

## **SCIENCE SAFETY IN SCHOOL LABORATORIES AND CLASSROOMS**

*This Circular will remain in effect unless rescinded or superseded by a subsequent version.*

Boston Public Schools (BPS) has developed a Science Safety Plan to promote a safer and more effective learning environment for students and a healthier workplace for teachers and other employees within science classrooms and laboratories in Boston Public Schools. [The Science Safety Plan](#) is a comprehensive effort to address chemical use, storage, and disposal procedures, as well as the prevention and/or minimization of and response to chemical spills and other accidents.

The districtwide plan addresses the needs of all BPS science classes and is consistent with the requirements of the U.S. Department of Labor, Occupational Safety and Health Administration's (OSHA) 29 CFR 1910.1450 Occupational Exposures to Hazardous Chemicals in Laboratories for the protection of our students and employees, as well as guidance materials from the National Fire Protection Association (NFPA), the National Institute for Occupational Safety and Health (NIOSH), and the Boston Fire Department. The Science Safety Plan promotes a culture of safety in science and the safe operation of all science laboratories for students, faculty, and staff.

To ensure that all students and their teachers work in an environment which is safe, it is necessary to formulate standard procedures and requirements for all schools and their personnel.

The Science Safety Plan and this circular will be reviewed annually.

Your performance of these procedures is required.

## RESPONSIBILITIES OF PRINCIPALS/HEADS OF SCHOOLS

1. Ensure that all science classes and laboratories are assigned to and conducted in appropriately equipped Science Rooms.
2. Provide a list of all science teachers/teachers of science to the Science Department by October 1st each year using the form provided in **Appendix R** of the BPS Science Safety Plan.
3. Appoint a Science Safety Coordinator (SSC) and ensure they:
  - a) Attend the mandatory Chemical Safety Training session co-hosted by the Science Department and Flinn Scientific.
  - b) Conduct an annual chemical inventory.
  - c) Complete the required safety checks as stated in **Sections J and O** of the BPS Science Safety Plan.
4. Inform the staff and students in writing of the safety standards and procedures, including the need to wear eye protection devices.
5. Ensure that workable fire extinguishers, blankets, safety showers, and eyewash equipment are readily available and that appropriate personnel receive training in the use of each.
6. Ensure staff review and implement the BPS Science Safety Plan.

7. Ensure that staff has instructed all students in safety standards and procedures, including the BPS Science Safety Plan and the School Safety Plan.
8. Post building evacuation procedures in classrooms, laboratories, and chemical storage rooms.
9. Conduct quarterly fire drills.
10. Maintain adequate lighting and proper ventilation in laboratories and classrooms, and report problems to Facilities Management immediately.
11. Be sure that teacher evaluations reflect the implementation of safety standards and procedures.
12. Ensure that a "Right to Know" workplace notice is posted in the school's Science Rooms pursuant to Mass. Gen. Laws c. 111F.
13. Ensure a copy of all safety data sheets (SDSs) is maintained in the main office and chemical storage areas.
14. Ensure that all instructors working with toxic or hazardous substances receive training as specified in Chapter 111F of the Massachusetts General Laws through the Science Department.
15. Notify the Science Department of any accident or injury in a Science Area.
16. Submit the Annual Hazardous Material Permit Application to Boston Fire Department and post the current permit in the main office.

## RESPONSIBILITIES OF TEACHERS

1. Review and implement the Science Safety Plan, including SOPs for general laboratories, chemical use and storage, chemistry laboratories, biology laboratories, physics laboratories, and waste management.
2. Attend annual safety training(s) including science safety and first aid.
3. Practice safety procedures and serve as the model for good safety conduct for students.
4. Establish a Student Safety Contract with each student prior to any laboratory activities.
5. Require the use of appropriate personal protective equipment.
6. Avoid accidents by insisting that students dress properly for the laboratory.
7. Supervise students at all times. Under no circumstances shall a teacher leave students unsupervised in a laboratory or chemical storage room. If an instructor must leave the laboratory in an emergency, they must:
  - a) Arrange for a qualified teacher as a replacement, OR
  - b) Relocate students to a properly supervised area,
  - c) Lock the laboratory, and
  - d) Shut off equipment.
8. Inspect fire extinguishers monthly and safety showers and eyewash stations weekly (*SSC or science teacher in charge*).
9. Maintain first aid kit in an easily accessible area (*SSC or science teacher in charge*).

10. Maintain a chemical inventory using the online ChemVentory system, update at least annually, and submit an electronic copy to the Science Department and Facilities Management by October 1st each year (*SSC or science teacher in charge*).
11. Ensure SDSs for all chemicals are accessible and copies are kept in the chemical storage room or school's Science Department and in the administrative main office (*SSC or science teacher in charge*).
12. Store all chemicals in their compatible chemical families.
13. Keep all chemical storage rooms or cabinets locked at all times when not in use.
14. Label all chemical storage rooms/cabinets and laboratory doors with the appropriate NFPA Diamond (*SSC or science teacher in charge*).
15. Ensure all chemical and waste containers are labeled appropriately and stored safely until they can be removed. Contact Facilities Management for removal.
16. Implement the appropriate emergency procedure, waste disposal, spill cleanup, evacuation routes, and fire emergency notification when needed.
17. Consult with the Science and/or Facilities Management Department staff as appropriate regarding the use of Class 1A flammables, compressed gasses, donated chemicals, and the implementation of any laboratory experiment that may be more hazardous than those contained in the district-identified curriculum.
18. Report all accidents and injuries to the principal/head of school and direct supervisor.

19. Report lighting, ventilation, safety equipment, and laboratory disrepair to principal/head of school, direct supervisor, and Facilities Management.

## **RESPONSIBILITIES OF STUDENTS**

1. Practice good chemical hygiene habits.
2. Maintain an awareness of health and safety hazards and report unsafe practices and conditions to the teacher.
3. Report all accidents and injuries to the teacher immediately.
4. Know and follow emergency procedures.
5. Notify the teacher of any sensitivity or allergy to chemicals.
6. Wear appropriate apparel and personal protective equipment, including goggles, during laboratory activities.
7. Conduct all activities according to teacher instructions to ensure the Science Safety Plan is followed.

## **TECHNICAL ASSISTANCE**

Facilities Management and BPS district Science Department will provide all schools with technical assistance in improving and maintaining safety procedures. Facilities Management and Safety personnel are available to coordinate fire prevention activities and building and safety equipment inspections.

## Superintendent's Circular FMT-18

Page 7 of 8

### Contact:

- Chief Environmental Technician, Facilities Management  
617-635-8300
- Assistant Superintendent, Office of Teaching and Learning  
617-635-8079

### For more information about this circular, contact:

Owner:	Sr. Environmental Supervisor
Department:	Facilities Management
Mailing Address:	1216 Dorchester Ave., Boston, MA 02108
Phone:	617-635-8300
Email:	<a href="mailto:Operations-Department-Heads@bostonpublicschools.org">Operations-Department-Heads@bostonpublicschools.org</a>

OR

Owner:	Science, Technology, and Engineering Department
Department:	Office of Teaching and Learning
Mailing Address:	Campbell Resource Center, 1216 Dorchester Ave., Boston, MA 02125
Phone:	617-635-8750
Email:	<a href="mailto:bpssciencematerials@bostonpublicschools.org">bpssciencematerials@bostonpublicschools.org</a>

**Additional contacts in the Office of Teaching and Learning:**

Chief of Teaching and Learning	<a href="mailto:OPL@bostonpublicschools.org">OPL@bostonpublicschools.org</a>
Executive Director of STEM	<a href="mailto:OPL@bostonpublicschools.org">OPL@bostonpublicschools.org</a>
Program Director, High School Science	<a href="mailto:OPL@bostonpublicschools.org">OPL@bostonpublicschools.org</a>

Mary Skipper, Superintendent