

Safety In the Science Lab

Rules and Symbols



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Safety First

- Science is a hands-on laboratory class.
- You will be doing many laboratory activities, which require the use of hazardous chemicals and expensive lab equipment.
- Safety in the science classroom is the #1 priority.
- To ensure a safe science classroom, a list of rules has been developed and provided to you in your student safety contract.
- These rules must be followed at all times.
- A signed lab safety contract is required to participate in labs.



General Safety Guidelines

- Be Responsible at All Times. No horseplay, practical jokes, pranks, etc.
- Follow all instructions carefully.
- Do not play with lab equipment until instructed to do so.
- Food, drink, and gum are not allowed in the science classroom.

Lab Safety: Everyone Is Responsible!



General Safety Guidelines

- Keep the science room clean and organized.
- Notify the teacher immediately of any accidents or unsafe conditions in the science classroom!
- Wash your hands with soap and water after experiments.

Lab Safety: Everyone Is Responsible!

Safety Symbols



Eye Protection



- Wear safety goggles when working with chemicals, flames, or heating devices.
- If a chemical gets in your eye, flush in water for 15 minutes and notify the teacher.

Sharp Objects



- When using knives or other sharp objects always walk with the points facing down.
- Cut away from fingers and body.

Electrical Safety

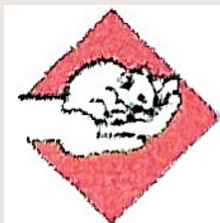


- Do not place a cord where someone can trip over it.
- Never use electricity around water.
- Unplug all equipment before leaving the room.

Safety Symbols

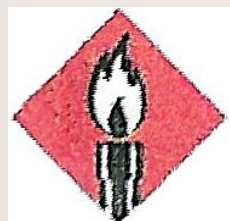


Animal Safety



- Only handle living organisms with teacher permission.
- Always treat living organisms humanely.
- Wash your hands after handling animals.

Heating Safety



- Tie back hair and loose clothes when working with open flames.
- Never look into a container as you are heating it.
- Heated metal and glass looks cool, use tongs or gloves before handling.
- Never leave a heat source unattended.

Safety Symbols



Chemical Safety



- Read all labels twice before removing a chemical from the container.
- Never touch, taste, or smell a chemical unless instructed by the teacher.
- Transfer chemicals carefully!

Hand Safety



- If a chemical spills on your skin, notify the teacher and rinse with water for 15 minutes.
- Carry glassware carefully.

Plant Safety



- Do not eat any plants in lab.
- Wash your hands after handling plants.



Safety Equipment



- Fire Blanket – Located in back of classroom in the red container
- Fire Extinguisher – Located in outside classroom door and in the computer lab

To operate the fire extinguisher remember **P-A-S-S**

P- Pull the Pin

A-Aim the hose at the base of the fire from 5-6 feet away.

S-Squeeze the handle.

S-Sweep the hose back and forth across the fire.

Glassware Safety



1. Chipped or cracked glassware should not be used. Show it to the teacher.

2. Broken glassware should not be disposed of in a classroom

There is a special glass disposal container for it.

3. When pouring liquids into glassware, make sure the container you are

pouring into is resting on a table at least a hands breadth from the edge.

Glassware Safety

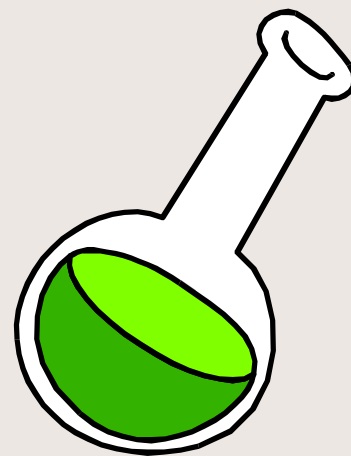


4. Pour down a **glass stirring rod** to prevent liquids from splattering.
5. If a piece of glassware gets broken, do not try to clean it up by yourself. **Notify the teacher.**
6. When **inserting glass tubing** into a rubber stopper, apply a lubricant like **glycerin** to the glass and use a twisting motion.

Glassware Safety



7. Do not place hot glassware in water. Rapid cooling may make it shatter.



Chemical Safety



1. Wear **protective goggles** and a lab apron whenever heating or pouring hazardous chemicals.
2. Never **mix chemicals** together unless you are told to do so (and then only in the manner specified).
3. **Never taste** any chemicals (you should never taste anything in the lab).



Chemical Safety



4. If you need to smell the odor of a chemical, waft the fumes toward your nose with one hand. Do not put your nose over the container and inhale the fumes.



5. Never pour water into a concentrated acid.



Acid should be poured slowly into water.

Chemical Safety



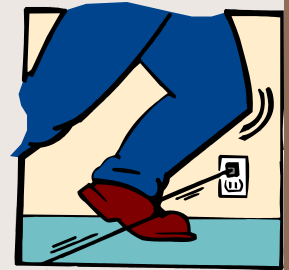
6. Follow the instructions of your teacher when disposing of all chemicals.
7. Wash your hands after handling hazardous chemicals.



Electrical Safety

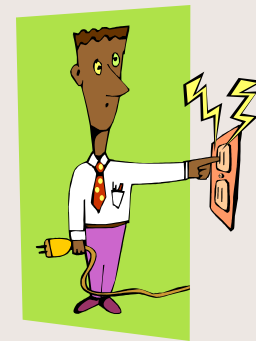


1. Lay **electrical cords** where no one can trip on them or get caught in them.



2. Be sure your **hands and your lab area** are dry before using electrical equipment.

3. Never poke anything into **electrical outlets**.

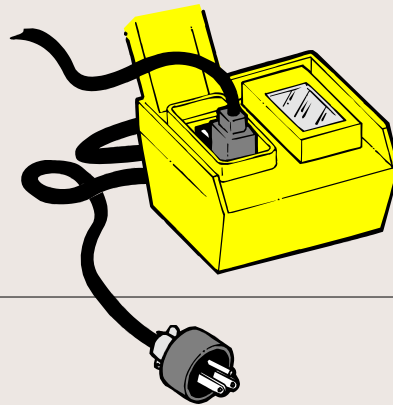


Electrical Safety



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4. Unplug cords by pulling the plug and not the cord.
5. Unplug all electrical equipment at the end of the lab period.



Heating Safety



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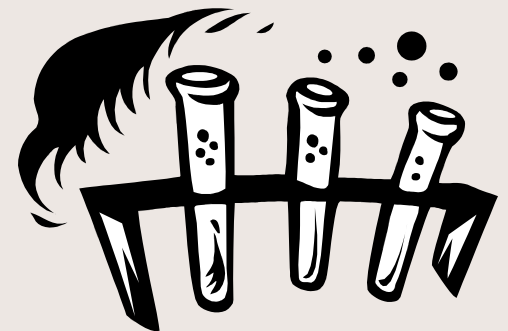
1. Let burners and hotplates cool down before touching them. Test to see if they are cool enough by bringing the back of your hand close to them.
2. Use tongs and/or protective gloves to handle hot objects.
3. Never reach across an open flame or burner.



Heating Safet



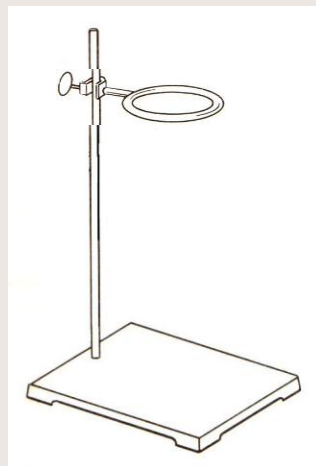
4. The only type of glassware that may safely be heated is either Kimax or Pyrex.
5. Always point the top ends of test tubes that are being heated away from people.
6. When heating a test tube, move it around slowly over the flame to distribute the heat evenly.



Heating Safety



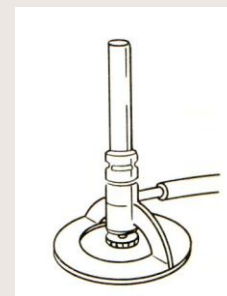
7. Only glassware that is thoroughly dry should be heated.
8. Heat glassware by placing it on a wire gauze platform on a ring stand. Do not hold it in your hand.



Heating Safety



9. When lighting a burner, wait until the striker is in place before you turn on the gas.
10. The amount of air can be adjusted by the air supply valve below the tube of the burner. This regulates the flame temperature and color.
11. Never leave a burner or hotplate unattended.



First Aid

Injury:

Burns

What To Do: Immediately flush with cold water until burning sensation is lessened.



First Aid

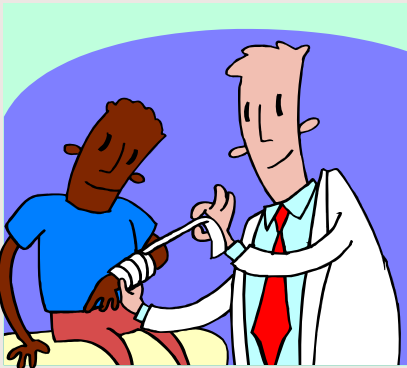


Injury:

Cuts, bruises

What To Do:

Do not touch an open wound without safety gloves.



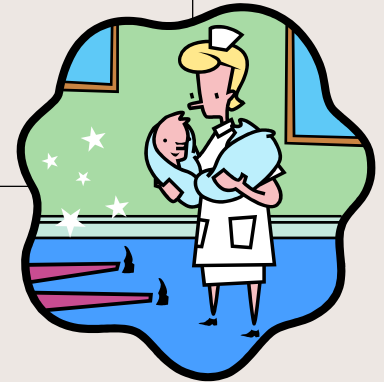
Pressing directly on minor cuts will stop bleeding in a few minutes. Apply cold

compress to bruises to reduce swelling.

First Aid

Injury: Fainting

To Do: Provide fresh air and have the person recline so that their head is lower than the rest of their body.



First Aid



Injury: Eyes

What To Do: Flush eyes immediately with plenty of water several minutes.



If a foreign object is lodged in the eye, do not allow the eye to be rubbed.

First Aid



Injury:

Poisoning

What To Do:

Find out what substance was responsible for the poisoning and alert the teacher immediately.

First Aid



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Injury: Spills on the skin
What To Do: Flush with large quantities of water.
For acid spills, apply baking soda solution.
For base spills, apply vinegar or boric acid.

First Aid

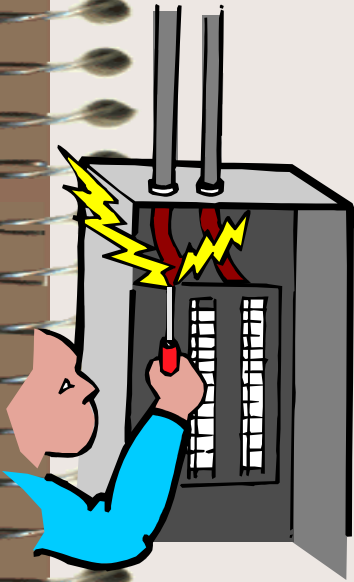


Injury: Electrical shock

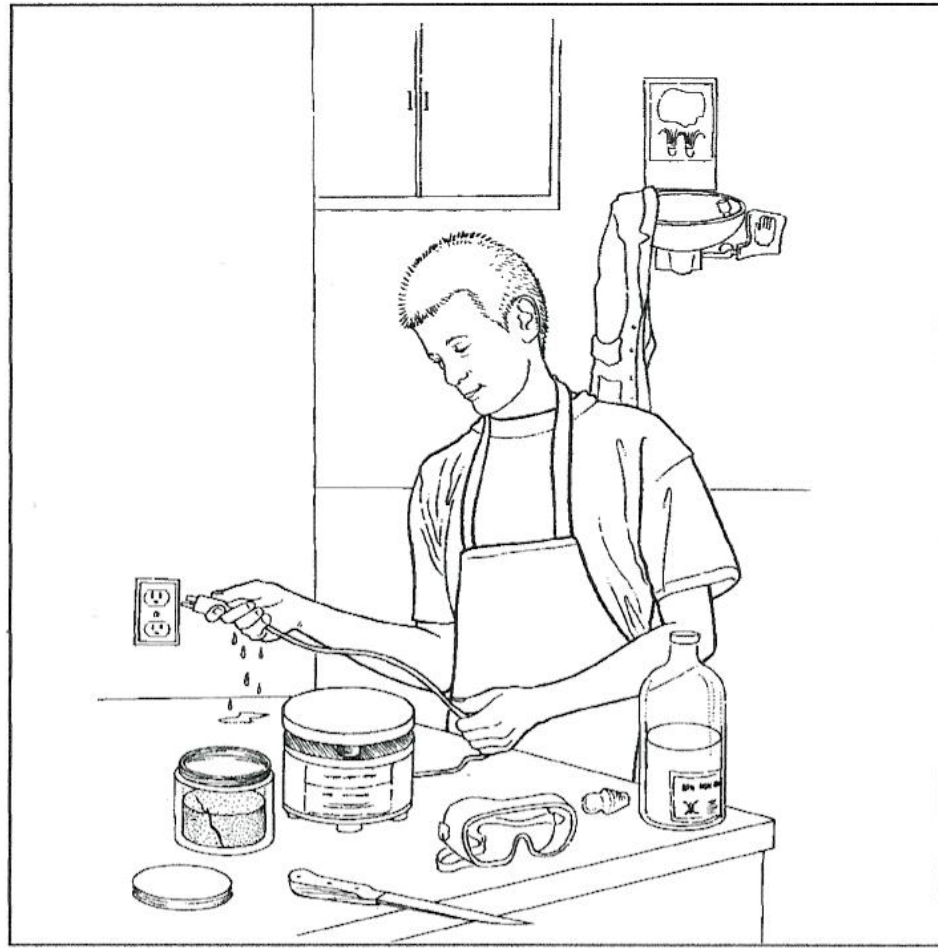
What To Do: Shut off the current
at the source.

Remove wire with rubber gloves.

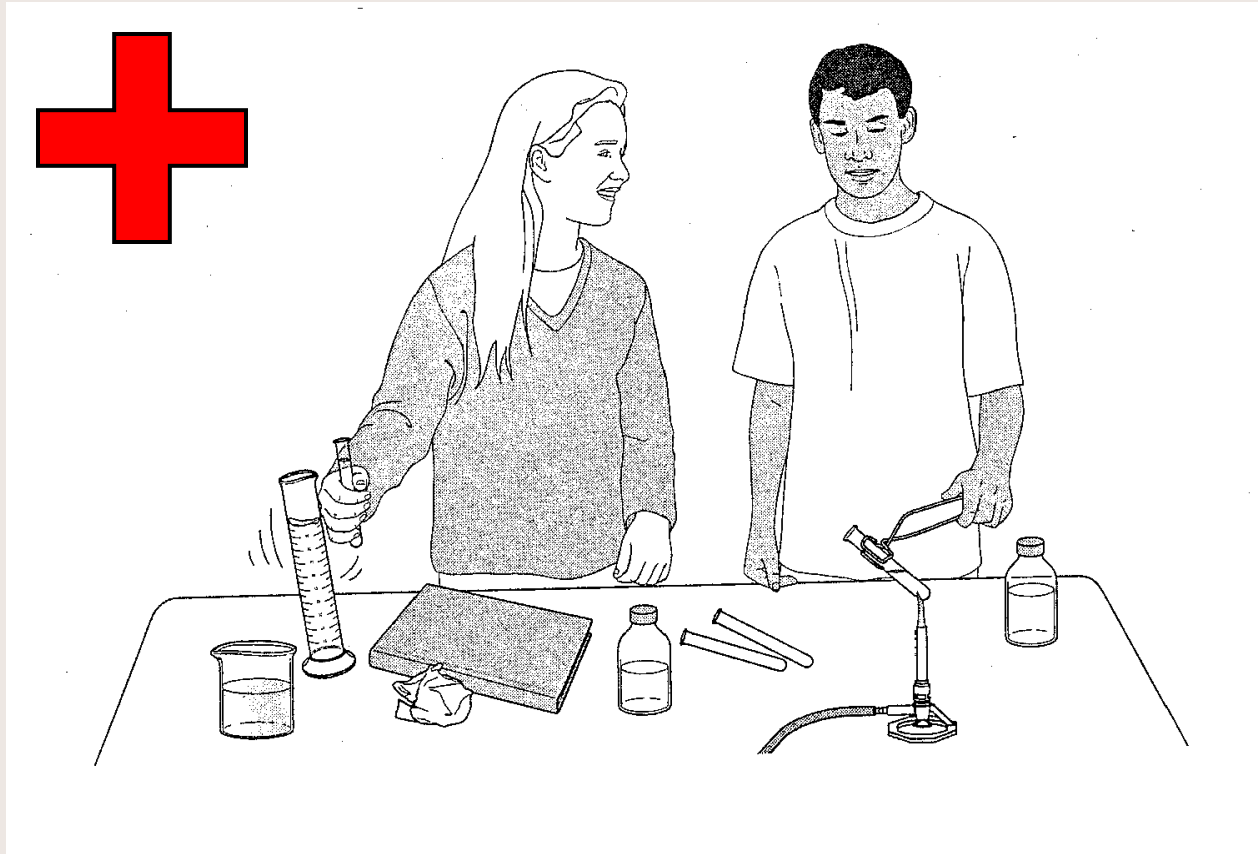
Alert the teacher immediately.



What's Wrong With This Picture?



What's Wrong With This Picture?



What's Wrong With This Picture?





What's Wrong With These Statements?

- Dodi says that his teacher is solely responsible for preventing laboratory accidents.
- Keshia started the lab activity before reading it through completely.
- Azka decided to do a lab activity that he read about in a library book before the teacher came into the classroom.
- Nayla says that the safety goggles mess up her hair and give her raccoon eyes. She refuses to wear them.
- Rani and Rina accidentally break a beaker full of some chemical. Instead of risking getting in trouble they quickly clean up the mess with paper towel and throw it in the garbage.

What To Do In An Emergency

If there is a fire or fire alarm

- Quietly get up and push in your chair.
- Walk toward the outside classroom door.
- Walk to the basketball court.
- Quickly line up in alphabetical order by last name.
- Remain in line until the drill is over.
- Remain silent throughout the entire alarm so that all people can hear important directions.



Lab Safety: Everyone Is Responsible!

Any Questions?

