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| https://geomodderfied.weebly.com/uploads/5/4/3/7/54376571/published/minion-safety.jpg?1504671726 | **Science 9**  **Science Lab Safety** |  | **Name:**  **Date: Block:** |

1. **Lab Safety**
2. **WHMIS Symbols**

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| **Lab Safety** |

General Precautions:

* Always follow the instructions given to you by the teacher.
* Never perform any experiments without teacher approval.
* Keep the lab clean and uncluttered.
* Make sure all binders, textbooks, and bags are not in the way of your working area and not on the ground.
* Never eat or drink in the lab.
* No horseplay in the lab.
* Make sure you understand all procedures in the experiment; always ask the teacher if you have any questions.
* Read and understand the safety symbols and hazards with the materials you are working with.

Protective Clothing:

* Always wear safety goggles during a lab.
  + Do not take these safety goggles anytime during the lab.
* Wear disposable gloves when working with chemicals or living organisms.
* Wear an apron when working with chemicals.
* Remove any jewelry, ties, or scarves and tie back long sleeves.
* Tie back long hair.
* Tie back loose clothing.
* Wear appropriate footwear 🡪 any open feet footwear (sandals, flip flops, etc.) are not allowed in the lab.
* Long pants have to be worn in the lab.

First Aid:

* Know where the fire extinguisher, safety shower, fire blanket, fire alarm, and first aid kit is in the laboratory.
* Report any fires, accidents, broken equipment, and/or injuries to the teacher immediately.



Using equipment:

* Carry only one object at a time. Hold equipment carefully with both hands.
* Make sure you pull the plug on electrical equipment, not the cord.
* Your hands should be dry when working with electrical equipment.
* Do not use equipment that has frayed wires or cords.
* Report all damaged equipment to the teacher as soon as possible.
* Place electrical cords in places where people will not trip on them.
* Place test tubes in a test tube holder to hold them.

Heating and Fire Safety:

* Never heat liquids in a closed container.
* Keep combustible and flammable materials away from the fire.
* When heating test tubes, make sure they are pointed away from yourself and others.
* Use Pyrex or Kimax glass containers when heating.
* Do not place empty containers on a hot plate.
* Use oven mitts when picking up heated containers.
* If clothing catches fire, smother the flame with a fire blanket or a coat; Stop, drop, and roll.

Sharp Materials:

* Always cut materials away from yourself and others.
* Handle sharp materials with care.
* Always cut objects on a flat surface; hold down the object with pins or clamps.

Working with Chemicals:

* Read and understand all safety labels.
* Never taste any substances in the lab.
* If you make contact with a substance, inform the teacher immediately. Immediately wash that area with cold water.
* If chemicals go into your eye, wash them immediately and continuously for minimum 15 minutes. Inform the teacher immediately.
* When smelling a substance, do not smell it directly. Hold the container in front of you and waft the fumes towards your nose.
* Do not mix unknown chemicals together just to see what will happen.
* When diluting an acid, add small amounts of acid to large amounts of water.
* If chemicals are going from one container to another, make sure you label all the containers.



Cleaning up:

* Clean up materials according to teacher’s instructions.
* Do not pour used chemicals back into the original bottles or down the sink. Always follow teacher’s instructions when cleaning up.
* Turn off gas after it has been used.
* Broken glass needs to be placed in a broken glass container. Never use broken glassware.
* Unplug all electrical equipment that was in use.
* Make sure you wipe up any spills made immediately.
* Always wash hands thoroughly with soap after working in a lab.

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| **WHMIS Symbols** |

The most important consideration we have to take into account when working in the lab, handling chemicals and equipment, and conducting experiments is safety. Safety is key!



**WHMIS symbols**

WHMIS stands for ‘\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_’ and they use symbols in order to identify dangerous materials. These symbols can be found on labels of common household items and chemicals.

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| --- | --- | --- | --- |
| *Symbol* | *Name* | *Definition* | *Example of products that have this symbol* |
|  |  | * Gas under pressure * Heat may cause the container to explode. * A drop/impact may cause the container to explode. |  |
|  |  | * May burn at low temperatures. * Sparks, flames, friction may ignite it. |  |
|  |  | * Speed up development of a fire and make it more intense * Cause substances that don’t usually burn to readily burn in air |  |
|  |  | * May cause death/toxicity with short exposure to small amounts. |  |
|  |  | * Suspected to cause serious health effects (cancer, organ damage, genetic defects) after repeated exposure |  |
|  |  | * May cause irritation to skin and eyes. |  |
|  |  | * Corrosive damage to metals, eyes, skin. |  |
|  |  | * May be a self-reactive substance * Explosion may cause damage to surroundings |  |
|  |  | * Organisms/toxins that can cause diseases in people or animals |  |
|  |  | * May cause damage to the aquatic environment (fish, crustacean, or aquatic plants) |  |

**Practice!**

Fill in the table based on the household products provided

|  |  |  |
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| **Product Name** | **WHMIS Symbols on Container** | **Briefly describe the precautions you should take when using this product** |
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