

Topic: Fire Safety Basics

When asked, most teachers can recite basic fire safety rules from memory. Yet, fire safety rules are often ignored or forgotten when working in the science laboratory. It “crushes” us when we hear about accidents where children and teachers have been burned—especially when the accident could have been prevented. The obvious fire safety rules are:

- Never dispense flammable liquids anywhere near a flame or ignition source. Remember, the flammable liquid vapor can travel a long distance and could ignite instantly.
- Always firmly cap the flammable liquid container and safely store it away from all sources of ignition when not in use.
- Have a complete understanding of the lab activity or demonstration you are about to conduct. This is especially true when using flammable liquids.
- Have enormous respect for all flammable liquids. Never take them for granted. Always expect the unexpected.
- Review with students the fire safety rules found in the Flinn Scientific student safety contract. Reinforce these rules on a regular basis.
- Make sure all students are wearing protective laboratory aprons and chemical splash goggles when using flammable liquids.
- All long hair should be tied back.
- Have students wear safety goggles whenever you perform a demonstration using flammable liquids.
- Insist that all chemicals are purchased from Flinn Scientific. We provide comprehensive chemical safety labeling and chemical packaging that will provide the user maximum safety protection.

Fire Risk Reduction Rules

An important question to ask is, “Is our science department prepared and ready to manage fire risks?” The following questions and comments may help you answer this question.

1. Is there a plan to immediately notify the fire department in the event of fire? A telephone with an outside line should be available. Locate the nearest fire alarm pull box near your lab and classroom. Students should be shown the location of both the phone and fire alarm pull box.

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Flinn Scientific Science Department Meeting Safety Notes

Volume 5-4

2. Are ABC-type fire extinguishers present and located in fire risk areas such as the laboratory and chemical storage area? ABC-type fire extinguishers are a better choice than CO₂ fire extinguishers. Make sure all fire extinguishers have been inspected and are fully charged.
3. Does every science teacher know how to use a fire extinguisher? Don't wait for an event to happen. Plan a practice session with your local fire department to learn how to use the fire extinguisher in a real fire. Ask the company who rents and inspects the extinguishers at your school to donate the fire extinguishers that will be used during the fire training session.
4. Has a fire evacuation plan been established and practiced? Create a plan if none exists and practice it regularly.
5. Are flammable liquids stored in approved flammables cabinets? The National Fire Protection Association (NFPA), OSHA and the Uniform Fire Code all state that flammable liquids must be stored in approved flammable storage cabinets.
6. Never store flammables in refrigerators unless the refrigerator is explosion proof.
7. Are your chemicals stored in chemically compatible families to reduce possible fire and chemical reaction hazards? There are many chemicals that are incompatible with one another. Storing these chemicals by compatible families will reduce the risk of fire.
8. Store only the minimum quantity of flammables needed—consider only storing a two-year supply.
9. Store water reactive metals (e.g., potassium, sodium, etc.) in PVC-coated glass or 100% plastic bottles under dry mineral oil. For further protection, store the bottle, surrounded by cat litter, inside a metal paint can.
10. Are students using hot plates or water baths in lieu of Bunsen burners and alcohol burners?

Following the above guidelines and reviewing these guidelines with both students and teachers will greatly reduce the risk of fire.

Acknowledgment of Flinn Scientific

Flinn Scientific, your safer source for science supplies, has provided the safety information presented at today's meeting. Please continue to support the efforts of Flinn Scientific to improve science safety by sending them your valued orders.

Next Month's Topic

The Flinn Scientific 5-Minute Safety Equipment Inspection

FLINN SCIENTIFIC INC.

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for Science Supplies"*

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**Flinn Scientific
Science Department Meeting
Safety Notes**

Safety Meeting Presenter Notes

Volume 5–4: Fire Safety Basics

When asked, most teachers can recite fire safety rules from memory. Yet, fire safety rules are often ignored and forgotten when working in the science laboratory. This month's issue concentrates on basic fire safety rules and steps you can take to reduce the risk of a fire. We strongly encourage you to remind both teachers and students to respect all flammable chemicals and follow the fire safety rules we learned years ago.

This safety meeting should take 6–8 minutes to present. The discussion period will vary depending on the issues that need to be addressed.

It is very important to keep these safety notes and a signed attendance sheet to verify that regular safety training meetings were held. The sign-up sheet is almost as important as the meeting notes and is usually the first thing that is reviewed by regulatory inspectors.

A copy of the signup sheet we suggest using can be found at www.flinnsci.com/Sections/Safety/SNotes/signup.pdf.

Materials:

Flinn Scientific Science Department Meeting Notes, Volume 5–4, (one per staff member)

Sign-in sheet (one for group)

Additional Activities or Questions for Discussion

1. Conduct an inspection on your own to make sure fire extinguishers are in good working order. We suggest that fire extinguisher inspections be conducted every six months. An outside fire extinguisher company should conduct fire extinguisher inspections yearly.
2. Create a floor plan of the entire science area and plot the best locations for all fire extinguishers. Imagine a fire in various locations within the lab and estimate how far you have to travel to get to a fire extinguisher. The maximum travel distance should be 25 feet.
3. Are fire extinguisher locations clearly marked and visible to the entire classroom/laboratory? Large locator signs should be placed near all fire extinguishers. Teachers and students should know where all fire extinguishers are located.
4. Do you know where the master gas utility control valve is located and can it be turned off quickly and easily?
5. Are all fire exits clear and free of clutter?

We Welcome Your Comments

Please e-mail Flinn Scientific at flinn@flinnsci.com with your comments and feedback regarding this month's Flinn Scientific Science Department Meeting Safety Notes. Your opinions are very important to us.