

Name: _____

Period: _____

Lab Safety



Lab Safety

Why worry about lab safety?
Though most labs we do in science have no safety issues, some do require the use of chemicals and/or materials that could be dangerous. In order to truly understand science we must perform experiments in class.



Do you know the what's and why's of your Smart Science Safety Contract? Take a closer look!

Safety Equipment – Know how to use all safety equipment in the lab. Not all equipment will be necessary for all labs.

Personal safety equipment: Goggles; Gloves; Apron; Closed-toed Shoes; Brain.

Group safety equipment: Fire Extinguisher; Fire Blanket; Eyewash/Shower; Teacher (the most important safety feature of any classroom).

Know Your Class's Lab Safety Procedures

Accident Procedure:
1) Inform teacher; 2) follow teacher instructions immediately.

Glass Breakage Procedure:
1) Inform teacher; 2) use dustpan and brush to put broken glass into glass breakage box.



Chemical Labels and MSDS



In the lab you could work with many different chemicals, some dangerous and some not. Make sure you learn about the chemicals with which you are working. The best way is to read the Chemical Label and the MSDS.

Chemical Labels (located on the chemical bottle) usually tell you basic general and safety information such as:

Chemical name; recommended safety equipment; basic first aid; hazard information.

MSDS
(Material Safety Data Sheet)

Contains detailed safety information on a chemical.



An MSDS will be readily available for each chemical you work with during a lab. Read it carefully if you have any questions.

Major safety information you can find on a MSDS:

Chemical name—for quick identification

NFPA (National Fire Protection Association) Diamond or At-a Glance Chart — Quick-to-read hazard ratings for flammability, reactivity, health and special hazards.

First Aid Measures — includes first aid procedures.

Fire Fighting Measures — includes what kind of fire extinguisher to use.

Accidental Release Measures—what to do if it spills.

Personal Protection Information—tells you what equipment you should wear when working with this chemical.

At-a-Glance
(Look here first)

Health — 1
Flammability — 0
Reactivity — 0
Special — 0

An MSDS contains more information that shown at left, including manufacturer, ingredients, etc. Yet if you familiarize yourself with where to find the main safety information on an MSDS, you will be able to find it quickly in case of any accident in the lab!

Know where the MSDS sheets are in your classroom!

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1. Fire Extinguisher	a. Thrown over a fire to extinguish it.	1. Fire Fighting Measures	a. Where to look for first aid.
2. Goggles	b. Worn to protect the eyes from splashing liquids or projectiles.	2. At-a-Glance	b. The first place you look to find out how dangerous a chemical is.
3. Gloves	c. Worn to protect clothing from chemicals.	3. First Aid Measures	c. Gives information about health hazards.
4. Eyewash	d. Can put out a fire. Works best if sprayed at the base of the fire.	4. Accidental Release Measures	d. Stands for Material Safety Data Sheet — gives detailed information on chemicals.
5. Apron	e. Can help protect feet from dropped objects.	5. Exposure Controls, Personal Protection	e. Where to look for what fire extinguisher to use.
6. Fire Blanket	f. Protects hands from chemicals.	6. Health Hazard Data	f. Where to look for what safety equipment to wear.
7. Closed-toed Shoes	g. Use this if a chemical gets in someone's eyes. Remember to flush the eyes continuously for 15 minutes!	7. MSDS	g. Where to look for how to handle spills or leaks in the lab.
What is your classroom's glass breakage procedure?		Why is the "teacher" the most important piece of safety equipment in your classroom?	
What is your classroom's accident procedure?		Why is "brain" included on your "Personal Safety Equipment" List?	

Use the provided MSDS sheets to answer the following questions:

Identify the chemicals and their common names, if included?	If you spill baking soda, what section would you look in for clean up procedures?
Which of the chemicals is most hazardous to your health?	Do you need to wear goggles for working with vinegar?
Which of the chemicals is the most flammable?	What, if any, special precautions do you need to take when working with alcohol?
Which fire extinguisher would you use to put out a fire for alcohol?	Quickly find what you should do if someone drinks the alcohol?
If vinegar gets in your eyes what should you do?	