

COMPUTER TECHNOLOGY SAFETY RESOURCE



**SAFETY SHEETS FOR SECONDARY SCHOOL
TECHNOLOGICAL EDUCATION**

Introduction



This resource was compiled and created by the Halton District School Board Technological Education teachers and board staff, including revisions and approval by the HDSB Computer Technology subject council.

The fundamental philosophy of broad-based technological education is that students learn best by doing. That is why the technological education curriculum is designed to be activity-based and project-driven. It is also why maintaining a safe learning environment is critical to the success of the curriculum.

Technological education teachers play a key role in promoting safety and need to encourage and motivate students to assume responsibility for their own safety and the safety of others. Teachers must also ensure that students acquire the knowledge and skills needed for safe participation in all technological activities. (The Ontario Curriculum, Technological Education – Grades 9-10-11-12, 2009). By doing so, students will develop an attitude of “safety mindedness”, allowing them to work responsibly with their peers in a technological education facility, recognize potential hazards and take appropriate precautions to mitigate the risk of these hazards.

Health and safety is of paramount importance in technological education. In every course, students must be made aware that health and safety is everyone’s responsibility – at home, at school, and in the workplace. Before using any piece of equipment or any tool, students must be able to demonstrate knowledge of how the equipment or tool works and of the procedures they must follow to ensure its safe use. Personal protective gear must be worn as required. Teachers must make use of a wide range of available and relevant resources to make students sufficiently aware of the importance of health and safety.

The expectation is that each student in our classrooms reviews the safety rules for each piece of equipment and process that they will use in that classroom and pass the required safety test, **which is then documented using the Safety Passport at the end of this document.**

Student Safety Rules in a Technological Education Facility



1. Always listen to and follow instructions. Do not operate machinery unless you have the teacher's permission. This will help prevent accidents.
2. Always act sensibly in the technological education facility. This will prevent injury, improper use of equipment, spillages and breakages.
3. Report all accidents, spills and breakages immediately to your teacher. This will prevent any further damage or injury.
4. Keep the technological education facility clear of coats and bags, including: desks, tables and floor. This will prevent accidents caused by tripping.
5. Always keep the technological education facility and your work area clean and tidy, and put tools and materials away. This will prevent accidents.
6. Never eat or drink in any technological education facility. This will prevent infections, accidents and disease.
7. When using any tools and equipment, make sure long hair is tied back , jewelry is removed and loose clothing is tucked in to keep it away from the rotating machine parts. This includes not wearing gloves when using machines with rotating parts. This will prevent personal injury.
8. Always wear the appropriate supplied personal protective equipment (PPE) (i.e. safety glasses, hearing protection, etc.) when required. This will reduce the risk of injury.
9. Never attempt to handle or use broken tools or broken equipment. Alert the teacher immediately. This will prevent injury to yourself and others.
10. If any chemical gets on your hands, or on any other part of your body, inform teacher and wash it off immediately.
11. Everything has a proper storage location. If you don't know where it is, please ask. If you do know, put it back.
12. Never block fire exits, fire alarm pulls, doorways, aisles, and electrical power emergency shutoffs of machine switches for any reason at any time.
13. Never make adjustments to equipment or guards without your teacher's permission.

AT ALL TIMES, IF IN DOUBT,
SEE YOUR TEACHER

I have read and agree to the above rules for Student Safety and will follow these rules and procedures at all times.

Safety-Related Curriculum

Each Technological Education curriculum document includes safety-related expectations to ensure our students learn appropriate safety procedures in each of our facilities. The grade 11-12 Computer Technology curriculum document includes the following:

OVERALL EXPECTATIONS:

By the end of this course, students will:

- D1. Demonstrate an understanding of relevant safety practices, standards, and legislation.

SPECIFIC EXPECTATIONS:

By the end of this course, students will:

- D1.1 comply with relevant industry practices, standards, and related legislation to ensure workplace safety (e.g., standards and regulations specified in the Workplace Hazardous Materials Information System [WHMIS] and the Electrical Safety Code; grounding and enclosure standards for electrical circuits; ergonomically sound workplace arrangements and practices);
- D1.2 describe and use appropriate equipment, techniques, and strategies to avoid health and safety problems associated with computer use (e.g., back injuries from improper lifting of heavy equipment, repetitive strain injuries, eye strain).

Technological Education Classroom Safety Checklist

CODE (Council of Ontario Directors of Education) has created Technological Education safety resources for administrators, which includes safety checklists for each broad-based subject area. The following table is the checklist included in this

document. Teachers should ensure that the safety concerns listed are addressed in their classrooms. The following checklist includes look fors that indicate a Computer Technology facility is safe.

Safety Concern	Comments
Sufficient and appropriate personal protective equipment (PPE) such as safety glasses, ear protection and gloves are available for all students.	
PPE is in good condition (e.g., safety-glass lenses are not scratched or deformed).	
Safety glasses are stored in an organized fashion.	
All materials or chemicals that are stored in secondary containers are clearly identified, as per WHMIS requirements.	
Aprons or shop coats are clean and well organized so students are encouraged to wear them.	
Appropriate safety posters or notices that remind students of the use of PPE, health and safety regulations, possible hazards, or safeguards and precautions are prominently displayed.	
Students and the instructor are dressed appropriately for working safely (e.g., sleeves are not rolled up, no rings or loose jewelry).	
Good housekeeping practices are evident e.g., the room is well-organized, there are no trip hazards, exits are clearly marked and clear of obstructions, the facility is clean and inviting, breaker panels and emergency shut-offs are accessible, etc.	

Tools are organized and neatly stored.	
Circuit board etching tanks are properly vented.	

This document provides safety instructions, processes and procedures for the use of each piece of equipment currently used in our Technological Education facilities.

Table of Contents

3D PRINTER	Page 7
CABLE USE	Page 8
CNC ROUTER	Page 9
COMPUTER & ELECTRICAL DEVICES	Page 11
ERGONOMICS & HARDWARE	Page 12
ELECTRICAL HAZARDS	Page 13
FACILITY EMERGENCY PROCEDURES	Page 14
FALL PROTECTION	Page 16
FIRE PROCEDURES	Page 17
FIRST AID	Page 18
FIRST AID KITS	Page 19
HAND/PUMP TRUCKS	Page 20
INFORMATION & COMMUNICATIONS TECHNOLOGY	Page 21
LADDER SAFETY	Page 23
LIFTING	Page 24
SOLDERING IRON	Page 25
WHMIS	Page 26
SAFETY PASSPORT	Page 28