

Name: _____

Date: _____

Guided Learning: Behavior and Dress in the Lab

Learning goals

After completing this activity, you will be able to ...

- List basic rules of conduct during an investigation.
- Identify protective clothing that can be used to prevent injuries.
- Recognize common lab safety symbols.

Vocabulary: toxic

Warm-up questions:

Working in a lab is a lot like cooking in a kitchen. Keeping your surfaces clean and your work area safe is of utmost importance.

1. What are some things you do in the kitchen to keep yourself from getting hurt while preparing food?



2. Have you ever seen a kitchen accident, such as someone getting burned or dropping a plate? Describe what happened and how the people involved responded to the accident.

Activity A: Laboratory Behavior

Studying science doesn't only involve reading text and doing virtual experiments with Gizmos™. You will also get to do laboratory and field investigations. These investigations can be a lot of fun, but they can also be dangerous. For this reason, it is extremely important that you follow the proper safety procedures at all times while doing an investigation. It is also important that you know what to do in the event of an accident.

The best way to prevent injuries during an investigation is to behave properly. Understand that the safety of yourself and your classmates is in your hands. Investigations are not the time for practical jokes or horseplay. Never throw objects, run, or push people during an investigation.

There are many other behaviors you should follow to stay safe during an investigation. In the chart below, list 10 different rules you think would be important to follow when doing a science experiment. In the second column of the chart, explain why you think each rule is necessary.

Rule	Explanation
1.	
2.	
3.	
4.	
5.	
6.	
7.	
8.	
9.	
10.	

Compare the list you made to the list at right, which gives rules you should always follow while working in the lab. You'll notice in the list of rules the instructions to keep your work area clean and free from clutter. This means putting away your books, papers, school bag, jacket, and other belongings. There are several reasons for this. First, having a clean work area makes it easier for you to find the items you need to complete the investigation. It also makes sure that you won't accidently spill chemicals on your belongings. Finally, it keeps your belongings out of the way so that you don't trip over them or get tangled up in them while doing your investigation.

In addition to keeping your work area clean, you should never bring food or drinks into a science lab. Many chemicals used in a lab are **toxic**, or poisonous. If these chemicals come in contact with your food or drink, you could become seriously ill. Even chewing gum can be dangerous, so make sure you throw gum away before entering a lab.

Laboratory Rules

- Follow all the directions given to you by your teacher and lab manual.
- Only perform an experiment in the lab if an adult is present.
- If you do not understand instructions or how to use a piece of equipment, ask your teacher for guidance.
- Only perform activities approved by your teacher.
- Avoid practical jokes and horseplay.
- Wear the appropriate protective clothing.
- Keep your work area clean and uncluttered.
- Do not drink or eat anything while in the lab.
- Know what to do in case of an accident.
- Learn how to use safety equipment, such as eye-wash stations and fire extinguishers.



1. Suppose your investigation instructions asked you to use a multimeter, but you had never used one before. What should you do? _____

2. What might be another reason not to bring food and drinks to the lab? _____

3. What do you think are some examples of protective clothing you might wear in the lab, and what would these pieces of clothing protect you from?

Activity B: Protective Clothing

During many lab and field investigations, you will be required to wear protective clothing. For example, when working with chemicals, you should wear clothing that covers your arms and legs to protect them from spills. Your clothing shouldn't be too loose so that it doesn't catch on lab equipment or other objects. You should also wear close-toed shoes if you are working outside or with chemicals, heavy objects, sharp tools, or glassware. Finally, pull back long hair to keep it away from chemicals and flames, and take off any dangling jewelry.



Protective Clothing	Description
Gloves	Gloves can protect your hands from chemicals and germs. Heat-resistant gloves can be used to handle hot objects.
Lab coats or aprons	Lab coats and aprons protect your clothing and body from spills and burns.
Safety goggles	Safety goggles protect your eyes from flying objects and splashing chemicals. Some goggles can also protect your eyes from toxic gases. Always clean goggles before and after each use.



1. What safety precautions are the students taking?

2. How can the students improve their safety? _____



3. Describe an appropriate time to use the following protective clothing during a lab or a field investigation:







Gloves: _____

Lab coats or aprons: _____

Safety goggles: _____

Activity C: Safety Symbols

The symbols in the table below indicate possible dangers in a lab or field investigation. Try to match each safety symbol to its description. You can use the key at the bottom of the page to check your answer.

Symbol	Description
A . 	1. Electrical Safety Do not use electrical equipment around water. Check cords for damage. Unplug equipment when the investigation is complete.
B . 	2. Corrosive Do not allow the chemical to touch your skin, eyes, or clothing. Wash your hands thoroughly after handling the chemicals.
C . 	3. Fire Safety Tie back loose hair and clothing. Know where the closest fire extinguisher is, what types of fires it can extinguish, and how to use it.
D . 	4. Sharp Objects Do not handle sharp objects by their cutting edges. Do not point the cutting edges towards anybody within your vicinity.
E . 	5. Hot Objects Use protective clothing such as heat resistant gloves. Keep flammable objects at a safe distance from all heat sources.
F . 	6. Poisonous Avoid touching, tasting, or smelling chemicals. Wash your hands thoroughly after handling the chemicals.

A.3,B.2,C.4,D.6,E.1,F.5