

## Introduction

**Objective:** Become familiar with lab expectations, safety rules, and cheating policy.

### A Typical Day in Biology Lab

After any preliminary discussion of the previous lab, I will introduce any new equipment you will need. I expect you to have read the lab procedure ahead of time. I will then set you free to complete the lab experiments with your group. We may have a formal break part-way through lab.

In the last half hour of our session we will discuss your results, and I will help you with some of the more difficult review questions. You will be

expected to be in the lab the entire lab period except for taking short breaks to use the restroom or make a phone call. I also expect you to complete most of your laboratory work during the lab period.

I think you will find the lab an enjoyable experience. Most of my past students have said that they liked the labs and the laboratory helped them understand the lecture material.

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### Expectations in the Lab

- Cell phones can be useful as calculators and timers. Recreational use of cell phones, however, is not allowed in lab. If you need to use your cell phone in other ways, take a break and use the phone outside the lab room.
- Be on time. To succeed in this course you must attend class regularly, study often, utilize your time in lab productively, and ask questions if you are confused.
- Even though most lab work will be completed within groups, any written work to be turned in should be completed individually.
- You are responsible for the equipment provided for your use. All equipment should be cleaned and returned to the proper location. All materials should be returned or disposed as indicated in instructions.
- You are responsible for the cleanliness of your laboratory area. Tables must be left clean and dry, and chairs must be pushed in prior to your departure.

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### Lab Safety

1. Thoroughly read and comply with any Safety or Disposal Alerts written in the labs. Specific safety regulations and disposal procedures will be provided for each lab as appropriate.
2. Food and drink are prohibited in lab.
3. No consumption of any laboratory materials. Lab specimens are preserved in substances that are toxic for human consumption. Many of the chemicals used in lab are toxic. It is recommended that you bring and use disposable gloves and protective eyewear when handling chemicals and preserved specimens.
4. Be sure to thoroughly wash your hands before leaving lab.
5. Be aware of the location and operation of all emergency equipment in the lab.
6. Report any injuries to your lab instructor; all injuries must be documented.
7. All broken glass and used coverslips should be placed in the glass disposal container, not the trash.
8. Contaminated biohazard slides will be placed in disinfectant solution and handled as instructed.
9. In any lab activity using body fluids, collect and use only your own body fluids.
10. All biohazard materials should be placed in the designated biohazard containers, and dissection specimens should be placed in designated containers.
11. You are responsible for cleaning your lab table work area, returning all materials to the supply tables in a clean, dry, and organized manner, and making sure all glassware is washed and dried.

## Cheating Policy

1. No dictionaries, reference materials, notes, or programmable calculators may be used during any exam or quiz unless authorized by the professor.
2. No electronic devices, of any type, may be used during any exam or quiz unless authorized by the professor. Electronic devices include, but are not limited to: cell phones, PDAs (personal digital assistants), earphones, cameras, MP3 players, translation devices, and electronic dictionaries.
3. No talking, signaling, sharing of note cards, calculators or other materials is allowed during any exam or quiz, unless authorized by the professor.
4. Only the materials required or authorized for an exam or quiz should be taken out of your notebook, backpack, pocket, or purse. All other materials should be put away as instructed, including electronic devices.
5. Students may not leave the classroom during an exam or quiz unless authorized by the professor. If a student leaves the room without permission, the test or quiz will be forfeited at that time.
6. This policy will be strictly enforced by all professors in all classes taught in the Department.

### CONSEQUENCES:

7. A single act of cheating or academic dishonesty in any form may result in receiving a 0 on that test, quiz or assignment.
8. Action taken by the professor will be consistent with the college policy on cheating and academic dishonesty. In addition, a report regarding the violation will be submitted to the Director of Student Life for further action, which may also result in further disciplinary action, including, but not limited to suspension or expulsion from the college.

### WHAT IS CHEATING?

Some examples of cheating include, but are not limited to:

- a. Plagiarism, which is the use of materials authored by

- another person or obtained from a commercial source or the use of passages without proper acknowledgment.
- b. Having or using unauthorized materials during any exam or quiz.
- c. Notes concealed in or written on clothing, hats, or skin (as examples).
- d. Looking at another student's work during any exam or quiz.
- e. Changing answers on a returned exam in order to claim there had been a grading error.
- f. Sharing any content of exams or quizzes with individuals who have not yet taken it.
- g. Removing an exam or quiz from the classroom without the professor's approval.
- h. Taking photos of exams, quizzes, completed ScanTrons®, or exam keys.
- i. Turning in work that was generated by other individuals or by the same individual but in a prior semester, including but not limited to: lab report data, lab report or homework questions, homework assignments, and extra credit assignments.
- j. Working together on a lab experiment when told to work individually.
- k. Falsifying lab data.
- l. Allowing another student to look at your exam or quiz, or allowing another student to copy your homework, lab reports, or other assignments. (If that work is duplicated you may also receive the same penalties listed above for violation of the Biology Department Policy on Cheating, and the college policy on cheating and academic dishonesty.)
- m. Falsifying documents, including signatures.

If you are unclear about what constitutes cheating in your class or for a particular assignment, please contact your instructor for clarification before the assignment is due. Keep this policy for your records. Updated Feb 22, 2013.

Sign and detach lower portion and submit to instructor.

I have read, understand, and agree to comply with the Biology 1 Introduction and Safety Regulations.

\_\_\_\_\_  
Print name

\_\_\_\_\_  
Lab day and time

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

## Working in Groups

### Objectives

Learn strategies to address common problems with group dynamics.

### Introduction

Cooperative learning activities require four parts: group accountability, positive interdependence, individual responsibility, and face-to-face interaction. One part of making groups work successfully is to have clearly defined tasks for all members of the group.

### Instructions

Review the role descriptions below.

Each member of your group will choose a different role to fill this week.

If your group consists of more than four members, choose additional roles from the list below.

### Lab Roles and Their Descriptions

#### **Project Director (PD)**

The project director is responsible for the group.

Roles and responsibilities:

- Reads directions to the group
- Keeps group on task
- Is the main group member to talk to the instructor
- Assists with conducting lab procedures
- Shares summary of group work and results with the class

#### **Materials Manager (MM)**

The materials manager is responsible for obtaining all necessary materials and/or equipment for the lab.

Roles and responsibilities:

- Picks up needed materials
- Organizes materials and/or equipment in the work space
- Facilitates the use of materials during the investigation
- Assists with conducting lab procedures
- Returns all materials at the end of the lab to the designated area

#### **Technical Manager (TM)**

The technical manager is in charge of recording all data.

Roles and responsibilities:

- Records data in tables and/or graphs
- Completes conclusions and final summaries
- Assists with conducting the lab procedures
- Assists with the cleanup

#### **Safety Director (SD)**

The safety director is responsible for enforcing all safety rules and conducting the lab.

Roles and responsibilities:

- Assists the Project Director with keeping the group on-task
- Conducts lab procedures
- Reports any accident to the teacher
- Keeps track of time
- Assists the Materials Manager as needed.

### Additional Roles

- **Harmonizer:** Strives to create a harmonious and positive team atmosphere and reach consensus (while allowing a full expression of ideas.)
- **Prioritizer:** Makes sure group focuses on most important issues and does not get caught up in details.
- **Innovator:** Encourages imagination and contributes new and alternative perspectives and ideas.
- **Checker:** Checks to make sure all group members understand the concepts and the group's conclusions.

## Safety Equipment

### Objectives

- Become familiar with lab safety equipment purpose, use, and location.
- Compare discoveries among groups.

### Instructions

Your group's task is to generate a table (or map, diagram, list, or other) containing the following information:

- The names of all the safety equipment in the room.
- The locations of all the safety equipment.
- The general purpose of each piece of equipment. (These include managing fire, injury, hazardous chemicals, and possibly more.)

For example, the fire extinguisher is located at the southwest door, and is used to manage fire.

Be sure to compare your finished product with at least two other groups.

If you are ambitious, consider these additional questions below:

- In how many places can you wash your hands, in this room?
- Since food and drink cannot be consumed during lab, where is a good place to store them?
- How are the microscopes organized?

## Investigation

### Objectives

- Apply ideas of scientific inquiry: sources of authority, basic experiment design.
- Practice asking questions.
- Practice developing questions into testable hypotheses.
- Compare ideas with classmates.

### Instructions

- Questions will come to mind. As a group, your task is to plan how to answer some of those questions. We may have time to implement your ideas if we work efficiently.
- One special rule: Preserve the scene, as much as possible, for other investigators.

### Suggested Sequence

1. As you examine the scene, what are some questions that come to mind? Jot down at least five.
2. Focus on physical evidence, since these doll-people will not communicate.
3. Notice any tools you have available.
4. For at least two of your questions, how might you answer them?
5. Write out the general steps you would use to answer these two questions. Include a list of materials, tools, or skills you might need.

-- At this point, get your plans checked by another group. --

6. Outline any data tables you will need.
7. Get any necessary training.
8. If there is time, proceed with your plan.

# Lab 1 Assignment

Like many other assignments in this course, this will be graded as follows:

- Check-minus: Approaches expectations.
- Check: Meets expectations. Full credit.
- Check-plus: Exceeds expectations. (A check-plus can compensate for a check-minus.)

## Expectations for assignments

- Respond meaningfully to every part of the assignment.
- Respect your own ideas enough to present them professionally and clearly. Consider grammar, spelling, appropriate terminology, and appearance. Complete sentences, however, are not always necessary.
- Type or write clearly. Double-sided printing is encouraged.
- If you generate multiple pages, simply staple them together rather than using a cover.
- If you consult outside resources, cite them in your answer. For example, give the name of websites, of books, or of people granting interviews.

## Materials needed

- Lab 1 work
- One to two hours of your time

## Objectives for lab assignments

- Become thoroughly familiar with ideas and conclusions from the previous week's lab.
- In some cases, complete extra analysis or interpretations of results.
- Prepare for the upcoming lab.

## Assignment prompts

Regarding Lab 1:

1. What is one thing you learned from our safety discussion in lab?
2. Which part of the cheating policy do you think is violated the most?
3. Given your group's performance in the first lab, what is one way to improve your group's functioning in future lab sessions?
4. How do you anticipate that our labs will help you learn biology, personally?
5. Sometimes biology labs are a bit like cookbooks, where everyone follows a recipe. Our labs are not likely to fit this description. Instead of a "recipe," what is your idea for an alternative way to describe our first lab?

Preparing for Lab 2: If you use outside sources, cite them in your answer.

6. In your own words, what are enzymes?
7. What is an example of an enzyme, and what does this particular enzyme do?
8. What are some ways that enzymes can be disrupted, or "denatured"?
9. From information you can find, what characteristics make for a high-quality scientific hypothesis? Describe an example, and cite your sources.
10. Before people can make "Nutrition Facts" labels for a brand new food product, how do they determine how many calories are contained in the product?