

Safety First

What practices are followed to ensure safety in the laboratory?

Why?

Academic laboratory accidents are estimated to occur 10–50 times more frequently than chemical plant accidents. Laboratory accidents often have unexpected outcomes that may result in permanent injury. Dressing appropriately and following laboratory safety rules will reduce the incidence and severity of accidents and help keep students safe.

1. You need to make a map of the lab space on your whiteboard. Start by completing (a) below. Then, find each of the items below. If you need help finding something, ask Ms. Mundy.



- a. Sketch the outline of your laboratory room including all doors and windows.
- b. Mark and label the position of the following laboratory safety equipment.

(1) Fire blanket	(6) Chemical disposal area
(2) Fire extinguisher	(7) Broken glassware disposal
(3) Safety shower	(8) Chemical spill clean-up kit
(4) Eyewash station	(9) Location of goggles
(5) Fume hood	(10) Location of gloves

- c. Locate and read the evacuation instructions that are posted in your laboratory. Describe how you should evacuate in case of an accident in the space below:

- d. Label the fire exits in the diagram and add the evacuation route to your picture.
- e. When you are finished, have Ms. Mundy come over and observe your diagram on the whiteboard.

Model 1: Laboratory Attire

This student is dressed inappropriately for laboratory work.	This student is dressed appropriately for laboratory work.
	

2. Look at the two students in the mode above.
 - a. List at least three inappropriate items of dress or the student on the left.

- b. List at least three appropriate items of dress for the student on the right.

3. Why must you wear goggles while working with chemicals and glassware? Be specific for both.

4. When working with a Bunsen burner, what precautions should be taken with respect to your clothing and hair? (Note: If you are unfamiliar with a Bunsen burner, watch [this video](#).)

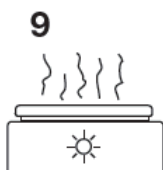
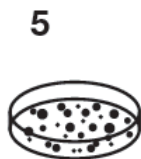
5. Why should one avoid wearing shorts or skirts while working with chemicals and with glassware?

6. What type of shoes should a student wear while working with chemicals and with glassware?

7. If an accident occurred in the laboratory, which of the two students in the model would have protection provided by their clothing? Why?

---STOP HERE AND CHECK IN WITH MS. MUNDY!---

Model 2 – Scenes in the Lab



8. Complete the table below using the labeled pictures in Model 2.

Scene	Potential Concern	Proper safe behavior
1		
2	Broken or chipped glassware	
3		
4		
5	Bacteria is growing in an open Petri dish without a lid! It could spread to other areas.	
6		
7		
8	Disposing of sharp glassware in a container.	
9	Hot plate is turned on and it could cause burns.	
10	Scalpel blades and scissors could cut you. If they are thrown in the trash, they could cut a custodian.	Dispose of used scalpel blades in a sharps container. Put all scissors away when finished.
11	The dissection specimen was left out with a pin in it!	Cover all specimens when not in use. Either store or dispose of them properly.
12		

Read This!

Communication with your teacher in the laboratory can also help prevent accidents or injuries to yourself and others. For example, you should always tell your teacher if you spill something or are cut or injured when performing an experiment. You should also alert your teacher if any equipment or glassware is broken. Your teacher can provide Material Safety Data Sheets (MSDS), which contain safety information about chemicals you may come in contact with in the laboratory. Chemicals should be disposed of safely, as directed by your teacher. Do not dump chemicals into the sink or trash.

9. Suppose you spill a chemical on yourself:

a. What information can Ms. Mundy provide for you concerning that chemical?

b. Where is the information located? (What is the item called that it's written on?)

10. Why is it important to let your teacher know if you cut, burn, or injure yourself when performing an experiment?

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11. Why should you tell your teacher if any equipment or glassware is broken?

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12. Why should you never perform unauthorized experiments or ignore written directions for an experiment?

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13. Ms. Mundy asks your group to create a list of ten rules that everyone must follow in the laboratory. What rules would your group include? After developing a list, add it to your group's slide.

That is it! Make sure you copy your group's answers over to your personal document. At the appropriate time, you can complete the exit ticket. If you do not finish it in the allotted time, you have until midnight to get the ticket completed.