepts and exercise theories.



version 1.6

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Laboratory Intro



Lab Section

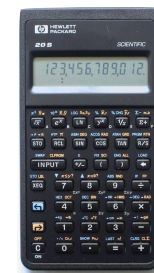
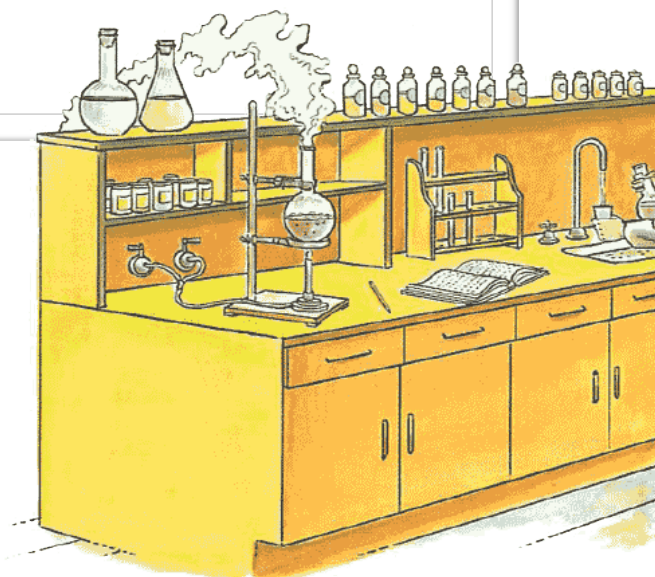
- ▶ Why have a lab?
- ▶ Dates, Times, etc
- ▶ Online Resources
 - ▶ Class Website
 - ▶ Extra Website
 - ▶ Textbook
- ▶ Activities
 - ▶ Homework
 - ▶ Experiments
 - ▶ Pre-lab Quizzes
 - ▶ Experiment Reports
 - ▶ Workshops
 - ▶ Practice Exams
 - ▶ Exams
 - ▶ Progress Reports



Safety

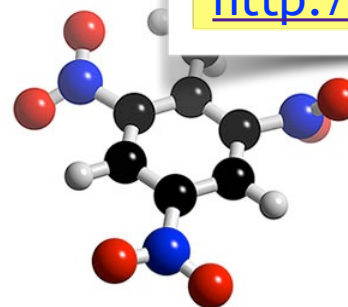
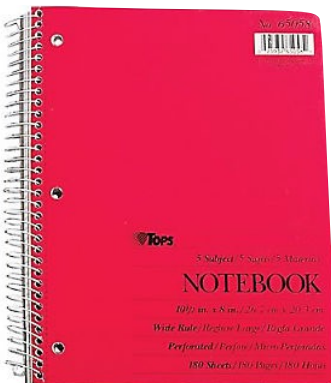
- ▶ Tour of Lab Room
- ▶ Safety Video & Quiz

Lab Lockers, Partners & Contracts



class website:

<http://chem.ws/210>



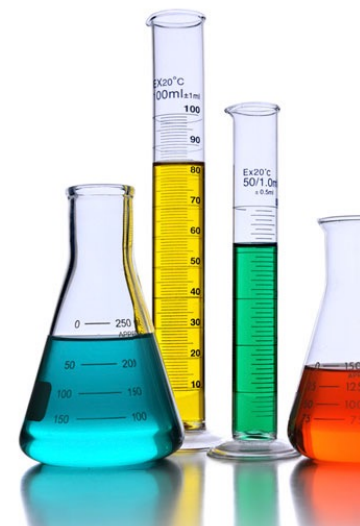
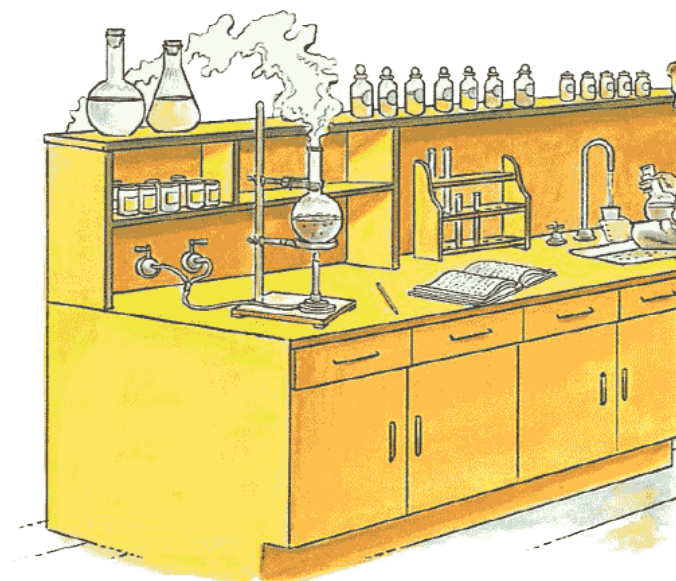
Why Lab?

▶ Why Lab?

- ▶ The lab is the chemists gym and workshop.
- ▶ A lot of the concepts, theories, laws and skills we layout for you in lecture and discussion will be hard to understand.
 - ▶ You need an opportunity to apply them and you will benefit from having someone at hand who can help when you do.
- ▶ In lab we'll have activities that allow you to apply and explore the more challenging concepts.

- ▶ You also need hands on time with real chemistry experiments, apparatus, and techniques – having those hours is required for the school to be able to say you took general chemistry.
 - ▶ It's like getting a pilots license, you need flight hours.
 - ▶ For general chemistry, you need lab hours.

- ▶ This is also a good place to bring in any questions from reading, homework or lecture.



Dates, Times etc.

- ▶ This class meets: 08/16/17 - 12/06/17 M/W

- ▶ Lecture:

- ▶ 11:10-12:25pm (Mon/Wed)

- ▶ Please do not be late

- ▶ in Room 114 of Building 22

- ▶ Lab:

- ▶ 8:10am - 11:00am (Mon/Wed) – Section AAX

- ▶ 2:10pm - 5:00pm (Mon/Wed) – Section ABX

- ▶ in Room 305 of Building 18

- ▶ Attendance is required.

- 1.If you miss a class, you cannot make up the activities (you get no points).

- 2.Also, too many absences from lab means you may not have enough lab hours to pass the class—you may get dropped (see syllabus for limits).

- 3.You are responsible for everything presented in class, whether you are here or not.

- 4.Having a really good reason doesn't change 1-3.

- ▶ There will be sign in sheet at each meeting, you must sign the the sheet to have your attendance recorded.

- ▶ Not signing-in is the same as being absent.

section AAX
CRN 92010

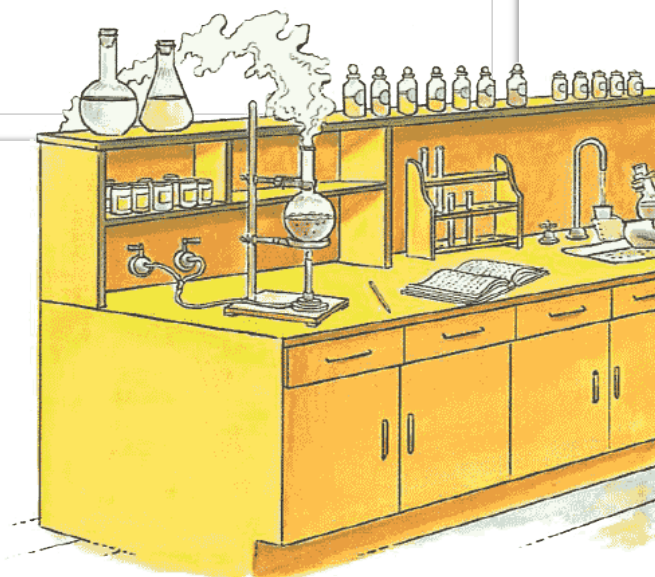
section ABX
CRN 92633



Always sign-in!

Laboratory Intro

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 - ▶ Dates, Times, etc



▶ Online Resources

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 - ▶ Homework
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 - ▶ Pre-lab Quizzes
 - ▶ Experiment Reports
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 - ▶ Practice Exams
 - ▶ Exams
 - ▶ Progress Reports

▶ Safety

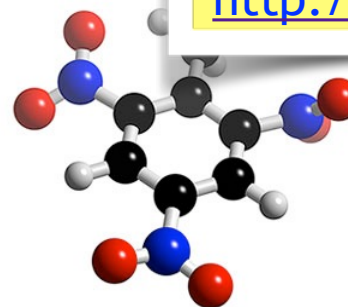
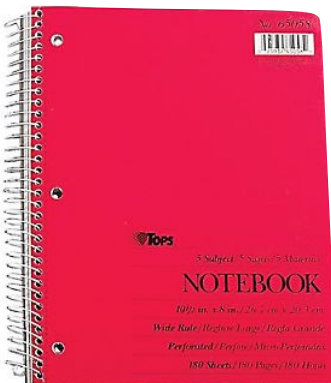
- ▶ Tour of Lab Room
- ▶ Safety Video & Quiz

▶ Lab Lockers, Partners & Contracts



class website:

<http://chem.ws/210>



Class Website

- ▶ You will need internet access for this class, many of the resources will be posted on the class website.
- ▶ The class website is at:

class website:

<http://chem.ws/210>

- ▶ The class website is contained in a learning managements system (LMS) called Canvas.
- ▶ Check your school email inbox (@my.smccd.edu) for an email with your username and temporary password. Use that information to login.
- ▶ If you haven't yet added the class or you are having difficulty logging into the class website there is another website at the following URL that has PDFs on using Canvas, lecture slides and some other resources:
 - ▶ <http://chem.ws/210>



CHEM 210 General Chemistry I

Cañada College, Spring 2017



Instructor: Prof. Nick DeMello, Ph.D. (email: nick@chemlectures.com)

Syllabus: [Chem 210 Syllabus](#)
Schedule: [Chem 210 Schedule](#)

Units (Letter grade) 5; Class Hours: Minimum of 48 lecture/96 lab hours/semester; Recommended: Eligibility for ENGL 100; Prerequisite(s): CHEM 192, or other measures that demonstrate elementary chemistry proficiency such as completion of high school Advanced Standing (AS) Chemistry or high school Advanced Placement (AP) Chemistry with a grade of C or better. A score of 3 or higher in the AP Chemistry exam is also acceptable; and MATH 120 or 123, or satisfactory score on District math placement test and other measures as appropriate that indicate proficiency in Intermediate Algebra.

Description: This course is the first half of a two-semester sequence in general chemistry intended for students pursuing majors in physical sciences, biological sciences and engineering. The topics include atomic theory, stoichiometry, chemical bonding, thermochemistry, periodicity, molecular geometry, gas laws, solution stoichiometry, intermolecular forces and selected topics covering redox and acid-base reactions. The laboratory program includes gravimetric, colorimetric, and selected volumetric methods of analysis. Students are introduced to spreadsheet and graphical analysis of laboratory data and molecular modeling, and perform a variety of computer-interfaced experiments. CHEM 192 is recommended.

Transfer: CSU: B1, B3, UC*. (IGETC: 5A*, 5C)

Topics & Objectives (links) (what we are trying to learn)	Lecture Slides (pdf)	Study Aids
[Ch 1] Classes & Properties of Matter [Ch 1] Measurement & Significance [Ch 1] Units & Dimensional Analysis	Class Intro ch01a - Matter ch01b - Measurement ch02a - Elements	Canvas L... Canvas



Class Website

- ▶ Content for the class is organized into five blocks, each corresponds to 2-3 textbook chapters.
- ▶ This semester we are providing the course text book and online homework as part of your registration.
 - ▶ You should already have access to both.
 - ▶ The second to last menu item will pop-up a separate tab that opens a digital copy of the course textbook.
 - ▶ You can buy a hard copy of the course textbook from the bookstore for \$49.
 - ▶ It's a good deal, this is a \$130+ textbook and it's a very good one.
- ▶ The last menu item will take you to the online lab manual for the course.
- ▶ If you are not yet registered for the class you can access the web manual directly at:
 - ▶ <http://chemskills.com/labs>

CHEM-210-AC-CRN42881 > Pages > Block A - Components of Matter

Spring 2017

Home

Organization

Block A (Ch01-02)

Block B (Ch03-04)

Block C (Ch05-06)

Block D (Ch07-08)

Block E (Ch09-11)

Class Textbook

Lab Experiments

Block A - Components of Matter

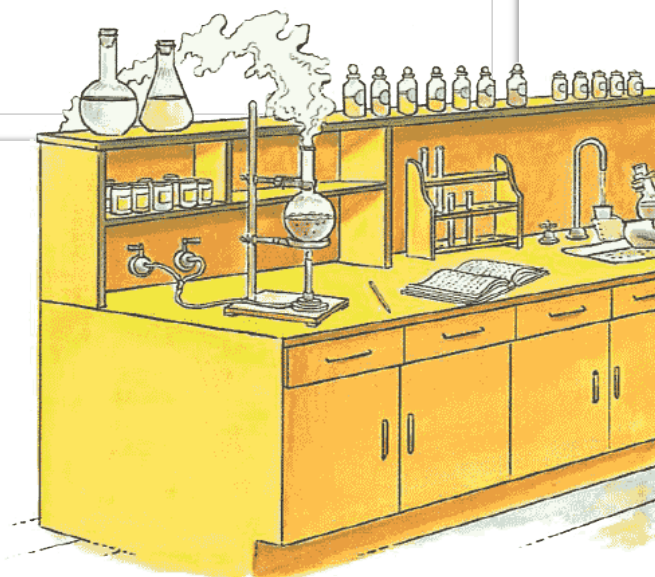
Chapter 01 - Matter,
Chemistry is the s

Chapter 02 - Atoms
Understanding the

Reading Assignments from [Chemistry, by Nivaldo Tro \(4th Ed\)](#)

Laboratory Intro

- ▶ Lab Section
 - ▶ Why have a lab?
 - ▶ Dates, Times, etc
- ▶ Online Resources
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 - ▶ Extra Website
 - ▶ Textbook



- ▶ Safety
 - ▶ Tour of Lab Room
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Activities

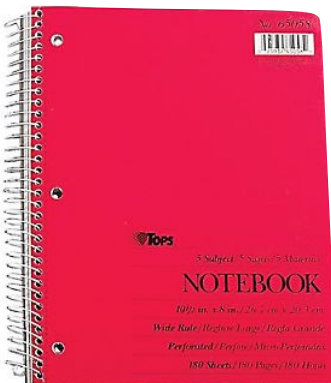
- ▶ Homework
- ▶ Experiments
 - ▶ Pre-lab Quizzes
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- ▶ Exams
- ▶ Progress Reports

- ▶ Lab Lockers, Partners & Contracts



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<http://chem.ws/210>



Mastering Chemistry

- ▶ Homework will be done mostly with Pearson's Mastering Chemistry. You access it through Canvas.
 - ▶ You don't need a separate login.
 - ▶ Each block in Canvas has 2-3 homework assignments, they're usually due at 11:50pm the Sunday after we finish covering that chapter.
 - ▶ The first one is an introduction to using MasteringChemistry and is due this Sunday (it should be easy points).
 - ▶ Assignments will usually have 12-16 questions and be worth a total of 16-20 points
- ▶ Don't underestimate the time it takes to complete an assignment, they'll open before we start talking about a chapter.
 - ▶ Do a couple questions a night and it should keep.
 - ▶ Most questions will let you try again if you get the answer wrong.
 - ▶ It doesn't pay to guess, you'll lose a little bit with each attempt. But it pays to keep trying if you don't get it right the first time.
 - ▶ If you get stuck on a question or just want to talk it through, print out the question and bring it to lab.
 - ▶ Homework is not an evaluation, it's about giving you a chance to work with the ideas. It's fair to ask for help from me, the learning center, your lab partners etc.
- ▶ Late homework is worth about 2/3, but it's still worth points!
 - ▶ If you miss the close date, do it anyway.
 - ▶ Tell me you did it and I can manually move over the partial credit.

Homework Assignments



01-22 | [Chapter 00 \(Introduction\)](#)

01-29 | [Chapter 01 of Mastering Chemistry](#)

02-05 | [Chapter 02 of Mastering Chemistry](#)

Meetings in Lecture (Room 319)

Topics Discussed:

Ch 01 : [Classifying Matter](#) • [Measurement](#) • [Dimensional Analysis](#)

Ch 02 : [Flavors of the Atom](#) • [Atomic Theory](#) • [Atomic Mass](#)

Lecture Slides:

[Ch 01a - Matter](#)

[Ch 01b - Measurement](#)

[Ch 02a - Elements](#)

[Ch 02b - Atoms](#)

Ask a question, offer an answer:

[Ch 01 - Discussion](#)

[Ch 02 - Discussion](#)

Meetings in Lab (Room 305)

01-23 | [E01 - Classifying Matter](#)

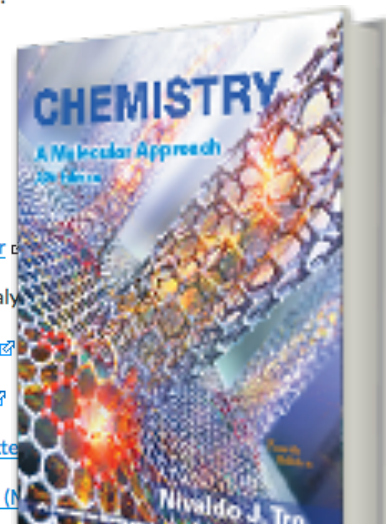
01-25 | [W01 - Dimensional Analy](#)

[Wks01a - Significance](#)

[Wks01b - Dimension](#)

01-30 | [E02 - Properties of Matte](#)

02-01 | [W02 - Counting Atoms \(N](#)



Lecture Resources

- ▶ There is also a list of the topics we will be covering on the website.
 - ▶ This list is our attempt to be clear about what we are trying to help you learn.
 - ▶ Use it as a check list while studying each chapter and preparing for exams.
- ▶ Slides for all lectures are online as PDF documents.
 - ▶ Since they are PDF's you can view them on any platform.
 - ▶ Keeping a copy of the latest slides on your smart phone or tablet is a good way to review content when you have some down time.
 - ▶ Slides may be updated as we go.
- ▶ There are discussion groups for each chapter.
 - ▶ Ask questions, I'll try to answer them as I can.
 - ▶ If you think you know the answer, offer it. Discussion helps everyone.
- ▶ Laboratory resources are also linked...

Homework Assignments

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01-29 | [Chapter 01 of Mastering Chemistry](#)

02-05 | [Chapter 02 of Mastering Chemistry](#)

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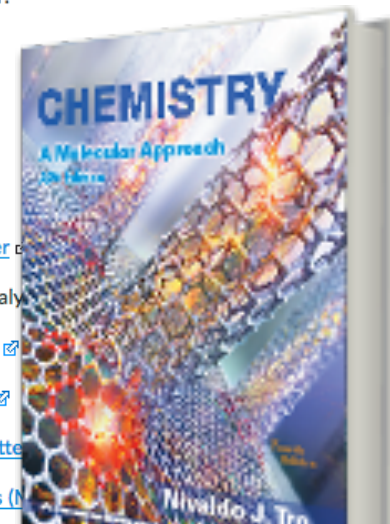
01-25 | [W01 - Dimensional Analysis](#)

[Wks01a - Significance](#)

[Wks01b - Dimension](#)

01-30 | [E02 - Properties of Matter](#)

02-01 | [W02 - Counting Atoms \(M](#)



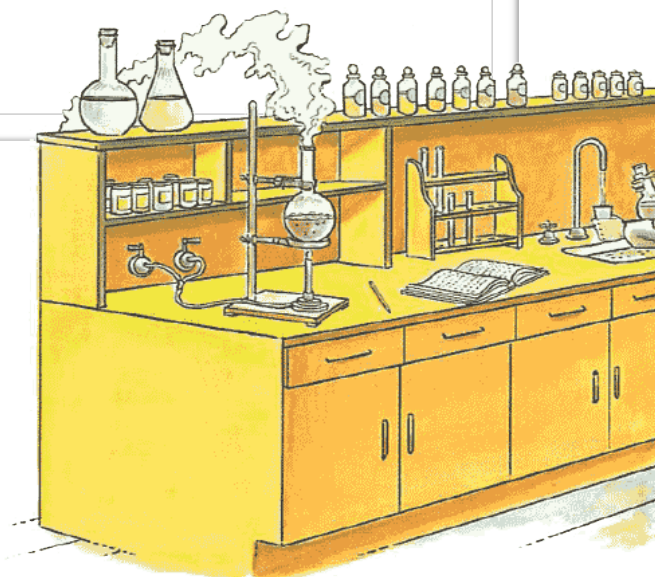
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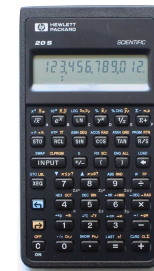


- ▶ Activities
 - ▶ Homework
- ▶ Experiments



- ▶ Pre-lab Quizzes
- ▶ Experiment Reports

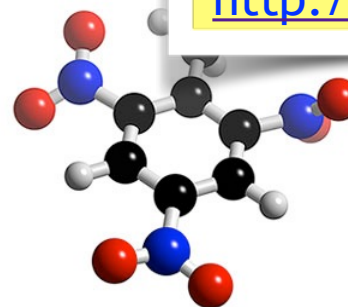
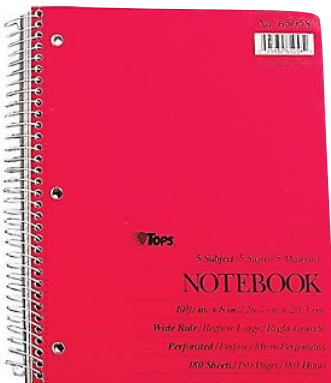
- ▶ Lab Lockers, Partners & Contracts



class website:

<http://chem.ws/210>

- ▶ Workshops
 - ▶ Practice Exams
- ▶ Exams
- ▶ Progress Reports



Experiments

- ▶ Experiments are hands on explorations of the theories and laws we discuss in lecture.
- ▶ Each experiment has a description linked from the class website.
 - ▶ You need to read it, print it, and bring it to lab for each experiment.
- ▶ The first thing we'll do when we get to lab is have a pre-lab quiz.
 - ▶ There will be 3-5 questions about the concepts and procedures of that days lab.
 - ▶ These will be the easiest points possible in this class.
 - ▶ If you're late, you will miss the opportunity for the points.
- ▶ Before we begin, we will briefly discuss the experiment and post lab calculations.
- ▶ The rest of the lab period is yours to complete the experiment and collect your data (observations and measurements).
 - ▶ Lab Goggles must be worn at all times on experiment days! (even when you're just recording data.)
 - ▶ Get them online or at Cañada Book store.
 - ▶ Be sure them "chemically resistant" not just impact resistant!
 - ▶ No shorts, loose clothes, loose long hair, or contact lenses allowed.
 - ▶ Bring a *cheap* calculator. (You think spilling coffee on your laptop was a tragedy? Try sulfuric acid.)
- ▶ I'll be floating around to answer questions, offer unsolicited advice and put out fires. (yes, there will be fires.)

Download from
Web Access

Get at Cañada
Book Store



Experiments

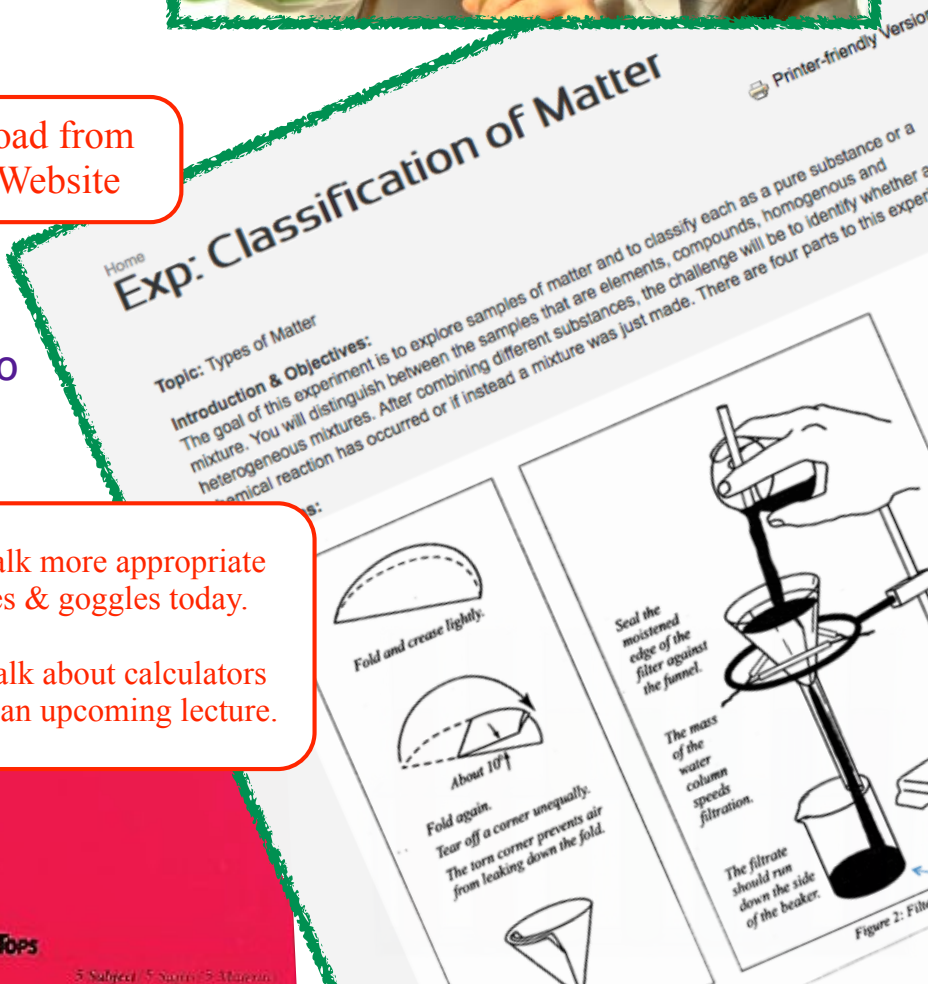
- ▶ We have designed experiences that will let you apply theories of chemistry to predict what you might observe or draw conclusions from what you observe.
 - ▶ An opportunity to compare what you think you know to what you can observe. To see if the ideas work.
- ▶ These experiments are described at:
<http://chemskills.com/labs>
(links are on the class website)
- ▶ Read through the experiments before you come to lab and printout a hard copy for your reference.
- ▶ Bring to each experiment:
 - ▶ Description Printout
 - ▶ Your class notebook & pencils
 - ▶ Your calculator
 - ▶ Safety goggles & appropriate clothes



Download from
Class Website

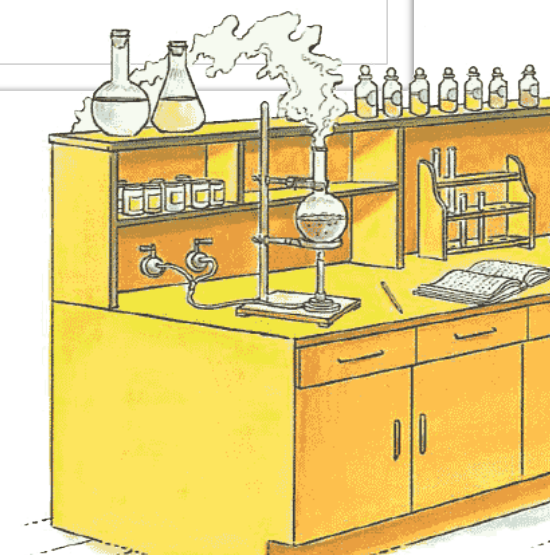
We'll talk more appropriate
clothes & goggles today.

We'll talk about calculators
more in an upcoming lecture.



Experiments

- ▶ Each experiment will begin with a pre-lab quiz.
 - ▶ About 3-5 quick questions about the concepts we presented in lecture or the procedures outlined in the experiment description.
 - ▶ There will almost always be a “did you read it” question that should be easy points.
 - ▶ Something like “are we going to use a scale today?”
 - ▶ If you haven’t read the lab before we start you may not be allowed to do the experiment. It’s about safety.
 - ▶ The quiz will be graded and usually given back to you the same period.
- ▶ Next we’ll briefly discuss the experiment, the theories, the techniques you are expected to apply.
- ▶ The rest is yours to complete the experiment and collect data.
 - ▶ I’ll be floating around to answer questions, offer unsolicited advice and put out fires. (yes, there will be fires.)
- ▶ You will produce a report and turn it in the next week.
- ▶ You cannot make up missed experiments.
- ▶ You cannot report on experiments you didn’t do.



The first couple of experiments will be pretty simple, to help us get used to the process.

They’ll get more challenging as we go.



Reports

- ▶ You need to submit a report for each experiment.
- ▶ Your report has four separate sections and a cover page:
 - ▶ Cover Page
 - ▶ Data
 - ▶ Show me your data (observations and measurements)
 - ▶ Calculations
 - ▶ Show me your calculations (most experiments after the first two will require calculations to turn data into conclusions)
 - ▶ Conclusions
 - ▶ List your conclusions. Most labs have a goal, something you're trying to determine. This is where you tell me what you found.
 - ▶ Questions
 - ▶ There will usually be questions at the end of the experiment, to help you focus on the important lessons in the experiment.
- ▶ Staple each section, plus a cover page together.
 - ▶ Do not include the experiment description.
 - ▶ Lab reports are due at the start of the lab period after you complete the lab.
 - ▶ Everyone needs to submit their own report, be sure to collect your own data!
- ▶ Each report (10 pts) plus pre-lab (4 pts) is worth 14 pts.
- ▶ An example of a completed lab report is on the class website as a downloadable PDF.

Experiment # _____ Name: _____

Student ID: _____

Chemistry 210
Cañada College

Section ID: _____

Experiment Title: _____

Unk#: _____ Locker ID: _____

(write N/A if no unknown for this experiment)

For use by instructor:

pre-lab report total

➔ **COVER PAGE** (this page)

➔ **DATA**

➔ Important things you saw or recorded. Observations both qualitative and quantitative (measurements). Data should be clearly labeled and formatted in a table whenever appropriate. Provide proper significant figures and appropriate units. Do not include calculations in this section.

➔ **CALCULATIONS**

➔ For almost every lab the data you recorded is just the start. As one example, you'll often have to find the weight of a substance by subtracting the weight of a beaker from your observation. Calculations will get more complicated as the semester progresses. This is where you show your work. Clear calculations may allow your instructor to provide you with partial credit for incorrect conclusions. Results without necessary supporting calculations may receive no credit.

➔ **CONCLUSIONS**

➔ Consider the goals of the lab. What were you trying to determine? Concisely and clearly present your "final answer" and any other conclusions related to the lab.

➔ If other factors effected your final answer, include those comments and suggest how they may have effected your results.

➔ **QUESTIONS**

➔ Attach and answer any post lab questions with answers.

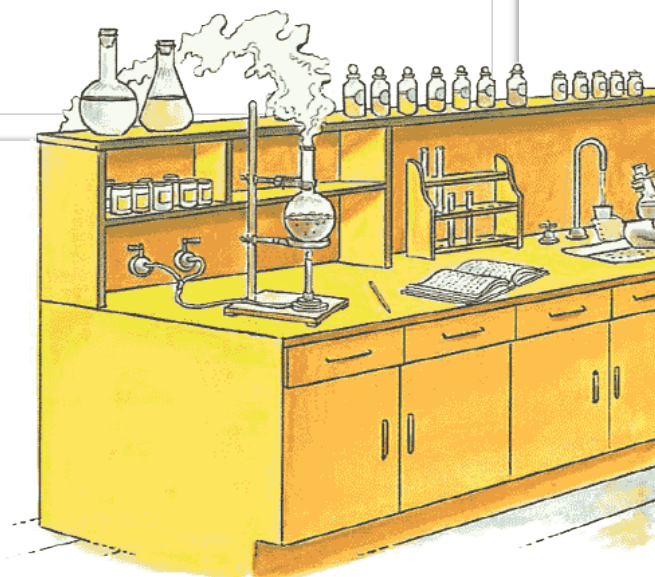


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 - ▶ Progress Reports



- ▶ Safety
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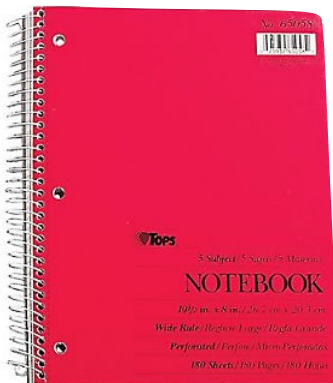
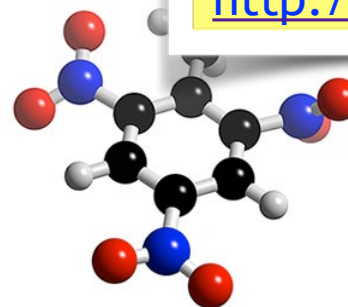


- ▶ Lab Lockers, Partners & Contracts



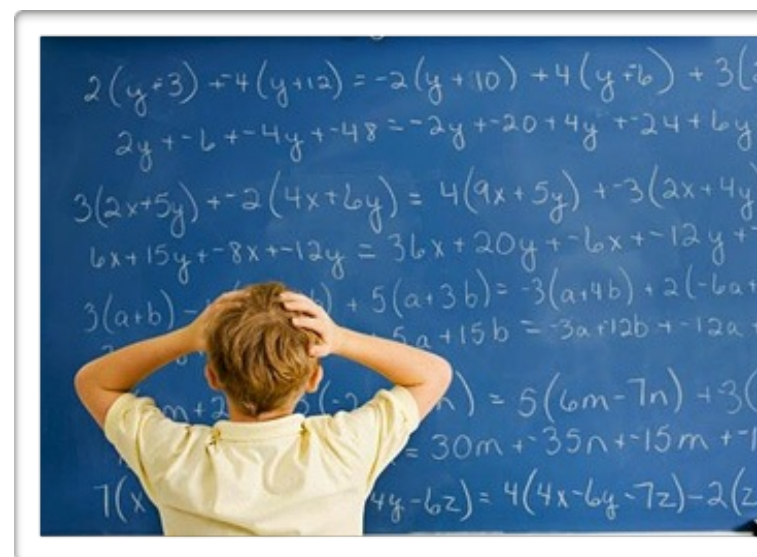
class website:

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Workshops

- ▶ We'll also use lab meeting for problem solving workshops.
- ▶ Chemistry is a math intensive science. You'll be asked to use many laws and theories introduced in this class to justify answers. Workshops are a place to explore the more challenging topics.
- ▶ The worksheets we'll go over are
- ▶ Workshops will often start with an overview about some common stumbling blocks or misconceptions.
 - ▶ These tips can be particularly useful preparing for exams.
- ▶ We'll ask you to dive into the worksheets. You're not alone, work in groups and ask for help if you get stuck.
 - ▶ I'll be wandering around offering unsolicited advice.
 - ▶ If we loose steam, we may turn it into a chalk talk and work through some of there challenging problems as a class.
- ▶ At the end of the workshop, we'll have a 1-2 page "practice exam".
- ▶ It's not worth many points, but it's chance to test yourself and see if some of the more challenging ideas.
- ▶ It's also a good way to get acclimated to the exam environment and can help reduce stress than many folks feel when the exams roll around.

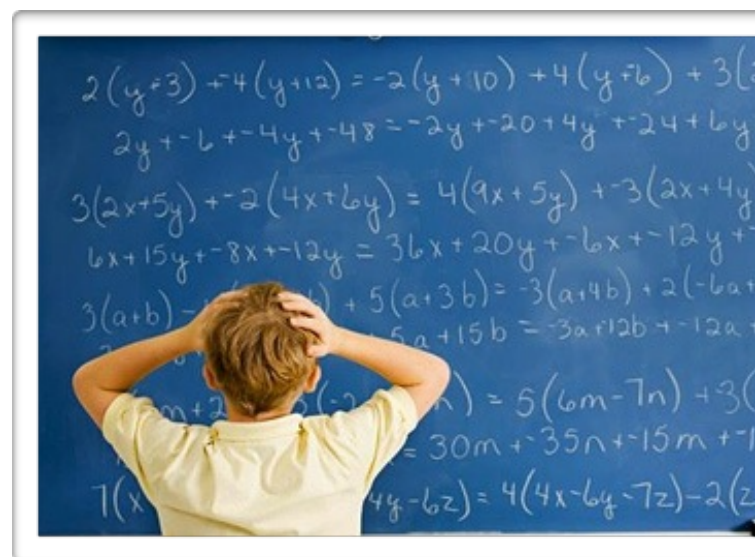


Workshops

▶ Examples of some of the workshop topics:

- ▶ Dimensional Analysis
- ▶ Nomenclature
- ▶ Stoichiometry
- ▶ Solution chemistry
- ▶ Gas Laws
- ▶ Thermochemistry
- ▶ Quantum Mechanics
- ▶ Bonding (Lewis Structures)
- ▶ Molecular Shape
- ▶ Intermolecular Forces

Warning, if you had chemistry in high school these topics may sound familiar. We'll be taking them to a deeper level. Don't underestimate the challenge.



▶ Bring to each workshop:

- ▶ Worksheets (or worksheets—some have more than one!)
- ▶ Your class notebook & pencils
- ▶ Your calculator
- ▶ Safety goggles & appropriate clothes
 - ▶ In case plans change—always have goggles & lab clothes when we meet in lab!



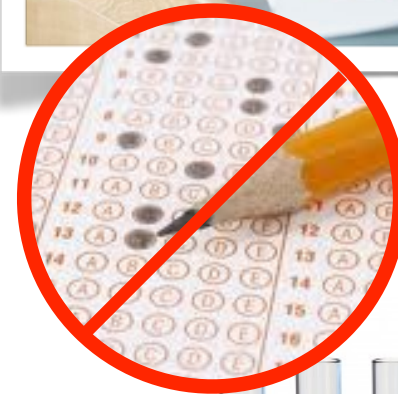
Exams

- ▶ This school wants to be able to say you know general chemistry.
 - ▶ To stand behind you and certify your accomplishment, we need to measure how much of the stuff we present you make your own.
- ▶ Exams are one way we do that.
- ▶ There will be four midterm exams, each are 100 points.
 - ▶ It sounds like a lot, but it's better if we take it in four small chunks rather than 1-2 big ones.
 - ▶ Each exam covers about two chapters in the textbook.
- ▶ There will be a comprehensive final exam, 160 points.
- ▶ Exams are about 7-9 pages with different kinds of problems:
 - ▶ Some matching, true/false, or multiple choice problems.
 - ▶ Many will be similar to worksheet problems.



Exams

- ▶ Bring to each exam:
 - ▶ Pencils (2) (erasers are recommended)
 - ▶ Yes you can do it in pen if you like.
 - ▶ Your calculator
- ▶ That's it.
 - ▶ No blue books, scantrons, or anything else is needed or allowed.
 - ▶ It's not open book, you can't bring in notes.
 - ▶ There are no make up exams.
 - ▶ Write the exam dates in your calendar now.
- ▶ Answer keys will be posted after each exam.
- ▶ You'll get back your exam the following week in lab period.
- ▶ You'll also get a progress report after each exam.



Progress Reports

- ▶ After each exam we will give you a snap shot of where you are in the class to date.
- ▶ It's a good time to double check—compare the scores we have for you with the scores shown on your returned quizzes, reports and exams.
 - ▶ If you find a mistake—tell me! You're helping me keep accurate data.
- ▶ You'll also see how many points you have and how many points are possible for the course to date, so you can understand where you are at that point in the class.
- ▶ There will be roughly 1,000 points possible this semester.

Chem 210 – Midterm Progress Report

Full Name **Student, Alan**
Status Registered
GNumber G 00123456
Major Chemistry

FName Alan
LName Student
Phone 650-555-1234
eMail a.student@my.smccd.edu

Points to date	917.2
Possible to date	1005
Percent to date	91%

Note:
90-100% = A
80-89% = B
70-79% = C
55-69% = D

Section AC
Bench E
Locker 62
Locker Combo 01-20-03

Class Grade
A

Exams			Combined: Reports + Pre-Lab			Homework		
Exam01	82.3	82%	SftyQz	8.0	100%	Ch01	16.8	99%
Exam02	87.3	87%	Lab01	16.0	100%	Ch02	18.0	100%
Exam03	85.0	85%	Lab02	15.0	94%	Ch03	18.0	100%
Exam04	92.0	92%	Lab03	14.0	88%	Ch04	17.6	98%
Final	146.0	91%	Lab04	16.0	100%	Ch05	15.5	97%
			Lab05	14.0	88%	Ch06	17.7	99%
			Lab06	14.5	91%	Ch07	16.2	102%
			Lab07	14.0	88%	Ch08	19.3	102%
			Lab08	13.0	81%	Ch09	10.8	60%
			Lab09	14.5	91%	Ch10	17.0	100%
			Lab10	15.0	94%	Ch11	18.8	99%
			Lab11	0.0		Intro	8.0	100%
			Lab12	14.0	88%			
			Lab13	16.0	100%			
			Lab14	16.0	100%			

Workshop Practice Exams

PE 01	4.0	80%
PE 02	4.5	56%
PE 03	0	
PE 04	4.5	90%
PE 05	3.2	64%
PE 06	4.5	90%
PE 07	5	100%
PE 08	5	100%

Safety Issues



Evaluation

- ▶ There will be about 1,000 points available during the semester.
 - ▶ There will be four midterm exams (100 pts each), given during lab section (see schedule for dates).
 - ▶ The final exam will be worth 160 pts, according to the college final exam schedule.
 - ▶ There are about 12 homework assignments (16-20 pts each)
 - ▶ most will be done using mastering chemistry online.
 - ▶ Experiments will be hands on explorations in lab section:
 - ▶ Each experiment will have a pre-lab and a report (14 pts combined).
 - ▶ Includes pre-lab quizzes or required at home preparation & reports
 - ▶ These points are for participation, if you miss the lab you cannot submit a report for it.
 - ▶ Best 14 scores will be counted
 - ▶ The last lab counts for double, it won't be dropped.
 - ▶ A lab safety quiz is required by the department (8 pts).
- ▶ There are no makeup exams. (You cannot take exams early)
- ▶ There are no makeup labs. (You cannot do lab experiments early)

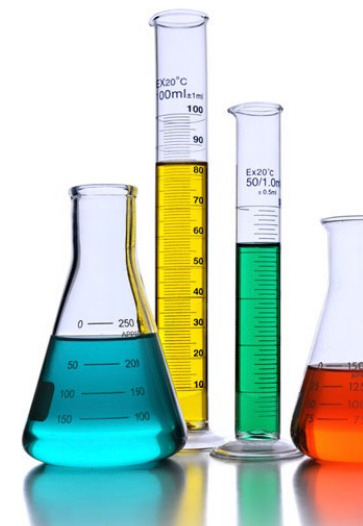
Exam #1

Exam #2

Exam #3

Exam #4

Final Exam



Evaluation

- ▶ Grades are a straight percentage of the points you score to the points available.

- ▶ There is no curve.
- ▶ There is no extra credit.

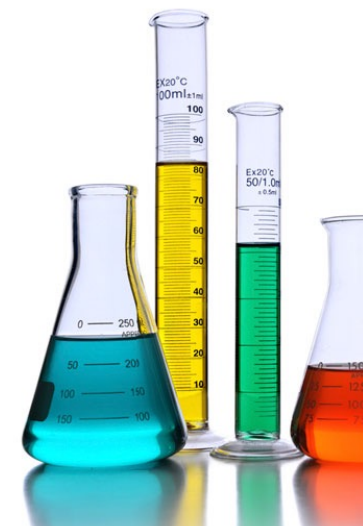
- ▶ There are no minus grades.

- ▶ If you are in the top half of either the B or C range you will get a plus prefix.

(when campus policy allows)

400 pts	Midterm Exams (4 exams; 100 pts each)	40%	Exams 60%
160 pts	Final Exam (comprehensive; 160 pts)	16%	
36 pts	Workshop/Practice Exams (9 pe's; 5 pts each)	3½%	
200 pts	Homework (11 chapters; 16-20 pts each)	20%	Projects 40%
196 pts	Lab Experiments (best 14 scores; 14 pts each) (includes 4 pt pre-lab quizzes & 10 pt reports)	19½%	
8 pts	Lab Safety	1%	
<hr/>			
1,000 pts		100%	

A 90 - 100 %
B 80 - 89 %
C 70 - 79 %
D 55 - 69 %



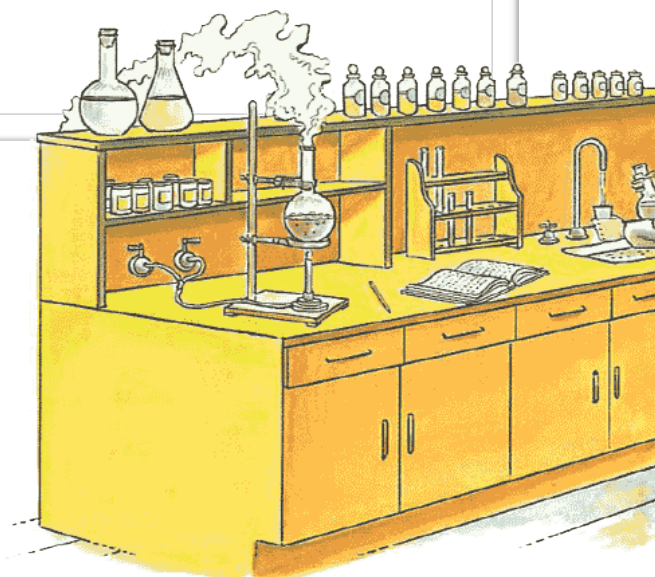
Laboratory Intro

- ▶ Lab Section
 - ▶ Why have a lab?
 - ▶ Dates, Times, etc
- ▶ Online Resources
 - ▶ Class Website
 - ▶ Extra Website
 - ▶ Textbook
- ▶ Activities
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 - ▶ Exams
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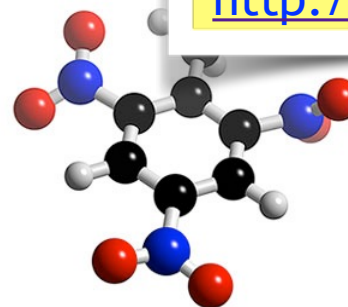
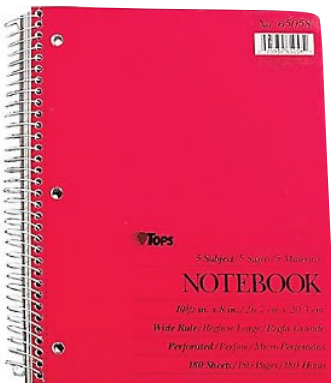
Safety

- ▶ Tour of Lab Room
 - ▶ Safety Video & Quiz
-
- ▶ Lab Lockers, Partners & Contracts



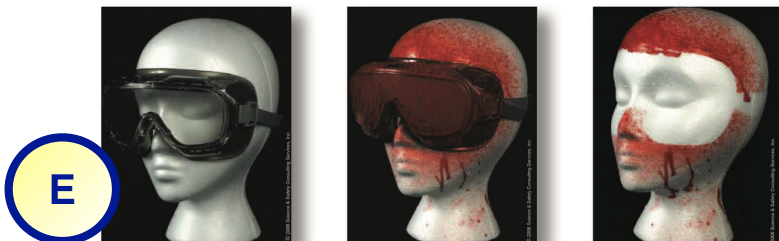
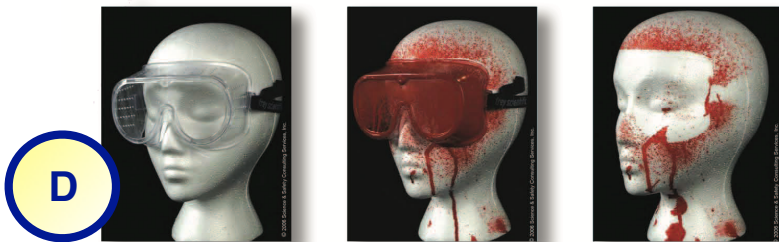
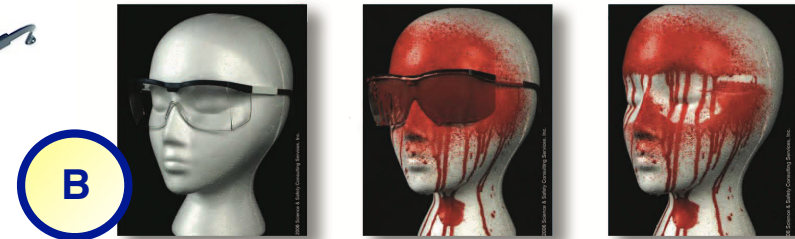
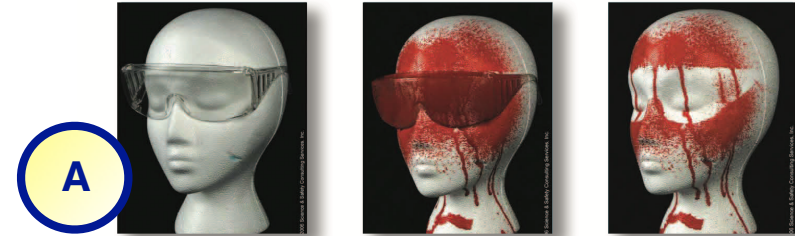
class website:

<http://chem.ws/210>



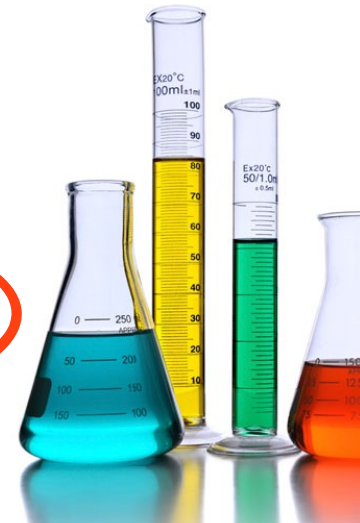
Eye Safety

- ▶ *Chemically Resistant* Safety Glasses are acceptable
- ▶ *Chemically Resistant* Safety Goggles are better
 - ▶ You can get either at the Cañada College Bookstore (about \$7-\$15)



Shop Glasses
(like they sell at Home Depot)
are impact resistant but
are not chemically resistant.
They are not acceptable.

Never wear contact lenses
in this room!



Safety

- ▶ This is the most dangerous room at Cañada.
- ▶ Chemistry is about exploring how we can change matter. Chemicals are only interesting to us, if they change matter.
- ▶ You're matter.
- ▶ Pretty much anything that's interesting to a chemist will be either:
 - ▶ Poisonous,
 - ▶ Explosive,
 - ▶ Corrosive,
 - ▶ Flammable,
 - ▶ Carcinogenic,
 - ▶ ...all the above,
 - ▶ or worse.
- ▶ Safety is job #1.
- ▶ I'm going to show you where we keep the good stuff:
 - ▶ Experimental Equipment
 - ▶ Stock Room
 - ▶ Hoods, Balances, & Oven
 - ▶ Printer
 - ▶ Waste Containers
 - ▶ Unknowns, Chemicals and Experiment Specific Equip
- ▶ And the Emergency Equipment
 - ▶ Fire blanket & extinguisher
 - ▶ First Aid Kit
 - ▶ Shower & eye wash
- ▶ In case of fire: get out & meet on hill
 - ▶ You must meet on the hill!

Safety Video & Quiz

- ▶ There are a lot of federal, state, and college safety rules.
 - ▶ Example: you have to sign a promise to the state of California that you will **always** use safety glasses in this room! (unless specifically instructed otherwise)
- ▶ To run through the rules efficiently we have a safety video.
 - ▶ It's corny.
 - ▶ Pay attention anyway.
- ▶ There is an online safety quiz available in web access.
- ▶ You need to take and pass it **this week**.



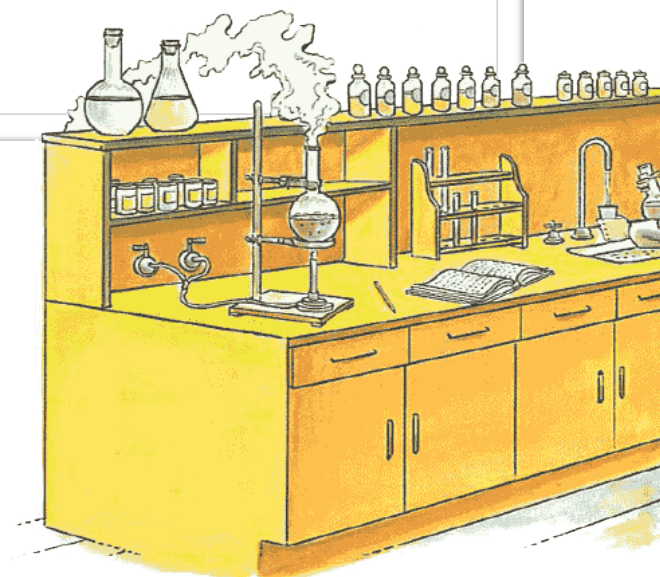
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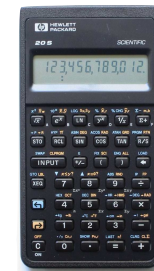


▶ Safety

- ▶ Tour of Lab Room
- ▶ Safety Video & Quiz

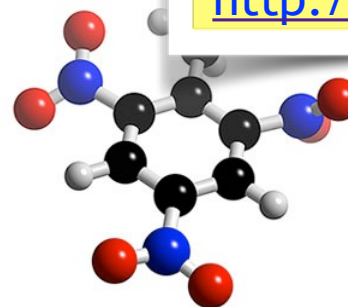
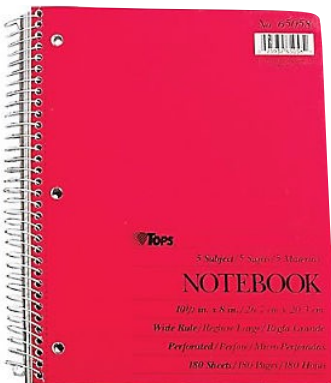


▶ Lab Lockers, Partners & Contracts



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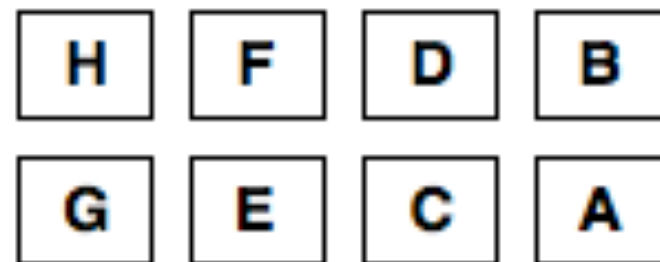


Lab ID

- ▶ Sit where you like today, but that will be your spot for the semester.
- ▶ The person next to you will be your lab partner.
 - ▶ Trade, shuffle, move around now if you want to.
- ▶ Most experiments are done in pairs or a group of four.
- ▶ Find a free locker next to your spot.
 - ▶ That's your locker. Write down the number.
- ▶ Find the letter for your bench (see diagram).
 - ▶ Write down the bench letter.
- ▶ Your lab ID is your bench number, then locker number:
 - ▶ eg. G-72, C-24, A-01 etc.
 - ▶ Put your lab ID on all lab reports.
- ▶ Now we need to check our the equipment in your locker.

Lab Benches are Labeled A-H

Back of Room (Hoods)



Front of Room (Chalkboard)

Experiment # _____ **Name:** _____
Chemistry 210 **Student ID:** _____
Cañada College **Section ID:** _____
Experiment Title: _____
Unk#: _____ **Locker ID:** _____
(write N/A if no unknown for this experiment)

For use by instructor:

pre-lab	report	total
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Checking Out Lab Drawers

- ▶ Before you leave today complete the ...
 - ▶ Stock room contract:
 - ▶ Compare the contents of your lab drawer to the check list on your stockroom contract.
 - ▶ Let me know if anything is missing.
 - ▶ Sign the contract
(one contract per drawer – per two students)
 - ▶ Give me the contract.
 - ▶ Eye protection promise:
 - ▶ Sign it, give it to me.
 - ▶ Lab registration slip:
 - ▶ Get it from me and correct any the information on it if there are errors.
 - ▶ Ask me for a blank one if you're adding the class.
 - ▶ Fill in any blanks
 - ▶ Most important: your locker #, bench letter, and locker combo!
 - ▶ Give me the slip.
- ▶ Before you leave, give me all three!

Chem 210

Lab Benches are Labeled A-H

Back of Room (Hoods)

H	F	D	B
G	E	C	A

Front of Room (Chalkboard)

Full Name **Student, Alan**
Status Registered
GNumber G 00123456
Major Chemistry

Provide the Following Information, for Name tell us what you'd like to be called (nick names OK)

F Name	Alan	Section	AC
L Name	Student	Lab Bench	E
Phone	650-555-1234	Lab Locker	62
eMail	a.student@my.smccd.edu	Locker Combo	01-20-03

Return this sheet to your instructor.

Lab Registration Slip

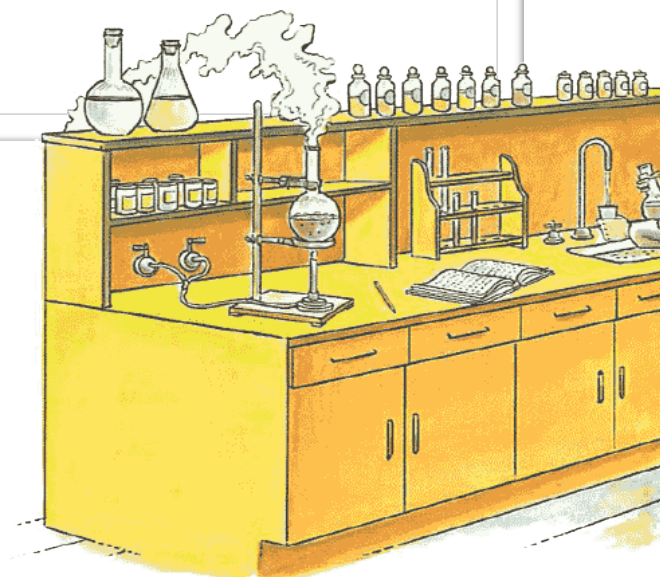


Laboratory Intro

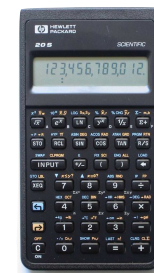
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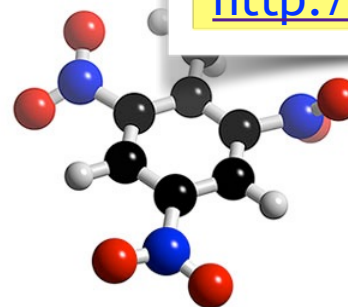
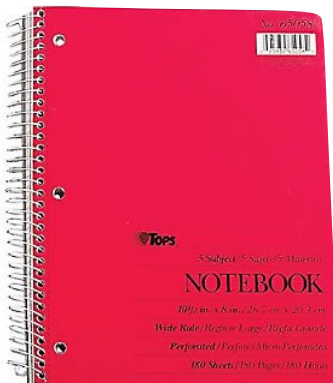


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Questions?