

MCTC Principles of Chemistry 2

Laboratory Procedures v.12.15

Required Materials:

- Bound Laboratory Notebook
- **Goggles**
- Scientific Calculator

Laboratory Safety

- **Goggles:**
 - **MCTC does not supply goggles for student use** and you must purchase goggles and bring them class every time your lab meets.
 - Goggles must be splash proof and fit snugly against your face. "Spectacle" goggles are not allowed
 - If you fail to bring goggles with you to lab, you will not be able to perform the experiment.
 - Minnesota state law requires that you wear safety goggles while you or others are performing experiments in the laboratory and you must wear your goggles at all times unless the laboratory instructor tells you otherwise. Failure to wear goggles will result in your dismissal from the laboratory and a grade of zero for that experimental report.
- **Dressing for lab:**
 - Tie back long hair.
 - Don't wear loose fitting clothing.
 - Wear clothing that covers and protects your chest and stomach. Absolutely no bare skin should be showing.
 - Wear clothing that covers and protects your body from the waist down (including ankles). Pants, very long skirts or very long dresses are recommended).
 - Wear close toed shoes. No sandals, flip-flops, slippers or shoes with open sides or heels are allowed. You must dress appropriately for lab.



Missed Labs

- Missed labs cannot be made up.
- For legitimate reasons it may be possible to attend another lab session that same week IF THERE IS ROOM (Maximum occupancy: 18 students/lab).
- You can only attend a different lab session if advance permission (1 week) has been granted by the laboratory instructor.

Laboratory notebooks:

- Your laboratory notebook is a written record of your work in the laboratory. **You must bring it with you each time the laboratory meets.** You will not be permitted to perform the day's experiment if you don't have your laboratory notebook.
- **Only bound composition notebooks (preferably w/graph paper) are allowed.** Absolutely no spiral bound notebooks are accepted.
- Make sure your name, the course name and section number have been written on the notebook's cover.
- The first page of the lab notebook is a table of contents available at the end of this handout. Cut-out and tape/glue this piece into your notebook before lab meets for the first time.
- All laboratory procedures should be glued AND taped into the notebook before coming to class. The notebook should not fall apart if shaken.
- Anything written in the notebook (notes, calculations, etc.) must be in **INK**. Pencil markings of any kind are not allowed and will result in lost notebook points.
- Your instructor will initial your notebooks at the end of class verifying you attended lab.
- When working with a partner, **BOTH** of you must have all data/observations recorded in your notebooks before leaving for the day. Data entered directly into a spreadsheet doesn't count as data in your notebook.
- Throughout the semester, your laboratory notebook will be graded/inspected each time the lab meets. Your inspection scores will be tallied and will contribute to your lab grade at the end of the semester. Here is a list of things frequently checked by lab instructors:
 - **Table of contents**...up to date?
 - **hand written page numbers** on all pages
 - **front cover properly labeled** with name and lab section number
 - **Instructional procedures** taped/glued securely in the notebook
 - **Evidence of prior preparation** (notes, highlights, answers to questions, calculations, etc.)
 - Experimental graphs from previous labs taped/glued into correct places
 - Notebook Shake-n-Shake. I'll vigorously shake your lab notebook to see what falls out. Nothing should.
 - **Pencil inspection.** No pencil marks allowed. No exceptions.
 - **Answers to pre-lab questions.**
 - **Post lab calculations as required in INK.**
 - Chemical samples from home as required.
 - **Customization.** Is there evidence that you have customized your notebook?
 - Neatness. Are edges straight? Is the writing legible? etc.
 - Other checks to be announced.



Lab Reports: 10 points.

- Reports are due the next time laboratory meets.
- Emailed reports are not allowed.
- Lowest single score is dropped throughout the semester.
- Late lab reports are -1pt/day until 5 points remain.
- Last day to turn in lab reports: Final Exam. Reports at this time are only worth 5 points.
- Team lab reports are sometimes required.
- Reports must be word processed for full credit.
- BOTH team members names must appear on a submitted report for credit.
- You can use Google Docs to facilitate the report write-up but beware the Google spreadsheet utility isn't as powerful as MS Excel.
- Graphs:
 - You will be using MS Excel to graph your experimental data.
 - Note that graphs will always be called for as **Y** versus **X**.
In other words, when a **distance** vs. **time** graph is required, **distance is on the Y axis** and **time is on the X axis**.
 - All annotations and any writing on graphs should utilize textboxes and symbols: both available in the Excel "Insert" menu. No hand writing on graphs is allowed.
 - All graph axis should be properly labeled including units.
Examples could include: Time (s), Mass (g), Concentration (M), Temperature (°C), etc.
 - Graphs should have a **descriptive title** followed by a **smaller font subtitle**. Example:
Experiment #3: Solution Conductivities (Conductivity vs. Time)
Jan. 10, 2014 Kirk Boraas & Jasmine Erbs
 - When displaying trend line analysis always adjust the significant figures to 10 decimal places. This is accomplished by right clicking on the equation and selecting "Format Trend line Label." Then choose "Number" from the list and adjust the displayed decimal places.
- Calculations:
 - Show all calculations when determining lab results and answering questions.
 - When calculations are repeated, only one representative calculation is required.
 - **Calculations can be hand written.**

Lab Quizzes: 10 points.

- Lowest single score dropped throughout the semester.
- Given at the beginning of lab
- 15 minutes allotted. If you are late you get less time.
You MUST get 6/10 on the lab quiz to do the day's experiment. Study hard.

Cleanup

- Benchtops: Wash with sponge and dry with paper towels.
- Hotplates properly stored on bench center. Cords wrapped.
- Equipment cleaned AND dried: neatly arranged for next lab section.
- Balances and balance areas cleaned up (assigned on a rotating basis).



MCTC CHEMISTRY
C1152 PRINCIPLES OF CHEMISTRY
TABLE OF CONTENTS

(Glued and taped into page 1 of your bound notebook.)

Exp #	Instructor's Initials/Date	Experiment Title	Date Performed	Page Numbers
1				
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				

PAGE 1

Add page numbers to all remaining notebook pages