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# Microbiology Laboratory

## Safety and Rules

Use and Care of Microorganisms This area of science, may involve many dangers and hazards while experimenting. It is the sole responsibility of all teacher(s)/sponsor(s) to teach students proper safety methods and sterile techniques. Roles and Responsibilities of Students & Adults the Instructor is responsible for working with the student to evaluate any possible risks involved in order to ensure the health and safety of the student conducting the research and the humans or animals involved in the study.

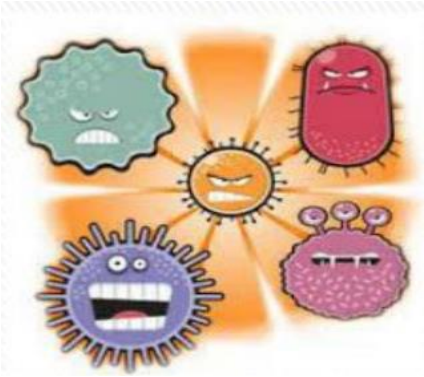
**Main Rules:**

1. Act responsibly & be careful, so everyone Is Responsible!


3. Food, drink, smoke and gum are not allowed in the microbiology lab.
4. Follow instructions.
5. Clean up carefully and thoroughly.
6. Wear correct clothing & safety equipment.
7. Wear gloves, aprons or lab coats when working with corrosive or staining chemicals. goggles is optional and tie hair back.
8. Never wear open shoes or sandals when using sharp instruments or hazardous chemicals.
9. Do not handle organisms without approval and supervision of your instructor.
10. Wash hands thoroughly with soap and water after any activity involving animals and/or animal parts, plants and/or plant parts, soil, and other organic material.
11. Notify supervisor immediately of any accidents or unsafe conditions in the microbiology lab!
12. Don't use your Mobile, Medical devices, Chemicals and Writing With gloves
13. Always follow the teacher's directions and only do lab work when a teacher is present. You MUST get permission from the teacher before beginning ANY activity or using any tools.

**Safety Precautions:**

Medical laboratories work with a great number of pathological specimens, as well as various bodily fluids, including blood. Because of this and because of the risk of cross-contamination, great attention must be paid to maintaining an antiseptic environment. You will need to sterilize your equipment regularly.



**Biohazards include**: bacteria, viruses, fungi, parasites, or any human body fluids.

• Pathogens: agents that cause disease.

• Bloodborne Pathogens: microorganisms that may be transmitted through direct contact with contaminated blood, bodily fluids, or tissues. Treat all human blood & bodily fluids as if they are infected.


**<u>In an Emergency!</u>** In the lab, it is important to know the location of:

• Fire Blanket

• Fire Extinguisher

• Emergency Exits

• Safety Shower and Eye Wash

**What are the hazards?**

1- The pathogenicity of an organisms

**2-** Toxicity: Toxicity means poisoning.

**3-** Allergenicity: Allergenicity is a non-toxic, immune system mediated, undesired reaction of the body to a substance or agent.

**4-** Disturbance of ecological balances: Disturbance of an ecological balance may happen when a GMO possessing a certain characteristic is accidentally spread to the environment, or when genetic material originating from that organism spreads to other organisms in the environment.

**5-** Other harmful effects: Sometimes there are other unwanted effects that urge one to be even more cautious when handling biological material. It is not possible to give an exhaustive list of these effects.

**Biological waste:** Biological waste must be disposed of an important distinction should be made between biological waste that has been inactivated before disposal, and biological waste that has not been inactivated before disposal. The latter has to be treated as hazardous medical waste and should be transported to an incinerator that is suited for the incineration of hazardous medical waste.

**Biological waste includes:**

• All genetically modified and/or pathogenic biological material: cell cultures, cultures of Microorganisms, tissues, blood, etc.

• Typical laboratory waste of organic origin: gels, etc.

• All kinds of biologically contaminated material: gloves, paper tissues, disposable culture flasks, pipettes, etc.

• Materials that are not necessarily contaminated, but cannot be thrown into an ordinary waste disposal bag because they have sharp edges or look dirty (bones, blood, etc.).

**Biological waste does not include:**

• Radioactive contaminated material. Such material should be dealt with separately.

**What's wrong with these statements?**

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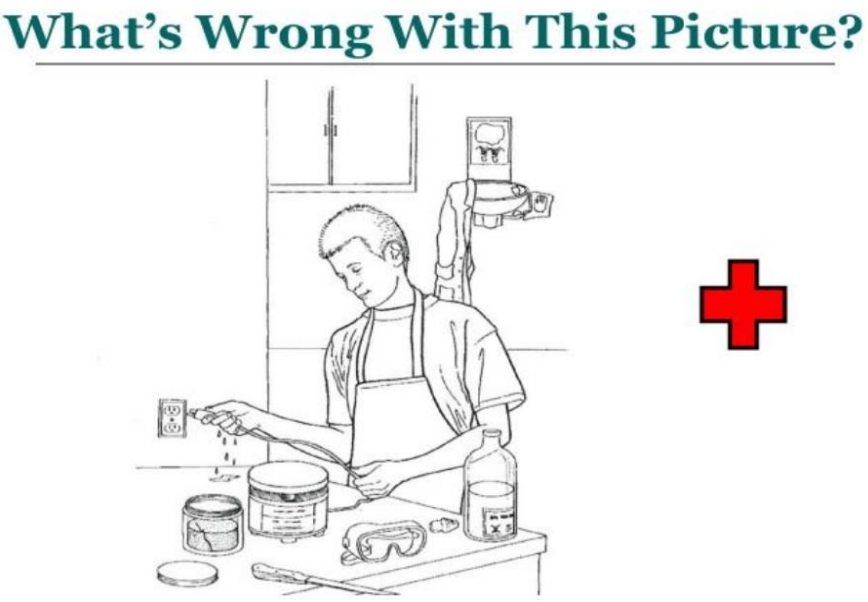


**2-**


**3-**

**1-** The boy says that his teacher is solely responsible for preventing laboratory accidents.

2- The girl says that the safety goggles mess up her hair and give her raccoon eyes. She refuses to wear them. • Barbie and Ken 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.

3- The girl started the lab activity before reading it through completely, while the boy decided to do a lab activity that he read about in a library book before the teacher came into the classroom.