



Lab Safety

Educator Notes

Learning Objectives

- Identify potential safety hazards and personal protective equipment in your learning space.
- Establish a lab safety plan and classroom contract to prevent injuries in your learning space.
- Compare safety rules established in your learning space to other workplaces.

Introduction

- Pose the following questions to students and discuss each one as a class:
 - Why is it important to have a safe learning space?
 - Have you ever witnessed an injury in a learning space, or have you personally been injured in a learning space? If so, describe what happened and how to prevent it in the future.

Activity I

- Provide each student with a Student Lab Safety Inspection Worksheet. Print these one-sided to give students space for writing in additional hazards/personal protective equipment (PPE).
- Ask each student to individually conduct a learning space safety inspection for all hazards and PPE listed on the worksheet. Encourage students to add hazards or PPE not listed to the back of the page. Following the inspection, each student chooses a partner and compares classroom observations.
- Choose a few student pairs to present their combined observations with the class.

Activity II

- Combine student pairs into groups of four.
- Provide each group with a Student Lab Safety Contract Template.
- Remind students to use their Student Lab Safety Inspection Worksheet to guide their development of a Student Lab Safety Contract.
- Each student group presents their contract to the class. As a class, compare group contracts and choose one or a combination of contracts best fit for their learning space.
- Provide time for each student to adjust their Student Lab Safety Contract to reflect class changes.

Grades 6 to 12

Suggested Pacing

55 minutes total

- Introduction – 5 min
- Activity I – 20 min
- Activity II – 20 min
- STEMonstrations video – 5 min
- Reflection – 5 min

Materials

Provide one item per student unless otherwise stated.

- ☐ Writing utensil
- ☐ Student Lab Safety Inspection Worksheet
- ☐ Student Lab Safety Contract Template (one per group of four)

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STEMonstration Video

- As a class, watch the Lab Safety STEMonstration video found at <https://www.nasa.gov/stemonstrations>.

Reflection

- Complete the International Space Station comparison column of the Student Lab Safety Inspection Worksheet. Compare the lab safety protocols aboard the International Space Station with the lab safety rules established by the class for their learning space.
- Reinforce the importance of safety in all learning spaces and workspaces.

Extensions

- Instruct students to continue the conversation at home with family members. Students can inspect their homes for potential safety hazards and discuss safety parameters their parents/guardians must follow at their workplaces.
- Discover the importance of our government's Occupational Safety and Health Administration (OSHA) by using the following link: <https://www.osha.gov/>. Research ways students can participate in OSHA 10-hour and 30-hour training sessions and earn a U.S. Department of Labor card.

Student Lab Safety Inspection Worksheet

Walk around your learning space and use this data table to guide your search for potential safety hazards and personal protective equipment (PPE).

	Learning Space Hazards and PPE (Add to this list on the back should you find additional hazards)	Place a check for each hazard or PPE found in this learning space	Develop a safety rule for each hazard and a plan for using each piece of PPE	Place a check for each hazard/PPE found aboard the International Space Station (Use the STEMonstration video to complete this portion)
1	Machines			
2	Electronics			
3	Electrical Outlets/Cords			
4	Emergency Shut-off Switches			
5	Tools			
6	Sharp Objects			
7	Glass			
8	Chemicals			
9	Flammable Gas			
10	Slipping and Tripping Hazards			
11	Organisms			
12	Safety Glasses			
13	Gloves			
14	Hearing Protection			
15	Eyewash Station/Sink			
16	Safety Shower			
17	Safety Signs/Labels			
18	First-Aid Kit			
19	Posted Exits			
20	Evacuation Plan			



Safety Message

Safety in any learning space is the number one priority. To ensure your safety, the lab safety rules listed below must be followed while present in this learning space. When applicable, additional safety instruction is provided for each activity conducted in the learning space. All students and their parents/guardians must read the following contract together and sign. Please return this signed contract to your teacher immediately.

Rules:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____
9. _____
10. _____
11. _____
12. _____

Agreement:

I have read and agree to all the rules and guidelines in this contract. I understand a violation of this contract may result in disciplinary action from the school district.

Student Signature

Parent/Guardian Signature

Date