

# Laboratory Safety Guided Notes – Teacher Edition







**Lab safety** is all about being aware of the surroundings as well as cultivating a specific skillset that is used to keep oneself and peers safe inside the lab.








When practicing lab safety, one of the ways to ensure everyone’s safety is to recognize any potential hazards. A **hazard** is anything or any event that can cause harm to an individual.

## Laboratory Safety Symbols

To promote the safe handling of hazardous materials and equipment, all labs should display appropriate **lab safety symbols**. These are graphic designs that are intended to convey a certain message or **warning** to the audience.

Laboratory Symbol	Name	Meaning	What to Do
	<b>General Warning</b>	This represents a <b>broad reminder</b> that the area in the laboratory is like to contain hazards and risks.	<b>Act accordingly.</b>
	<b>Biohazard</b>	The lab contains <b>biohazardous materials</b> or infectious agents.	<b>Wear appropriate protection.</b> <b>Decontaminate the area.</b>
	<b>Explosive Material</b>	There are chemicals with <b>explosive properties</b> in the area.	<b>Have a fire and explosion policy that everyone who uses the lab is aware of.</b>
	<b>Flammable</b>	It suggests that <b>flammable</b> or materials that ignite easily are likely to be present inside the lab.	<b>Label all flammable substances.</b> <b>Keep them away from heat or open flames.</b>

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Laboratory Symbol	Name	Meaning	What to Do
	Toxic	It indicates that substances held in the laboratory are <b>poisonous</b> .	Use masks, goggles, and gloves when handling toxic substance. Do not taste any chemicals in the lab.
	Glassware	This indicates that the tool is made up of glass which is <b>fragile</b> or highly breakable.	Handle glassware with extra care.
	Hot Surface	This indicates <b>hot surfaces</b> to warn the possibility of burn hazards.	Wear thick cloth gloves before touching any hot surface.
	Corrosive	It indicates that <b>corrosive</b> chemicals or those that can burn skin or wear away materials are present in the lab.	Wear protective gears when working with corrosive substances.
	Electrical Hazard	This symbol means <b>high voltage</b> electrical equipment is present in the lab.	Take extra precautions in handling electrical equipment.
	Irritant	This symbol means that there are substances that can cause <b>irritation</b> to the eyes and skin.	Wear protective gears when dealing with substances tagged as irritants.
	Sharp Hazard	This symbol indicates that the material has <b>sharp edges</b> which can cut skin.	Handle sharp instruments with care. Wear thick gloves when using sharp instruments.

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### Laboratory Safety Rules

Aside from knowing the different laboratory safety symbols, having a strong set of overall **safety rules** is essential in avoiding accidents and injuries inside the laboratory. These rules are only effective when they are enforced; thus, a strong **lab management** is also important to a safe laboratory.

Here are some safety rules that must be observed when working inside the laboratory.

1. Know **locations** of laboratory safety showers, eyewash stations, and fire extinguishers.
2. Be familiar with **emergency exit** routes. Be aware of the evacuation plan to properly leave the venue in case of emergencies.
3. Dress **appropriately** inside the lab. Always use the recommended **personal protective equipment** and other safety equipment for each experiment.
4. Do not **eat** or **drink** inside the lab. Eating or drinking in the lab can increase one's risk of exposure to hazardous materials.
5. Do not **taste** or **sniff** chemicals. Tasting or smelling some chemicals can be dangerous or even deadly.
6. Follow the **lab guidelines** on the storage of equipment and chemicals. If there are designated spaces for storage of particular items, ensure to **return** them in the appropriate place after use to avoid inconveniencing the next user.
7. Handle laboratory glassware with **care** to avoid damage. **Inspect** glassware often and do not use damaged glassware.
8. Treat all chemicals in the lab as if they were **toxic**. Avoid skin and eye **contact** with all chemicals.
9. When using volatile or toxic chemicals, ensure to open and use them with a **fume chamber**.
10. Act **responsibly** inside the lab. Do not play like a mad scientist who is randomly mixing chemicals to see what happens. Do not do horseplay inside the lab too.
11. **Dispose** of lab waste properly. Before you start an experiment, you should know what to do at the end.
12. Know what to do with lab **accidents**. **Inform** the teacher-in-charge if and when an accident occurs.
13. Stay **focused** and aware of your surroundings. When working with hazardous materials, it is critical to focus on the task and avoid distractions to prevent accidents or errors.