

Safety In The Laboratory

Introduction:

Safety in the laboratory is the main concern of the teacher and should be the main concern of the students. There are rules and procedures which must be followed to ensure that all are safe in the lab as experiments are being conducted. Those rules relate to the safe handling of equipment and chemicals. The predominant rule, however, is to follow the instructions of the teacher. This adhering to instructions will ensure the proper use of equipment and the proper procedure of the experiment itself. By following safe procedures, the outcome of the experiment will most likely have better results.

In any laboratory, there are devices used for safety if an accident occurs. It is the duty of the teacher to instruct the location and use of these devices and it is the duty of the students to learn the location and use of these devices. This lab instructs you to listen to the teacher describe each piece of safety equipment and its use or function.

Objective:

Materials: *No materials are needed for this laboratory report.*

Procedure:

View each of the following, listen to the teacher describe each and how each is to be used in an emergency.

- 1. Fire blanket.*
- 2. Shower.*
- 3. Eye wash station.*
- 4. Eye shield cabinet.*
- 5. Main gas shut-off valve.*
- 6. Emergency gas shut-off.*
- 7. Main power shut-off.*
- 8. Emergency power shut-off.*
- 9. Fire extinguisher.*
- 10. Room ventilation.*
- 11. Fume hood.*
- 12. Container of NaHCO_3 for acid spills.*
- 13. Container of cat litter for chemical spills.*
- 14. Container of sand for absorbing spills.*

Observations:

	<i>Safety Equipment</i>	<i>Location</i>	<i>Use</i>
1.	<i>Fire blanket</i>		
2.	<i>Shower.</i>		
3.	<i>Eye wash station</i>		
4.	<i>Eye shield cabinet</i>		
5.	<i>Main gas shut-off valve.</i>		
6.	<i>Emergency gas shut-off</i>		
7.	<i>Main power shut-off.</i>		
8.	<i>Emergency power shut-off</i>		
9.	<i>Fire extinguisher</i>		
10.	<i>Room ventilation</i>		
11.	<i>Fume hood</i>		

Questions:

1. *If a student's clothes caught fire, would you take the student to the shower? _____
If no, what would you do? _____*
2. *What is the principle behind using an ultraviolet lamp in the eye shield cabinet?*

3. *What are the classifications of fires? _____*
4. *What is the class of fire extinguisher which is capable of fighting all classifications of fires? _____*
5. *How long must the eyes be rinsed with water in the case of chemical contamination? _____*
6. *Are all gases which have color poisonous? _____ Are all gases which do not have color non-poisonous? _____*
7. *If there is an acid spill, what should you use to neutralize the spill? _____*
8. *If there is a base spill, what should you use to neutralize the spill? _____*

Conclusion:

Safety Agreement

All students are required to sign this safety agreement to insure a safe environment for the chemistry laboratory.

- 1. I will listen to all instructions given by the teacher.*
- 2. I will wear approved safety goggles at all times while in the laboratory area.*
- 3. I will replace the tops of reagent bottles and jars after obtaining the chemicals needed.*
- 4. I will take only the portion of chemicals necessary for the lab and will not pour any unused chemical back into the reagent bottles.*
- 5. I will not mix any chemicals which I have not been instructed to by the teacher or by the laboratory instructions.*
- 6. I will use forceps, tongs or gloves to pick up any hot object.*
- 7. I will point the open end of a test tube toward the wall and away from any person.*
- 8. I will not leave an experiment unattended and will make sure one lab partner is assigned to stay at the lab table.*
- 9. I will not 'horse-play' in the lab.*
- 10. I will use the equipment in the lab only for the purposes intended.*
- 11. I will not place any object in the Bunsen burner flame.*
- 12. I will not smell the odor of a chemical directly but will learn to waft to determine an odor.*
- 13. I will NEVER taste any thing in the laboratory.*
- 14. I will clean up any spills immediately.*
- 15. I will notify the teacher of any problem.*
- 16. I will never touch chemicals with my bare hands.*
- 17. I will check the names of reagents before using them.*
- 18. I will place the chemicals produced in the experiment and any unused chemicals in the receptacle designated by the teacher.*
- 19. I will clean up the laboratory area and replace all the equipment where the teacher has designated.*
- 20. I agree to learn the locations and uses of all the safety equipment in the laboratory so I may use them if the need arises.*

Name _____

Date _____