SAFEDOC

CONSTRUCTION / CUSTOM WOODWORKING

ONTARIO COUNCIL FOR TECHNOLOGY EDUCATION

SAFE ACTIVITY FOUNDATIONS IN EDUCATION DOCUMENT

Revision May 2013, Revision July 2022

TCJ2O	Construction Technology: Open
TCJ3C/4C	Construction Technology: TC3J3 Prerequisite
TCJ3E/4E	Construction Technology: TCJ3 Prerequisite
TWJ3E/4E	Custom Woodworking: TWJ3 Prerequisite

TCS3C	Construction Engineering Technology: Construction Management and Science
TCY3C	Construction Engineering Technology: Civil Engineering
TCC3E	Construction Technology: Carpentry
TCE3E	Construction Technology: Electrical/Network Cabling
TCH3E	Construction Technology: Heating and Cooling
TCM3E	Construction Technology: Masonry
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Disclaimer

This material was designed to assist teachers implement the Ontario Curriculum – Technological Education (revised Grade 10 -12), but is fully adaptable to the Ontario Curriculum Grade 1 – 8 Science and Technology curriculum. This material was created by members of the Ontario Council for Technology Education (OCTE) subject association and is intended as working guide for classroom, lab or shop activities. Permission is given to reproduce these materials for any purpose except profit. Teachers are encouraged to amend, revise, edit and adapt this material for educational purposes. Please acknowledge the source in all uses. Any references in this document to particular commercial resources, materials or equipment reflect only the opinions of the writers of this material, and do not reflect any official endorsement by the Ontario Council for Technology Education, the Ontario Ministry of Education, or any other agency or government body.

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SECTION 1: GENERAL

Safe Activity Foundation in Education:

Construction

This ***SAFEdoc*** was designed to provide safety information sheets, posters, safety passports, and safety resources for all technology educators. While originally developed as a resource for the Course Profiles, it is available for any grade level or any technology education environment.

In 2013 another resource called SafetyNET was created by OCTE with many subject-specific exemplars of exciting student projects that incorporate varying levels of safety risk. Please review exemplar TCJ OCTElab SafetyNET resource documents created 'by teachers for teachers' with experienced tips and customization options for your course projects.

The ***SAFEdoc*** is divided into eleven separate disciplines:

Communications, (COM)	Hospitality and Tourism (HOST)
Computer Engineering Technology (CET)	Manufacturing (MANU)
Construction, Custom Woodworking (CON)	Technological Design (DESIGN)
Green Industries (GREEN)	Transportation (TRANS)
Hairstyling and Aesthetics (H&A)	Exploring Technologies (EXPL)
Health Care (HC)	

Please note that due to the cross-curricular nature of Technological Education, there may be a need to refer to other **SAFEdocs** for cross-discipline data sheets. For example, a Health Care teacher may need to utilize food production and handling equipment, therefore may need to refer to the HOST **SAFEdoc**. Teachers are encouraged to download ALL ***SAFEdocs*** for reference.

Teachers are encouraged to add to this ***SAFEdoc*** with data sheets, tests or other materials on an ongoing basis. Additions or revisions to this document will be posted on the Ontario Council for Technological Education website periodically.

This document is a practical safety resource that compliments and elaborates on other recommended resources for technical teachers. See the appendix for linking information such as the Ministry of Labour, Immigration, Training and Skill Development, and industry associations dedicated to safe working practices.

It is imperative that all students are made aware of the issues of health and safety particular to your class, and that you have assessed and evaluated their understanding before they are allowed to work in a shop environment or on specific procedures or tools. The use of Safety Passports, Safety Agreements, and Safety Tests (provided in this document) is highly recommended.

While it is important to give students initial safety training and testing at the beginning of the semester, it is also important to practice **JIT Safety Training (Just In Time).** Reinforce specific safety procedures and rules each day before initiating new procedures or using equipment. For example, before students use a bandsaw, review the setup and ask key questions of students before allowing its use.

Usage of the SAFEdocs

Teachers are encouraged to use and modify this document as they see fit. Individual pages may be directly printed, or custom formatting may be applied for printing any part of the document. **General Guidelines** may be used in Board or school policy documents. **Safety Guidelines** may be used as student handouts, as a teacher reference for tests, or printed and mounted as posters around equipment.

The ***SAFEdoc*** also contains sample **Safety Passports**. These can be used as verification that students have been trained and understand the safety aspects of each equipment or procedure they need to use to accomplish their tasks. There are several formats that may be used. Teachers are encouraged to keep consistent records at all times.

It is important that teachers are knowledgeable about their own Board and school policies regarding safety, and that they are familiar with local municipal regulations.

NOTE:
FOR ALL SHOP TEACHERS
When using the Safety Information Sheets in this document, you may find it useful to add pictures of the equipment in your shop to the sheets.

Responsibilities for Safety

[From the Ontario Ministry of Education, The Ontario Curriculum (Revised) 2009, Technological Education, Grades 9 and 10 (page 28); Grade 11 and 12 (page 33)]
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. Classroom practice and all aspects of the learning environment must comply with relevant municipal, provincial, or federal health and safety legislation, including the following:

- the Ontario Workplace Safety and Insurance Act
- the Workplace Hazardous Materials Information System (WHMIS)
- the Food and Drugs Act
- the Ontario Health Protection and Promotion Act
- the Ontario Building Code
- the Occupational Health and Safety Act

- local by-laws

Teachers should make use of all available and relevant resources to make students sufficiently aware of the importance of health and safety. These resources include:

- Ministry of Labour, Immigration, Training and Skill Development and related resources
- Workplace Safety and Insurance Board (WSIB) website and related resources
- Workplace Safety and Prevention Services (WSPS) – website and related resources
- Canadian Centre for Occupational Health and Safety (CCOHS) – website and related resources
- Ontario Ministry of Health – website and related resources
- Appropriate Safe Workplace Associations (SWAs) and clinics, such as:
- Infrastructure Health & Safety Association of Ontario (IHSAO) website
- the Workers Health & Safety Centre (WHSC) website
- the Occupational Health Clinics for Ontario Workers (OHCOW) website

Teachers should also be aware of the Occupational Health and Safety Act, Regulations 857, Amended to O. Reg. 352/91.

Delegating the Responsibilities for Safety

As well, there are key areas of responsibility that must be clearly delegated for all technological subject areas and they must be addressed for their individual board, school and facility.

These may include administration, curriculum chairs/department heads, technology teachers, students, board facilities, custodian/maintenance and other local partners or board-defined roles.

* An original source of this delegation example has been adapted from the Toronto District School Board – Experiential Learning Department – Technological Education 'Front Matter' for the purposes of the SafeDOC revision 2013. Please note that this section is not original to the SafeDOC writers, but is a result of collaboration between the TDSB and OCTE. This in no way refers any responsibility to the TDSB for this information, and has been provided as a guideline reference only.

Administration

The responsibility rests with the Principal or his or her designate to ensure that each Technological Education Teacher has received the information and instruction on the safe use of equipment in the classroom.

In order to achieve safety goals, the School Board, Superintendents and Principals should:

- establish and maintain a written Board safety policy and program
- emphasize and enforce the safety policy and procedures
- ensure that each Teacher has been satisfactorily trained on the use of equipment within the classroom
- ensure in-service education sessions are held for Teachers concerning the safety policy and procedures therein, such as machine guarding, lock-out, fire prevention, first aid, personal protective equipment
- be aware of current legal issues about liability for classroom accidents; ensure that such is part of in-service sessions for staff
- assist and encourage the teacher to correct and avoid situations that could result in liability to the Teacher and the school
- provide for proper safety equipment in all technology areas
- hold staff accountable for safety practices in their respective areas
- analyze accident records in order to determine the most frequent causes of accidents and the more severe types of accidents
- take corrective measures to change accident-causing conditions
- ensure that staff health and safety training and information is current

- make safety literature, posters, and safety promotional material available to all persons associated with the technology program
- set up a program for the safety orientation for new staff
- ensure that all Occasional Teachers working in the Technology areas are informed about and understand the standard accident and emergency procedures
- not permit the overcrowding of classes, taking into account the physical size of a room, the arrangement of the equipment, furniture and facilities in the room, and the kind of activities that are being carried out in the room
- ensure that the use of space has not changed unless changes have been designed by a qualified architect or engineer
- at the beginning of the year/semester, make the Technological Education Teacher aware of any student medical condition that could result in a safety problem
- ensure that individuals are designated to be responsible for safety in the Technology Department
- limit afterhours access to the Technological Education facilities and equipment to qualified personnel

Department Heads / Curriculum Chairs/Program Leaders

The Department Head is the intermediary between the individual Teacher and Administration. Each Department Head is accountable to his or her Principal to ensure input into the administrative process and enforcement of both the *Occupational Health and Safety Act* and Board policies.

The Department Head/Curriculum Chair should:

- ensure that each Technology area has a floor plan posted in a strategic place to show the locations of items such as:
  - fire extinguishers
  - Automatic External Defibrillator (AED)
  - posted emergency phone numbers
  - fire blankets
  - emergency power stop buttons
  - emergency kit
  - eyewash station(s)
  - emergency exits
  - special shut-off valves (gas, etc.)
  - nearest fire pull station
- ensure that a first aid kit is available in each Technology area
- ensure there is Personal Protective Equipment (PPE) available for Technology staff
- ensure implementation and understanding of the safety policies and procedures. This includes developing specific departmental safety procedures or rules for specific

areas.

- ensure a designated Teacher is responsible for specific areas of safety in his or her specific areas
- inform the Principal when the physical condition or other factors in the classroom may detrimentally affect safe instruction
- when a program is disbanded, ensure equipment is locked-out and room is not accessible (rekeyed)
- inform the Principal, in writing, of any known or potential safety hazard
- encourage the use of safety posters, literature, and audiovisual aids
- advise the Technological Education staff to ensure that all student projects are able to be completed with safety guards in place. Keep safety guard and anti-kickback devices in position, if possible. Use approved alternate safety devices where appropriate.
- advise Teachers to ensure that safety guards are placed back immediately when process is finished
- where applicable, ensure that there is an appropriate spill kit and spill procedure present
- develop, implement, and post a standard accident emergency procedure in each Technology area
- ensure that current inventories of Safety Data Sheets (SDSs) are maintained
- ensure that no unapproved or unsafe equipment, materials, or procedures are used in the area. Equipment should be purchased through Board-approved vendors.
- advise Technology staff that any equipment deemed not to be safe must be taken out of service immediately, tagged, locked out, and reported to the Principal
- advise the Technological Education staff to ensure that no practical shop work requiring the use of tools shall take place during their absence or when an unqualified Teacher in Technological Education is supervising the class
- advise any certified Occasional Technological Education Teacher working in a specific subject area not to engage in practical work until familiar with the shop environment
- encourage the Technology staff to receive first-aid training
- ensure that all accidents and incidents are recorded and reported on the appropriate forms
- conduct, along with the Health and Safety representative where appropriate, a follow up analysis of all accidents and incidents
- notify the Chief Custodian, Facility Services of any special needs or deficiencies in the area
- review, at least annually, all procedures and rules

Technology Teacher

In order to provide a safe environment for students involved in any Technological Education course, the following procedures must be adhered to:

Teachers must be aware of their Board Safety Documents that outline safety procedures for machinery, tools, equipment, and procedures by completing advised Board Training.

Use of Board Safety Documents is required as the minimum basis for safety instruction. Enhancements and additions to these documents are permitted to meet program needs.

Students and employees must receive instructions on the safe and proper operating procedures for specific machinery and equipment by a qualified Technological Education Teacher before permission is given to use tools, machinery, and equipment. The following excerpt from the Ontario Curriculum document for Technological Education explains this point further:

Teachers are responsible for ensuring the safety of students during technology lab, shop, and classroom activities. Health and safety issues must also be addressed when learning involves cooperative education and other workplace experiences. Teachers need to encourage and motivate students to assume responsibility for their own safety and the safety of others, and they must help students develop the knowledge and skills needed for safe participation in all technology-related activities. For these reasons, teachers must model safe practices at all times and communicate safety expectations to students in accordance with school board policies and procedures, Ministry of Education policies, and Ministry of Labour regulations.

To carry out their responsibilities with regard to safety, it is important not only that teachers have concern for their own safety and that of their students, but also that they have:

- the knowledge necessary to use the materials, tools, and procedures involved in science and technology safely
- the skills needed to perform tasks efficiently and safely

Note: Teachers supervising students using power equipment such as drills, sanders, and saws need to have *specialized* training in handling such tools. This specific training requirement applies to listed equipment in all areas of technology education specialization.

Teachers of Technological Education courses must carefully maintain records of student attendance and records of safety instruction given.

Teachers are expected to be able to provide documentation:

1. that the student was present on the date each safety lesson was taught (dated lesson plans, attendance records clear and unambiguous)

2. of the safety lesson that was delivered (e.g., PowerPoint, note taking, signed safety pledge, pre-printed sheets, successful passing on an announced written test that is dated and stored by the teacher, correction of errors completed)

3. that indicates student understanding of the safety lesson (e.g., completed evaluation tool, student notes)

4. of how students are reminded of safe practice throughout the course (e.g., notation in teacher daybook)

5. that the work and learning environments are kept safe, tidy, and in good condition (e.g., photos, focus on machines with guards in place, maintenance records, safety inspections, cleanup procedures, student safety stewards, modeling of best practices), and that the Head Caretaker is informed of any maintenance issues

6. that students' different learning styles and needs are taken into account, both during the delivery of the safety lessons and during any follow-up evaluation (e.g., use of visuals, opportunities to demonstrate understanding orally)

7. that safety procedures are explained using various strategies such as verbal explanation, demonstrations through modeling, and accompanied by both written and pictorial explanations that are posted throughout the work and learning environments

8. those accommodations and, if necessary, modifications are made to the curriculum and included in the Individual Education Plan (IEP) in the event that the student cannot manage all curriculum expectations safely

9. that each student has signed the annual acknowledgment form, stating that he/she has been informed of the safety procedures

Locking Out and Tagging Out Equipment

The process for Teachers for locking out and tagging out equipment is as follows:

- If the equipment can be locked out by way of a power switch located on the actual piece of equipment, by use of a padlock, then the Teacher can lock it out.
- If the power cannot be locked out at the equipment, then the Head Caretaker must be notified and the power should be locked out at the panel box.
- Lockout is always required when repairs/adjustments are being performed on any piece of equipment.
- Once the equipment is locked out, it must be "Tagged Out" by attaching an appropriated tag in a conspicuous location, showing the worker's name and reason for lockout, along with the date and time.
- Notify the school Administration and the Head Caretaker once lockout and tag-out have occurred.

Students

Students demonstrate that they have the knowledge, skills, and habits of mind required for

safe participation in Science and Technology activities when they:

- maintain a well-organized and uncluttered workspace
- follow established safety procedures
- identify possible safety concerns and bring this to the attention of the teacher
- suggest and implement appropriate safety procedures
- carefully follow the instructions and example of the Teacher
- consistently show care and concern for their own safety and that of others

Board Facilities

- Inspect the Technology areas on at least an annual basis with respect to maintenance items such as gas leaks, electrical outlets, safety indicators or signs, ventilation, and any other potential hazards.

- Report the results of the inspection to the Principal.

- If work is planned in a Technology area, ensure the Teachers are informed and check for special hazards which may be present.

- Before working in a shop or on any of the shop services, inform the Teacher what will be done, and when the work will be starting and finishing. The classroom Teacher is responsible for ensuring that work area within the room is free from physical and chemical hazards.

- In situations where the hazard cannot be totally removed, specific work procedures must be developed in conjunction with the Teacher and the Health and Safety Officer.

Custodian / Maintenance

- Daily removal of garbage, scraps, and waste must be organized and coordinated with the Caretaking staff. Note the policies and responsibility related cleaning varies from school board to school board as it relates to collective bargaining, therefore the teacher/department head is encouraged to consult with the head custodian and the school board health and safety officer to determine who is responsible for cleaning of hoppers, dust collectors, filters and ducts.

- Be aware of the hazards in the Technological Education areas.

- Know the hazard warning signs and symbols and proper safety precautions.

- Do not handle unfamiliar materials. Do not handle or move chemicals in the shop.

- In the event of an emergency or concern, know the individuals who should be contacted and how to reach them.

- Know the proper handling and disposal of materials before disposing. If the contents of any containers are spilled, the school must adhere to the Spill Procedures. DO NOT TOUCH OR ATTEMPT TO CLEAN UP. Contact the Principal or your supervisor, who will then contact the appropriate person/department.
- Ensure that the Technology shops are secure during non-class hours after school, and at night. This is especially important if the school building is used after school by the community user groups.

Safety Perspective Overview

Health and Safety Resources and Curriculum

These resources identify safety rules associated with hazards and processes. They are applicable to a wide range of occupations and situations.
e.g. *Occupational Health and Safety Act,1990*

Based on the Ontario curriculum this resource contains safety lessons for technology subjects

Classroom Safety Resources

These resources identify safety policies and procedures that ensure the safety of people in schools.
e.g., WHMIS Training Sessions, Board Safety Policies, **SAFEdocs-** These resources provide a framework for developing safety procedures in school classrooms
It is highly recommended that all teachers complete an **OCTE SafetyNET** template for their individual experience / program / classroom / school / board. This is an excellent starting point for self-reflection and preparation for MOL/MOE inspection.

Equipment and Hazard – Specific Safety Rules

These resources are Just-in-Time (JIT) safety rules. They are applicable to specific equipment in the facility and may apply to specific hazards associated with a program emphasis.

These rules are developed at the classroom/school level to implement safe work practices. They may be adapted from a variety of sources including equipment manufacturer's manuals. A summary is often posted near equipment.

Safety Management

The teacher develops these resources. The daily classroom safety routines and policies are based on the above safety resources and applied to each individual facility/classroom. Protocols developed to teach safe behaviour directly should include managing safe work practices and behaviour through demonstration and reinforcement of safe working procedures, establishment of clear safety rules, safety passports, assignments, quizzes, and research.

Again, it is highly recommended that teachers complete a SafetyNET template to review their unique projects and procedures and consider risks as advised by OSBIE, and other professional health and safety partners.

Safety Topics for the Classroom

The following are suggested topics for teaching in the classroom. See Appendix A for available resources pertinent to general safety and particular safety rules and procedures for your subject area. See Appendix B for specific resources or links that are associated with Construction Technology or Custom Woodworking. See also your Board, school and relevant municipal policies for local safety rules and procedures.

Emergency Procedures	procedures for handling fire, security threats, and other emergencies
First Aid	procedures for handling breathing difficulties, bleeding, burns, allergic reactions, epileptic seizures, etc.
Hand Washing	Health Canada procedures for hand washing require hand washing to last twenty (20) seconds
Personal Protective Equipment	use of eye, hearing, foot, body, respiratory protection
Ergonomics	safe posture when using equipment, avoiding repetitive stress injuries
Material Handling	procedures for safely handling heavy loads, chemicals, potentially hazardous materials
Housekeeping and Storage	procedures and rules regarding maintaining safe facilities and proper storage of materials and equipment
Fire Protection	location and types of fire protection equipment, procedures to follow in the event of a fire or fire alarm, ensure any hot work procedures or precautions are in place.
WHMIS 2015	Workplace Hazardous Materials Identification System 2015 governs the identification and safe use of hazardous materials.

Communication

It is important to the safety of all students and staff at a school that safety be taught and reinforced on a daily basis. Some basic methods of communication are:

- Safety Notice Board, containing posted minutes from the joint health and safety committee and the Occupational Health and Safety Act (must be posted by law)
- visible WHMIS binders (check with your board to see policies around online SDS and WHIMIS use), symbols and SDS sheets
- available manuals for the operation of various types machinery, tools or equipment
- safety posters around major equipment and work areas

- clear and precise instructions, reinforced each time a procedure or equipment is used
- clearly marked areas that contain safety items such as fire extinguishers, eye wash stations, first aid kits, etc.

Safety Expectations

The following are safety related expectations from The Ontario Curriculum 2009 Revised) - Technological Education for:

TCJ 2O – CONSTRUCTION TECHNOLOGY

Grade 10 - Open

A. CONSTRUCTION TECHNOLOGY FUNDAMENTALS
A2. demonstrate an understanding of the safe and correct use of construction tools, equipment, and techniques;
A2.1 explain how to correctly and safely use, maintain, and store construction tools and equipment (e.g., hammers, measuring instruments, table saws, mitre saws, drills, lathes, cordless drills);

C. FABRICATION, ASSEMBLY, AND FINISHING SKILLS
C1. use tools, equipment, and techniques correctly and safely when preparing materials for a project;
C1.1 use tools, equipment, and techniques in a correct, efficient, and safe manner to prepare project materials (e.g., dress raw lumber; measure, cut, and square stock; drill; fasten and join);
C3. prepare surfaces and apply finishing products, trim, and hardware correctly and safely.
C3.3 use appropriate tools, equipment, and techniques correctly and safely to install trim and hardware (e.g., baseboards, moulding, hinges, pulls).

E. PROFESSIONAL PRACTICE AND CAREER OPPORTUNITIES
E1. identify and follow health and safety regulations, standards, and procedures related to the construction industry;
E1.2 identify hazards related to materials, processes, and equipment used in construction (e.g., flammable solvents, toxic chemicals, sharp blades, moving parts in machinery), as well as resources and methods for reducing these hazards (e.g., Workplace Hazardous Materials Information System [WHMIS], safe handling and operating practices, personal protective equipment);
E1.3 demonstrate an understanding of and adhere to safety practices and procedures for facilities, processes, materials, tools, and equipment used in construction (e.g., use of tool and equipment guards);
E1.5 use protective clothing, gear, and equipment appropriately (e.g., dust mask, safety glasses).

TCJ 3C – CONSTRUCTION TECHNOLOGY

Grade 11 College Preparation

C. FABRICATION, ASSEMBLY, ND FINISHING SKILLS
C1. demonstrate appropriate technical skills, including the safe use of construction tools, equipment, and materials;
C1.1 demonstrate safe work practices when using hand tools, power tools, equipment, and materials;
C2. demonstrate safe and accurate building techniques;
C2.1 safely construct projects in accordance with the specifications for the project (e.g., technical drawings, lists of specified materials and fixtures);

E. PROFESSIONAL PRACTICE AND CAREER OPPORTUNITIES
E1. demonstrate an understanding of and comply with health and safety regulations and practices specific to the construction industry;
E1.1 describe hazards related to construction materials, processes, tools, and equipment (e.g., toxic or flammable fumes from solvents, paints, varnishes, and gasoline; explosion or burns from propane;

lung damage from silica; tripping or falls in unfinished buildings; shock from damaged power tools or electrical equipment), and the precautions that should be taken to avoid these hazards;
E1.3 use, handle, and store materials in accordance with Workplace Hazardous Materials Information System (WHMIS) guidelines;
E1.5 use protective clothing, gear, and equipment appropriately (e.g., dust mask, hard hat, safety glasses, safety harness).

TCJ 3E – CONSTRUCTION TECHNOLOGY

Grade 11 Workplace

C. FABRICATION, ASSEMBLY, ND FINISHING SKILLS
C1. demonstrate appropriate technical skills, including the safe use of construction tools, equipment, and materials;
C1.1 use, maintain, and store construction tools, equipment, and materials safely and correctly (e.g., tools: builder's level, framing hammer, wire stripper, pliers, tri-square, trowel, pipe cutter, hand saw, reciprocating saw, masonry saw, circular saw, drill; equipment: air compressor, scaffolding, cement mixer, generator, electrical test meter; materials: lumber, sheet goods, plumbing materials, bricks, wiring);

E. PROFESSIONAL PRACTICE AND CAREER OPPORTUNITIES
E1. demonstrate an understanding of and comply with health and safety regulations and practices specific to the construction industry;
E1.1 identify hazards related to construction materials, processes, tools, and equipment (e.g., toxic or flammable fumes from solvents, paints, varnishes, and gasoline; explosion or burns from propane; lung damage from silica; tripping or falls in unfinished buildings; shock from damaged power tools or electrical equipment), and the precautions that should be taken to avoid these hazards;
E1.3 demonstrate an understanding of and adhere to safety practices and procedures for facilities, processes, materials, tools, and equipment used in construction (e.g., use of tool and equipment guards);
E1.3 use, handle, and store materials in accordance with Workplace Hazardous Materials Information System (WHMIS) guidelines;
E1.5 use protective clothing, gear, and equipment appropriately (e.g. dust mask, safety glasses, safety harness).

TCJ 4C – CONSTRUCTION TECHNOLOGY

Grade 12 – College Preparation

C. FABRICATION, ASSEMBLY, AND FINISHING SKILLS
C1. demonstrate appropriate technical skills, including the safe use of construction tools, equipment, and materials;
C1.1 demonstrate safe work practices when using hand and power tools, materials, and equipment;
C2. demonstrate safe and accurate building techniques;
C2.2 safely install various systems of a construction project (e.g., electrical, plumbing, heating/ventilation/air-conditioning) in accordance with codes, regulations, and standards (e.g., Ontario Building Code requirements for joists and beams);

E. PROFESSIONAL PRACTICE AND CAREER OPPORTUNITIES
E1. demonstrate an understanding of and comply with health and safety regulations and practices specific to the construction industry;
E1.1 assess hazards related to construction materials, processes, tools, and equipment (e.g., toxic or flammable fumes from solvents, paints, varnishes, and gasoline; explosion or burns from propane; lung damage from silica; tripping or falls in unfinished buildings; shock from damaged power tools or

electrical equipment), and describe the precautions that should be taken to avoid these hazards;
E1.3 use, handle, and store materials in accordance with Workplace Hazardous Materials Information System (WHMIS) guidelines;
E1.5 demonstrate the understanding of when and how to use appropriate protective clothing, gear, and equipment (e.g., hard hat, respirator, safety harness).

TCJ 4E – CONSTRUCTION TECHNOLOGY

Grade 12 Workplace

C. FABRICATION, ASSEMBLY, AND FINISHING SKILLS
C1. apply appropriate technical skills, including the safe use of the tools, equipment, and materials required to build construction projects;
C1.1 use safe work practices with all construction tools, materials, and equipment;
C1.3 install various systems of residential and/or light commercial construction projects (e.g., structural, electrical, plumbing, masonry, heating/ventilation/air-conditioning) safely and in accordance with codes, regulations, and standards;
C2. apply safe and accurate techniques for building construction projects;
C2.1 safely construct residential and/or light commercial projects in accordance with design specifications (e.g., architect's drawings; engineering specifications; fixtures, trim, cabinetry, flooring, or paint chosen by client or interior designer; manufacturers' installation instructions);

E. PROFESSIONAL PRACTICE AND CAREER OPPORTUNITIES
E1. demonstrate an understanding of and comply with health and safety regulations and practices specific to the construction industry;
E1.1 describe hazards related to construction materials, processes, and equipment (e.g., toxic or flammable fumes from solvents, paints, varnishes, and gasoline; explosion or burns from propane; lung damage from silica; tripping or falls in unfinished buildings; shock from damaged power tools or electrical equipment), and the precautions that should be taken to avoid these hazards;
E1.3 use, handle, and store materials in accordance with Workplace Hazardous Materials Information System (WHMIS) guidelines;
E1.6 demonstrate an understanding of when and how to use appropriate protective clothing, gear, and equipment (e.g., hard hat, respirator, safety harness).

TWJ 3E – Custom Woodworking

Grade 11 Workplace

A. CUSTOM WOODWORKING FUNDAMENTALS
A2. describe woodworking tools, equipment, and techniques, and use them safely;
A2.2 demonstrate the ability to use, maintain, adjust, and store woodworking tools and equipment correctly and safely (e.g., hammers, measuring instruments, saws, drills, lathes);

C. FABRICATION, ASSEMBLY, AND FINISHING SKILLS
C1. fabricate and assemble custom woodworking projects safely, accurately, and efficiently;
C1.2 use techniques, tools, and equipment to safely and accurately prepare project materials (e.g., dress raw lumber; measure, cut, square, and drill stock);
C1.5 use clamps, fasteners, and adhesives safely and appropriately;
C1.6 assemble joints safely and accurately (e.g., butt, lap, mitred, dovetail, and rabbet joints);
C2. prepare surfaces and apply finishing products, trim, and hardware correctly and safely;
C2.3 use appropriate techniques, tools, and equipment correctly and safely to install trim and hardware;

E. PROFESSIONAL PRACTICE AND CAREER OPPORTUNITIES
E1. demonstrate an understanding of health and safety regulations and practices specific

to woodworking;
E1.1 identify hazards related to the materials, processes, and equipment used for custom woodworking (e.g., flammable or toxic fumes from solvents, paints, and varnishes; risk of injury from cutting tools);
E1.4 demonstrate safe practices related to materials, processes, tools, equipment, and facilities used in woodworking;
E1.5 demonstrate an understanding of when and how to use protective clothing, gear, and equipment (e.g., ensure proper ventilation and use appropriate protective masks when sanding materials or applying finishes that give off hazardous vapours).

TWJ 4E – Custom Woodworking

Grade 12 Workplace

A. CUSTOM WOODWORKING FUNDAMENTALS
A2. demonstrate an understanding and safe use of tools, equipment, and techniques for custom woodworking;
A2.1 demonstrate proficiency in using, maintaining, adjusting, and storing construction tools and equipment safely (e.g., chisels, planes, measuring instruments, table saws, drills, lathes);
A2.3 demonstrate proficiency in the selection and safe application of appropriate clamps, fasteners, and adhesives;
A2.4 demonstrate proficiency in safely and accurately constructing and fitting commonly used joints (e.g., butt, half lap, mortise and tenon, dovetail, dowel, mitre, rabbet, tongue and groove).

C. FABRICATION, ASSEMBLY, AND FINISHING SKILLS
C1. fabricate and assemble residential and/or commercial custom woodworking projects safely, accurately, and efficiently;
C1.1 apply techniques for using tools and materials safely and efficiently to reduce the cost of producing components that meet the required specifications (e.g., follow proper procedures for operating machine tools; use stops, guides, or jigs when making sets of identical parts);
C1.2 use tools, equipment, and techniques to safely and accurately prepare project materials (e.g., dress raw lumber; measure, cut, square, and drill stock);
C2. prepare surfaces and apply finishing products, trim, and hardware correctly and safely
C2.2 use appropriate tools, equipment, and techniques correctly and safely to install trim and hardware (e.g., baseboards, hinges, pulls, casters);

E. PROFESSIONAL PRACTICE AND CAREER OPPORTUNITIES
E1. explain and follow health and safety regulations and practices specific to woodworking;
E1.1 describe hazards related to woodworking materials, processes, tools, and equipment (e.g., flammable or toxic fumes from solvents, paints, and varnishes; risk of injury from tools and equipment);
E1.4 demonstrate safe practices when using woodworking materials, processes, tools, equipment, and facilities;
E1.5 demonstrate an understanding of how to select and use appropriate protective clothing, gear, and equipment (e.g., dust mask, respirator, safety glasses, goggles, ventilation system).

INTERNET ACCEPTABLE USE AGREEMENT FORM

The form below is a sample agreement form that can be used with your board Internet use policy and guidelines.

INTERNET ACCEPTABLE USE AGREEMENT FORM

To Students:

I, the undersigned, indicate by my signature (please check with your board for use of electronic signatures for these documents in order to use them online) that I have read and understand fully the Acceptable Use Policy and related guidelines. I agree that I will abide at all times to the rules and responsibilities as outlined in the Acceptable Use Policy and related guidelines. I also agree that I clearly understand the consequences of my failure to abide by these rules and regulations.

To Parents/Guardians

As a parent or guardian signing below, I indicate that I understand the rules, regulations and consequences of misuse governing students use of the Board's computer and information technology facilities and resources. I understand that all Board staff will make every attempt to ensure proper and acceptable use in line with relevant policies, laws and regulations. I hereby allow my student to access the Board's supervised facilities and resources.

Student Name:

Student Signature:

Date:

Parent/Guardian Full Name:

Parent/Guardian Signature:

Date:

To Be Used As An Example Only; Please See Board/School Policy

Construction Student Conduct Agreement

A signed agreement that outlines the student's responsibilities is one way of establishing the seriousness of daily safety vigilance. An agreement covers the elements common to all technology classrooms and labs and lays out the framework for a safe and healthy working environment for both staff and students. An example of an agreement is given below.

Safety Awareness

Personal Protective Equipment [PPE]

1. Wear safety eyewear, aprons, masks, and other PPE as per instructed when using chemicals, heat, biological materials, hand or powered instruments and tools.
2. Ensure other workers and visitors are protected while in the shop and before performing operations that can be dangerous.

Lift Support and Movement

1. Move heavy objects only with teacher approval.
2. Use assistance to lift items over 20 kilograms (40 pounds) or 2 meters (six feet) in length
3. Secure and support heavy or long objects on approved shelves.

Equipment

1. Operate equipment, chemicals or tools only after receiving proper instruction and permission from the teacher.
2. Never leave equipment, chemicals or tools unattended.
3. Do not attempt to repair any electrical connections, see your instructor.
4. Remove from service any equipment or tools that need repairing.

Storage and Handling of Chemical Substances

1. Understand and follow WHMIS 2015, and SDS instruction before handling chemical substances.
2. Secure all flammable chemicals and corrosives in approved cabinets.
3. Maintain good housekeeping practices when dealing with chemical substances.
4. Be responsible for cleaning up your workstation, tools and work area.
5. Sort recyclable liquids and solids and biological materials into proper approved storage containers

STUDENT CONDUCT AGREEMENT

A signed agreement that outlines the student's responsibilities is one way of establishing the seriousness of daily safety vigilance. An agreement covers the elements common to all technology classrooms and labs and lays out the framework for a safe and healthy working environment for both staff and students. An example of an agreement is given below.

STUDENT CONDUCT AGREEMENT FORM

I, _____ agree to:

Ensure a safe workplace

1. Inform teachers of all injuries, damaged equipment and potentially dangerous situations.
2. Make sure I know all fire exits and power shutdown switches and how to use them during emergency situations.
3. Not compromise the safety of others through horseplay or aggressive action.
4. Only use equipment when properly trained, always with any necessary personal protective equipment, and when I fully understand all related safety issues
5. Ask for assistance from the teacher when I am unsure of the proper procedures or health and safety issues

Prescribed and Non-Prescribed Medications

1. Report any use of prescription medications and inform teachers of any possible side effects of the medication [e.g. penicillin, phenobarbital]
2. Report any use of non-prescription medication and any possible side effects of the medication [e.g. Reactine, Benadryl, cough syrups]
3. Never enter a shop or lab carrying, or under the influence of illegal substances

Consequences for Improper Action

I understand that failure to comply with this agreement may result in injury to myself or others, and that failing to comply with safety procedures may result in my removal from the class or shop.

I have read the above and understand the expectations and consequences.

Student signature: _____

Parent/Guardian signature _____

Date: _____

SECTION 2: SAFETY INFORMATION SHEETS

SECTION OVERVIEW

This section contains Safety Information Sheets (listed in alphabetical order) that can be used as:

- Student handouts
- Safety posters (can be mounted in and around specific equipment or bulletin boards)
- Teacher notes in project binders, safety binders or assessment plans
- Information that can support lesson plans

Safety Information Sheets contain information specific to various common tools and procedures. Before using them, ensure they accurately describe your own particular facilities and equipment, and that they align with specific manufacturer's safety instructions.

NOTE:

All materials within this document are to be considered as suggestions and recommendations only. These are not legal documents and are not to be considered as legal requirements or as official policy. OCTE or the individual contributors makes no claim to the accuracy or the completeness of the enclosed documents and accepts no responsibility for any damages pertaining to their use. Users of this document should not assume all warnings and precautionary measures are contained herein, that additional information or measures are not required, or that local by-laws, regulations or Board policies are explicitly included.

Please see specific equipment manuals for further safety information, as well as local, Board and school policies and regulations.

Air Nailer/Stapler

1. Always wear safety glasses when using a pressurized tool.

2. Always handle an air tool as if it is pressurized and is loaded with nails/staples. Never point an air tool at someone.

3. Do not carry an air tool by the hose.

4. Be aware of your surroundings and where your hose is laying. Check to make sure your hose is not a trip hazard or that it is at risk of being damaged.

5. Do not pull at the hose excessively. It may be caught on a snag and pulling hard may cause damage.

6. When not in use, keep air hoses coiled and suspended to prevent tripping hazards.

7. Before disconnecting tools, turn the air supply off and bleed the remaining air from the line slowly. This practice can be bypassed if the tool has a quick disconnect valve.

8. Do not leave an air tool connected when you are finished working. Disconnect the tool and return to the toolbox/teacher. Retract or hang the air hose so it is not a trip hazard and will not get damaged.

9. Never pull the trigger unless the tool is resting against a safe work surface. Never carry a tool with the trigger pulled.

10. Each nail or staple should be fired with its own trigger pull. Do not pull the trigger then “bounce” the tip of the tool multiple times.

11. Ensure that the nail/staple loaded in the tool is the correct length for your use.

12. Whenever possible use clamps or jigs to hold the work you are nailing/stapling. Do not hold your work near where you are nailing.

13. The fastener can change direction after entering your wood. Do not assume the fastener will travel straight. Grain, knots, and other things redirect the fastener. Keep your fingers away from the area being nailed.

AT ALL TIMES - IF IN DOUBT, STOP! ASK YOUR INSTRUCTOR

Band Saw

1. Use both hands and keep fingers at least 4” from the blade at all times.
2. Keep upper guides less than 1/4" from the material being cut. Adjust the guides before turning the saw on.
3. Plan your cuts carefully. Saw curves gradually. Sudden twists may cause the blade to bind or break. Use relief cuts when necessary.
4. Ensure that the blade is running at full speed before starting a cut.
5. Always operate the saw from the front, never from the side.
6. Cut on the waste side of your line. Sanding to the line is always more accurate.
7. Keep your hands beside or behind the blade. Never in line with the blade. Use a push stick on small pieces.
8. If the blade breaks, immediately turn the power off and step back. Inform the teacher right away.
9. Always make short cuts first. Avoid backing out of cuts with the power on. Backing out of a cut may cause the blade to come off of the drive wheels.
10. Do not cut cylindrical stock without the use of a V block and clamp.
11. Remove scrap pieces from the table only after the blade has stopped.
12. Do not leave the band saw until the blade has stopped.
13. Ensure the blade is tracking correctly and runs freely in the upper and lower guide rollers. Ensure the blade is under proper tension. See your teacher for guidance.
14. Use band saw blades that are sharp, properly set and otherwise suitable for the job (e.g., the right tooth pitch; tooth form; blade width).
15. Hold the stock firmly and flat on the table to prevent the stock from turning and drawing your fingers against the blade.

AT ALL TIMES - IF IN DOUBT, STOP! ASK YOUR INSTRUCTOR

Belt/Disk Sander

1. Before turning this machine on, ensure that shirts are tucked in, roll up sleeves, remove jewelry, and tie back long hair.

2. Remove all sawdust from the sander and floor before and after sanding.

3. Do not operate this machine if the sandpaper is ripped or torn in any way (belt or disk).

4. Replace the abrasive with the machine turned off and locked out.

5. Sand only dry wood or plastic. Never sand metal.

6. When working on small pieces, be careful to keep your fingers and knuckles away from the sanding disk.

7. Do not apply excessive force toward the disc or belt. Use a light touch and let the machine do the work.

8. Sand only on the "down-side" rotation of the disc, and keep your work firmly on the machine table. Do not freehand sand.

9. When using the belt, keep your work firmly against the table and or fence. Do not freehand sand.

10. Make any adjustments to the table and fences with the power off.

11. Ensure the gap between the table/fence and the sandpaper is 1/16.

12. When done sanding, use a crape block to clean the sandpaper.

13. Never leave the machine running or unattended – make sure the belt/disc comes to a complete stop before leaving.

AT ALL TIMES - IF IN DOUBT, STOP! ASK YOUR INSTRUCTOR

Bench/Pedestal Grinder

1. Make sure bench grinders are secured to the work surface before using.
2. Remove any flammable/combustible materials from the area.
3. When turning on the machine, stand out of the path of possible ejecting debris.
4. Ensure that the work rest for the grinding wheel has a maximum clearance of 1/8” from the grinding wheel.
5. Ensure the spark guard is set to within 1/16 of the wheel.
6. Be sure to use the chip/spark shield – if it is dirty, clean it so you can see through the Plexiglas.
7. Ensure that the work rest is in a position above the centre line of the grinding wheel.
8. Do not use wheels designed for steel on porous materials like wood or plastics.
9. Ensure that the wheel is not damaged in any way (e.g. chipped or cracked). Dispose of damaged wheels immediately.
10. Ensure that the grinder does not vibrate or operate roughly, and make sure the disc is true.
11. Do not use bumpy or sudden motions when grinding - bring work slowly and smoothly into contact with the disc.
12. Do not side grind on the flat side of a straight wheel.
13. Never adjust the work rest while the wheel is moving.
14. Store grinding wheels where they cannot be damaged.
15. Do not use any liquid coolants with portable grinders.
16. Apply gradual pressure to allow the wheel to warm up evenly. Use only the pressure required to complete the job. Do not apply excessive force – a light touch is all that’s needed.
17. Move the work back and forth across the wheel face. This helps prevent grooves from forming.
18. Dress wheels often. Many light dressings are better than infrequent and heavy dressings.

AT ALL TIMES - IF IN DOUBT, STOP! ASK YOUR INSTRUCTOR

Chemical Handling

Many operations in construction technology involve different types of chemicals. Make sure you know how to handle these chemicals: their use, as well as storage and disposal procedures. (Please refer to your board policy around disposal and storage.)

1. Before handling any chemicals, ensure you understand the safe handling procedures as outlined on container labels, WHMIS data sheets, designated instructions or posted classroom procedures as appropriate. If you are unsure, see your instructor before proceeding.

2. Place any chemicals in approved, labeled containers ONLY.

3. DO NOT mix chemicals without prior knowledge of the consequences.

4. Discard any used chemicals in approved disposal containers ONLY. Inform your instructor of near-full containers. DO NOT dispose of chemicals down drains. Ask your instructor for proper disposal methods and procedures.

5. Ensure that there is adequate ventilation when using chemical substances.

6. Do not use any chemical for any other purpose other than what it is designed for.

7. Use appropriate PPE (personal protection equipment) at all times when handling chemicals. PPE includes eye protection, skin protection, gloves, aprons or coveralls, foot protection, as required under safe operating procedures.

8. Take note of expiry dates and storage requirements of chemicals. Do not use chemicals beyond their expiration.

AT ALL TIMES - IF IN DOUBT, STOP! ASK YOUR INSTRUCTOR

Circular Saw

1. Wear safety glasses, tie back long hair, and tuck in loose clothing before operating the saw.

2. Be aware of the path of the blade and keep the cord away from the blade and kerf.

3. Ensure that depth levers are securely tightened.

4. Set the depth of cut 1/8" to 1/4" greater than the thickness of the stock. Less than a full tooth should be visible below the workpiece.

5. Always rest the larger portion of the saw's baseplate on the supported portion of the workpiece and allow the unsupported portion to fall away.

6. Grip saw with both hands, keeping hands away from the blade.

7. Secure the workpiece to sturdy supports.

8. Use the correct blade for your tool. Check this carefully: Does it have the proper size and shape arbor hole? Make sure the speed marked on the blade is at least as high as the no load RPM marked on the tool.

9. Use clean saw blades. A buildup of pitch or sap on the surface increases the chance of kickback.

10. Support large panels (as illustrated) so they will not pinch the blade.

11. Use a straight edge or rip fence as a guide for ripping.

12. Avoid cutting small workpieces that can't be properly secured, and workpieces on which the base of the saw (shoe) cannot properly rest.

13. Portable circular saws are not designed for cutting logs, roots, trimming trees or shrubs.

14. Be very cautious of stock which is pitchy, knotty or warped. These are most likely to create pinching conditions and possible kickback.

15. Check for proper blade guard operation before each cut. The guards should return to their normal position quickly. Never alter or defeat the guard (e.g., tying back or removing the guard).

16. The lower guard should be pulled back manually only for special cuts such as "Pocket Cuts" and "Compound Cuts". Raise the lower guard using the lower guard lever. As soon as the blade enters the material, release the lower guard.

17. Before starting a circular saw, be sure the power cord and extension cord are out of the blade path and are long enough to freely complete the cut. A sudden jerk or pull on the

cord can cause loss of control of the saw and a serious accident.

18. Never hold a workpiece in your hand or across your leg when sawing.

19. NEVER overreach! Always, hold the saw firmly with both hands after securing the workpiece.

20. Never remove the saw from a cut while the blade is rotating.

21. Be alert to the possibility of the blade binding and kickback occurring. Hold the saw with two hands and position your arms to resist kickback. If a fence or guide board is used, be certain the blade is kept parallel with it.

22. Never reach under the saw or work piece. The blade is exposed under the workpiece and the saw guard cannot protect your body here.

AT ALL TIMES - IF IN DOUBT, STOP! ASK YOUR INSTRUCTOR

CNC Router

1. Whenever you are operating or watching the CNC router safety glasses must be worn.
2. Whenever possible use an enclosure that restricts the access to the machine while it is turned on. The enclosure should have power interruption switches so that if the access doors are opened during operation the machine will shut down.
3. The router moves according to your program. Stand back from the router when it is operating.
4. Whenever possible do a test run of your program with the router turned off, and before putting your material on the table.
5. Never try to adjust the material while the machine is running.
6. Secure your work securely to the CNC table with clamps or jigs. Be careful that the clamps and jigs will not interfere with the movement of the gantry or router.
7. Never leave the machine running unattended.
8. If the wood on the CNC table becomes loose or if the machine begins to make unusual noises, immediately turn off the machine and notify your teacher. Do not attempt to re-clamp your wood while the machine is running or turned on.
9. Ensure that the router bit installed in the CNC is sharp, and the correct bit for your program.
10. Whenever changing router bits be sure to tighten the collet correctly.
11. Large parts of the CNC machine move. This causes pinch points around the table of the CNC. Always be aware where these points are and ensure that you stay clear of danger.
12. Ensure that nothing will interfere with the travel of the gantry. Keep the CNC table clear of material not being machined, and that nothing has been placed near the CNC that will be hit by the gantry.
13. After running your program, be sure to clean the CNC table and trackways of all debris, and remove any clamps or jigs.

AT ALL TIMES - IF IN DOUBT, STOP! ASK YOUR INSTRUCTOR

Disk Sander

1. This sander is for sanding outside curves. Do not use it to sand flat areas.

2. Sand only on the downward rotating part of the disk.

3. When working on small pieces, be careful to keep your fingers and knuckles away from the sanding disk.

4. Always keep your wood flat on the sanding table. Do not “freehand” sand!

5. Bed should be set no further than 1/8” from the sanding pad to reduce the risk from the pinch point.

6. Do not operate if the sandpaper is loose or torn.

7. Only sand wood and plastic. Never sand metal for any reason. If in doubt, see the teacher.

8. Do not apply excessive force toward the disc. Use a light touch and let the machine do the work.

9. Keep your work moving. If you don’t, you will get flat spots on your curves.

10. When done sanding, turn off the machine and use the crape block to clean the sandpaper.

AT ALL TIMES - IF IN DOUBT, STOP! ASK YOUR INSTRUCTOR

Drill Press

1. Select only drills that are sharp, in good condition and suitable for the job.

2. Remove the chuck key from the drill before starting the machine. Ensure that you are using a chuck key that has a spring safety device in the head.

3. When using large drill bits, before starting the machine, clamp work securely to the machine table. Attempting to hold the work under the drill with one hand can result in serious and painful injuries.

4. Do not force the drill bit into the wood. Pushing too hard or quickly, can cause drills to break or splinter with the chance of serious injuries.

5. If wood slips from your hand or clamp, never attempt to grab it with your hands. Turn off the drill and wait for it to stop spinning.

6. Never reach between the drill bit and the round drill press column. Your hand could get caught and your arm broken

7. When drilling round stock (dowel), use a V-block to hold the stock.

8. Always ensure that the machine has been switched off and came to a complete stop before you attempt to change drill bit or the speed belt.

9. If the drill sticks in the work, stop the motor and rotate the drill by hand to free it from the work.

10. Always clear away chips and curls with a brush, not your hands.

AT ALL TIMES - IF IN DOUBT, STOP! ASK YOUR INSTRUCTOR

Drum Sander

1. Tuck in shirt, roll up sleeves, remove jewelry, and tie back long hair before beginning work.

2. Remove all sawdust from the sander's table and floor before working.

3. Turn the dust collector on before using this machine.

4. Never leave the machine running unattended.

5. Do not operate the machine if the sanding paper is ripped or torn in any way.

6. Never sand boards shorter than **(Teacher – see owner's manual for minimum sizes and enter them here)** __ inches, or thinner than __ inches

7. When replacing sandpaper, ensure the machine is locked out.

8. Sand only wood or plastic, never metal.

9. Know your maximum and minimum sanding thicknesses, and do not attempt to remove too much material in one pass.

10. Never push or force the wood into the sander, use firm but gentle pressure and allow the sander grab and feed the lumber.

11. If there is burning on your wood when it comes out of the sander, inform your teacher. This is often caused by unevenly worn sandpaper.

12. If the drum begins to make unusual sounds or becomes unbalanced let the teacher know so they can tag it out of service and have it repaired.

AT ALL TIMES - IF IN DOUBT, STOP! ASK YOUR INSTRUCTOR

Edge Sander

1. Before turning on this machine, ensure that shirts are tucked in, roll up sleeves, remove jewelry, and tie back long hair.

2. Remove all sawdust from the sander and floor before and after sanding.

3. Do not operate this machine if the sand paper is ripped or torn in any way.

4. Only replace sandpaper with the machine turned off and locked out.

5. Sand only dry wood or plastic. Never sand metal.

6. Keep your work firmly against the table. Do not freehand sand.

7. When working on small pieces, be careful to keep your fingers and knuckles away from the belt.

8. Do not apply excessive force toward the belt. Use a light touch and let the machine do the work.

9. If the belt is rubbing against the machine housing, turn the sander off and inform the teacher.

10. Do not adjust the tracking of the belt without the direct permission of the teacher.

11. Make any adjustments to the table(s) with the power off.

12. Ensure the gap between the table/fence and the sandpaper is 1/16.

13. When done, use the crape block to clean the sandpaper.

14. Never leave the machine running or unattended – make sure the belt/disc comes to a complete stop before leaving.

AT ALL TIMES - IF IN DOUBT, STOP! ASK YOUR INSTRUCTOR

Electrical Hazards

Touching an exposed electrical wire or electrical equipment that has not been grounded properly causes shocks. Shock can vary from a slight tingle to a rocking jolt. A very severe shock can cause death. Do not touch equipment or electrical wires that have been exposed to fluids.

Protect yourself against shocks by following these rules:

1. Check the condition of electrical cords on equipment. Report all problems to your instructor immediately. Replace worn or damaged cords.

2. When disconnecting a cord, pull on the plug. Never pull on the cord. You may loosen the wires and get a shock.

3. Never handle electrical equipment with wet hands or while standing in water.

4. Wear rubber-soled shoes to prevent shocks. Rubber does not conduct electricity.

5. Be sure an appliance is turned off before plugging it into an outlet.

6. Make sure you use proper power supplies and cables designated for use with specific pieces of equipment.

7. Store all electrical equipment in areas designated by your instructor.

8. Never change or interfere with the operating environment set up by someone else without permission.

AT ALL TIMES - IF IN DOUBT, STOP! ASK YOUR INSTRUCTOR

Facility Emergency Procedures

1. Make sure you know the location of all fire alarms, emergency exits, and emergency power stop buttons

2. EMERGENCY PROCEDURES AND EVACUATION ROUTES must be clear at all times, and occupants must know and understand these procedures and routes.

Location of Emergency Exits and Fire Alarms:

Locations of Emergency Stops:

AT ALL TIMES - IF IN DOUBT, STOP! ASK YOUR INSTRUCTOR

Fall Protection

Studies of accidents in the service industry show that most injuries are caused by falls. Observing a few simple rules will help to avoid most accidents of this type.

The points below give guidelines for preventing falls.

1. Walk; do not run.

2. Keep the floor clean and dry. A wet floor is slippery, so wipe up any spills immediately. Sprinkle salt on any spots that are still slippery until the floor can be thoroughly washed. Warn others of slippery conditions.

3. Wear low-heeled comfortable shoes with rubber soles, these grip the floor well.

4. Keep floor mats flat to prevent stumbling. Wrinkled mats or ones with curled corners can cause falls.

5. Keep work areas and traffic lanes clear. Electrical cords should not extend across traffic lanes. Put mops and brooms away promptly. Never leave boxes or crates in the aisles.

6. Look where you are going at all times. Get assistance to carry items that can block your vision.

7. Use a stepladder (with ladder training), never a chair or table, if you need to reach something on a high shelf.

AT ALL TIMES, IF IN DOUBT, STOP! ASK YOUR INSTRUCTOR

Facility Fire Extinguishers

1. Know your Fire Safety Plan

2. If you see a fire, call for attention, get everyone out, pull fire alarm.
3. Stay calm.
4. If using a fire extinguisher:

- **PULL THE PIN, AIM LOW AT BASE OF FIRE**
- **SQUEEZE HANDLE, SWEEP SLOWLY AT BASE OF FIRE**
- **STAY LOW TO AVOID HEAT AND SMOKE**

5. Have the fire department check to make sure the fire is out.
6. Ventilate when the fire is completely out.

Learn and know the types of fire extinguishers (see below):

CLASS A **water**		**Ordinary Combustibles**: paper, cloth, wood, rubber, many plastics.
CLASS B **CO2**		**Flammable Liquids:** oil, grease, gasoline, some paints, solvents etc.
CLASS C **dry chemical**		**Electrical:** wiring, fuse boxes, electrical equipment etc.
CLASS D **special liquid or powder**		**Combustible Metals:** magnesium, sodium.

AT ALL TIMES - IF IN DOUBT, STOP! ASK YOUR INSTRUCTOR

First Aid

The immediate response to an emergency often involves First Aid. First Aid involves assisting an injured person until professional medical help can be provided.

The general action tips in the list below should be followed in an emergency. They do not replace the need to be properly trained in first aid. Your teacher will provide you with instructions in what to do in cases of emergencies.

1. Check the scene for dangers, (e.g., electrical shock hazards, chemical spills, hot objects, fire), stay calm and call out for help. Do not touch the victim until immediate dangers such as electrical current is removed.

2. Assist if asked by your teacher to keep the victim comfortable and calm.

3. Call the office for medical help.

4. Care for the victim by administering first aid according to your teacher's instructions.

5. Help keep people who are not needed away from the victim.

AT ALL TIMES - IF IN DOUBT, STOP! ASK YOUR INSTRUCTOR

First Aid Kits

ALL INJURIES MUST BE REPORTED TO MAIN OFFICE
REPORT ANY USE OF FIRST AID KIT TO TEACHER TO ENSURE THAT ANY SUPPLIES THAT ARE USED ARE REPLACED

Suggested list. Add items specific to teacher/classroom needs. See WSIB Regulation 1101.

DATE CHECKED:
CHECKED BY:

ITEM	Number
First Aid Manual	
Masks	
Disposable latex gloves	
Pair of scissors	
Plastic Emesis basin	
Wooden splints	
Rolls of splint padding	
Adhesive strip bandages	
3" x 3" sterile gauze pads	
4" compress bandages	
6" Tensor bandages	
Triangular bandages	
Safety Pins	
Sterile gauze bandages	
Sterile gauze field dressing	
1 ½" width roll adhesive tape	
Antiseptic swabs	

Burn cream	
Instant cold packs	

AT ALL TIMES - IF IN DOUBT, STOP! ASK YOUR INSTRUCTOR

General – Cordless Portable Power Tools

1. Use only the battery that the tool manufacturer specifies for the tool that you are using.

2. Recharge a battery-powered tool only with a charger that is specifically intended for the battery in that tool.

3. Remove the battery from the tool or ensure that the tool is switched off or locked off before changing accessories, making adjustments, or storing the tool.

4. Store a battery pack safely so that no metal parts, nails, screws, wrenches and so on can come in contact with the battery terminals (place a cap on the battery terminals).

5. Inspect tools for any damage prior to each use.

6. If the tool has auxiliary or double handles, check to see that they are installed securely.

7. Ensure that the power tool has the correct guard, shield or other attachment that the manufacturer recommends.

8. If a tool is defective, notify your teacher immediately. Do not use defective tools.

9. Wear or use personal protective equipment (PPE). i.e. safety glasses, hearing protection, dust mask.

10. Remove any wrenches and adjusting tools before turning on a tool.

11. Clamp work securely when practical to do so.

12. Keep the work area free of clutter and debris that could be tripping or slipping hazards.

13. Do not walk around with your finger touching the power switch.

14. Do not use cordless tools in wet conditions.

15. Do not operate tools in an area containing explosive vapors or gasses.

16. Do not clean tools with flammable or toxic solvents.

17. Do not surprise or touch anyone who is operating a tool. Startling a tool operator could end up causing an accident or injury.

AT ALL TIMES - IF IN DOUBT, STOP! ASK YOUR INSTRUCTOR

General Housekeeping

1. Everything has a proper storage location.
2. If you don't know where it is, please ask.
3. If you do know, put it back.

4. If it is broken, report it.
5. If it doesn't work, report it.
6. If it's broken or doesn't work, don't use it.

7. Dirt, dust, and debris are harmful to your safety and health. Even if you didn't put it there, pick it up, clean it up, or move it aside.

8. If you spill or drop any fluid on the floor, clean it, or use absorbent materials. You are responsible for prevention of injuries.

9. Never block fire exits, fire pull alarms, doorways, aisles, and electrical breakers of machine switches for any reason at any time.

10. Chemicals all have proper storage containers. Make sure you use them. Never mix chemicals.

AT ALL TIMES - IF IN DOUBT, STOP! ASK YOUR INSTRUCTOR

General Machine Safety Rules

1. Never operate a machine without the teacher's permission.

2. Wear Personal Protective Equipment (PPE) - safety glasses – whenever you use a power tool.

3. Put on your safety glasses before starting a machine.

4. No loose clothing, untied long hair or jewelry is allowed when using a machine.

5. Be aware of the position of the on/off switches and emergency STOP button before turning a machine on.

6. Make all adjustments to a machine with the power off and/or locked out.

7. Make sure all guards are in place and properly adjusted.

8. Report any damage to guards immediately to the teacher.

9. Be sure to have firm footing when operating any machine.

10. Always operate machines from the front, never from the side.

11. Keep our hands beside or behind the blade; never in front

12. Do not leave a machine until the blade or bit has stopped.

AT ALL TIMES - IF IN DOUBT, STOP! ASK YOUR INSTRUCTOR

General - Portable Power Tools

1. Before operating any tool or machine, competency must be displayed to the teacher and be signed off by the teacher in your equipment passport.
2. Inspect tools for any damage prior to each use.
3. If the tool has auxiliary or double handles, check to see that they are installed securely.
4. Inspect cords for defects: check the power cord for cracking, fraying, and other signs of wear or faults in the cord insulation.
5. Inspect the plug for cracks and for missing, loose or faulty prongs
6. Ensure that the power tool has the correct guard or shield.
7. If a tool seems defective, notify your teacher immediately. Do not use defective tools.
8. Wear or use personal protective equipment (PPE). i.e. safety glasses, hearing protection, dust mask.
9. Switch off the tools before connecting them to a power supply or before making adjustments.
10. Remove any wrenches and adjusting tools before turning on a tool.
11. During use, keep power cords clear of tools and the path that the tool will take.
12. Clamp work securely when practical to do so.
13. Use only approved extension cords that have the proper wire size for the length of cord and power requirements of the electric tool that you are using.
14. Keep the work area free of clutter and debris that could be tripping or slipping hazards.
15. Keep power cords away from heat, water, oil, sharp edges and moving parts.
16. Do not wear gloves, loose clothing or jewelry and tie back long hair when using a power tool.
17. Do not walk around with a plugged-in tool with your finger touching the switch.
18. Do not unplug a tool by pulling or jerking the cord from the outlet. Pull the plug, not the cord when unplugging a tool.

19. Hold on to the tool until it has been turned off, and has stopped running completely.
20. Do not use electric tools in wet conditions or damp locations unless tool is connected to a ground fault circuit interrupter (GFCI).
21. Do not connect or splice extension cords together to make a longer connection.
22. Do not carry electrical tools by the power cord.
23. Do not tie power cords in knots. Knots can cause short circuits and shocks. Loop the cords or use a twist lock plug.
24. Do not walk on or allow vehicles or other moving equipment to pass over unprotected power cords. Cords should be put in conduits or protected by placing planks on each side of them.
25. Do not operate tools in an area containing explosive vapors or gasses.
26. Do not clean tools with flammable or toxic solvents.
27. Do not surprise or touch anyone who is operating a tool. Startling a tool operator could end up causing an accident or injury.

AT ALL TIMES - IF IN DOUBT, STOP! ASK YOUR INSTRUCTOR

General Shop Safety Rules

1. None of the following is allowed in the Wood Shop:

- Cell phones, headphones, or other electronic devices
- Backpacks, bags or purses
- Jackets or other baggy clothing
- Food or drink
- Open toed shoes
- anything else the teacher feels might compromise the student's safety

If you show up with any of these, you will not be allowed into the shop.

2. No horseplay, goofing around, or throwing objects.

3. No shouting or yelling in the shop.

4. The emergency stops are there for emergencies. You can use them at anytime you feel is appropriate. However, keep in mind it is like pulling a fire alarm.

5. Do not distract someone working on a machine – including the teacher!

6. Do not crowd around someone using a machine. Keep a safe distance back.

7. Never use a machine or tool if you don't feel well. If you feel sick, overly tired, stressed, or are under the influence of medication (or the lack of it) do not use any of the shop equipment and see the teacher.

8. If there is a shop injury of any kind – even if you only need a band aid for a paper cut – let the teacher know immediately.

9. Never use any tools or machines unless there is a teacher in the room supervising.

10. Dirt, dust, and debris are harmful to your health and safety. Even if you didn't put it there, pick it up, clean it up, and help keep the shop clean.

11. If you spill or drop any fluid, immediately clean it up and let the teacher know.

12. If it is broken, report it, If it doesn't work, report it, If it's broken or doesn't work, don't try to use it.

Hand Drill

1. Always wear safety glasses when using a hand drill.
2. Follow manufacturers' instructions when selecting and using a bit or attachment, especially with unfamiliar drills or material.
3. Select the bit or attachment suitable for the size of the drill and the work being done.
4. Ensure that the bit or attachments are properly seated and tightened in the chuck.
5. When changing bits, tighten the chuck securely and ensure you remove the chuck key before starting drill.
6. When changing bits in a keyless chuck, DO NOT pull the trigger while holding the chuck. Rotate the chuck by hand.
7. Use the auxiliary (second) handle for larger work or continuous operation.
8. Keep drill air vents clear to maintain adequate ventilation.
9. Always use drill bits that are sharp and turn true (spin straight).
10. Keep all cords clear of the cutting area during use. Inspect for frays or damage before each use.
11. Disconnect power supply before changing or adjusting bit or attachments.
12. Secure workpiece being drilled to prevent movement.
13. Slow the rate of feed just before breaking through the surface.
14. Drill a small "pilot" hole before drilling large holes.
15. When cutting small pieces, clamp stock so work will not twist or spin. Do not drill with one hand while holding the material with the other.
16. Do not exceed the manufacturer's recommended maximum drilling capacities.
17. Do not use a hole saw cutter without the pilot drill.
18. Do not attempt to free a jammed bit by starting and stopping the drill. Unplug the drill and then remove the bit from the workpiece.
19. Do not reach under or around stock being drilled.
20. Do not overreach. Always keep proper footing and balance.
21. Do not raise or lower the drill by its power cord.

AT ALL TIMES - IF IN DOUBT, STOP! ASK YOUR INSTRUCTOR

Hand Power Planer

Wear safety glasses and use the appropriate hearing protection.

1. Disconnect the planer from the power supply before making any adjustments to the cutter head or blades.

2. Use blades of the same weight and set at the same height.

3. Ensure that the blade-locking screws are tight.

4. Remove adjusting keys and wrenches before turning on power.

5. Support the material (stock) in a comfortable position that will allow the job to be done safely and accurately.

6. Check stock thoroughly for staples, nails, screws, or other foreign objects before using a planer.

7. Start a cut with the infeed table (front shoe) resting firmly on the stock and with the cutter head slightly behind the edge of the stock.

8. Use two hands to operate a planer - one hand on the trigger switch and the other on a front handle.

9. Do not put your finger or any object in a deflector to clean out chips while a planer is running.

10. Disconnect the power supply when stopping to empty out chips.

11. Do not set a planer down until blades have stopped turning.

12. Keep all cords clear of the cutting area.

13. Do not overreach. Keep proper footing and balance.

AT ALL TIMES - IF IN DOUBT, STOP! ASK YOUR INSTRUCTOR

Hand Tools

1. While using hand tools wear safety glasses and any other PPE when appropriate.
2. Select the right tool for the job. Substitutes increase the chance of having an accident.
3. Use good quality tools and keep tools in good condition at all times.
4. Inspect tools for defects before use.
5. Keep cutting tools sharp and cover sharp edges with suitable covering to protect the tool and to prevent injuries from unintended contact.
6. Do not use cracked, splintered, or broken handles on files, hammers, screwdrivers, or sledges.
7. Ensure that the handles of tools like hammers and axes fit tightly into the head of the tool.
8. Pull on a wrench or pliers. Never push unless you hold the tool with your palm open.
9. Point sharp tools (e.g., saws, chisels, knives) laying on benches away from aisles and handles should not extend over the edge of the bench top.
10. Keep the work environment clean and tidy to avoid clutter which may cause accidents.
11. Do not apply excessive force or pressure on tools.
12. Do not cut towards yourself when using cutting tools.
13. Do not hold the stock in the palm of your hand when using a cutting tool or a screwdriver.
14. Do not wear bulky gloves to operate hand tools.
15. Do not throw tools. Hand them, handle first, directly to other workers.
16. Do not carry tools in a way that interferes with using both hands on a ladder, while climbing on a structure, or when doing any hazardous work. If working on a ladder or scaffold, tools should be raised and lowered using a bucket and hand line.
17. Do not carry a sharp tool in your pocket.

AT ALL TIMES - IF IN DOUBT, STOP! ASK YOUR INSTRUCTOR

Jig Saw

1. Wear safety glasses whenever using a Jig saw
2. Disconnect the power supply before changing or adjusting blades.
3. Keep all cords clear of the cutting area.
4. Make sure guards, if present, are installed and are working properly.
5. Keep in mind that the jig saws cut on the up stroke (towards the saw)
6. Secure and support stock as close as possible to the cutting line to avoid vibration.
7. Keep the base or shoe of the saw in firm contact with the stock being cut.
8. Select the correct blade for the material being cut and allow it to cut steadily. Do not force it. Clean and sharp blades operate best.
9. Do not start cutting until the saw reaches its full power.
10. Do not force a saw along or around a curve. Allow the machine to turn with ease.
11. Do not insert a blade into or withdraw a blade from a cut or lead hole while the blade is moving.
12. Do not put down a saw until the motor has stopped.
13. Before turning on the saw, make sure that the blade is not in contact with the material.
14. Feed the blade slowly into the stock, maintaining an even forward pressure.
15. Do not reach under or around the stock being cut.
16. Never attempt to cut materials larger than the rated capacity listed in the jig saw operator's manual, as this may result in personal injury.
17. NEVER overreach! Always maintain balance and solid footing.
18. When plunge (pocket) cutting, use a blade designed for that purpose and follow the tool manufacturer's instructions.

AT ALL TIMES - IF IN DOUBT, STOP! ASK YOUR INSTRUCTOR

Lifting

A strain is a feeling of stiffness or soreness from using muscles too long or the wrong way. Strains usually occur in the lower back, the weakest point of the spinal column. In food service, lifting heavy loads incorrectly often causes strains. Once your back has been strained or weakened, it can easily be injured again. In the Province of Ontario, unassisted manual lifting is limited to 23 kg (51 pounds). Do not lift any load if it cannot be handled safely due to its size/shape. Canadian Centre for Occupational Health & Safety: Manual Materials Handling website.

1. Do not lift any load if it cannot be handled safely due to its size/shape.

2. Lift with your legs, not your back. You can prevent back strain by lifting with your strong leg muscles. When you must lift a heavy object, squat with knees bent, feet apart, and back straight. With your arms straight, get a firm grip on the load. Stand up keeping your back straight. Make your leg muscles do the work. Do not twist or bend.

3. Set objects down by using the same method in reverse. Ask for help if the object is too heavy. Use a cart to carry heavy objects any distance.

4. Heavy articles should be stored on the bottom shelves.

AT ALL TIMES - IF IN DOUBT, STOP! ASK YOUR INSTRUCTOR

Mortising Machine

1. Never remove, modify or disable safety guards.
2. Be certain that the chisel is sharp and properly adjusted before turning on the power.
3. When mortising long pieces, ensure they are supported.
4. Use a square to check that the chisel is parallel with the fence before using the machine.
5. There should be a gap no greater than 1/32 of an inch between the chisel and drill bit. The chisel and drill bit should never be touching.
6. Check the hold downs, stops, and depth of chisel before turning on the machine.
7. Make sure chuck keys and Allan keys are removed before operating the machine.
8. Make sure your wood is firmly clamped to the fence before cutting a mortise.
9. When creating a slot, start by making a series of cuts that are close together. Cut a pattern that leaves material intact between the cuts. Finish by cutting the remaining wood (bridges) to complete the slot.
10. If the chisel become stuck, turn off the mortiser and get assistance from the teacher.
11. Keep your hands away from the chisel; it may become very hot.
12. Stop using the mortiser if the chisel is smoking in the cut.
13. When finished, clear away chips and curls with a brush, not your hands.

AT ALL TIMES - IF IN DOUBT, STOP! ASK YOUR INSTRUCTOR

Planer (Surface Planer)

1. Never plane boards shorter than **(Teacher - see your owner's manual for minimum sizes and enter them here)** __ inches or thinner than ____ inch.

2. Do not plane two boards at the same time.

3. Be sure your wood is free of foreign materials, nails, grit, dirt, loose knots or anything else that seems out of place.

4. Before investigating any jammed pieces, shut the power off and wait until the blades have come to a complete stop.

5. Never reach into the planer. Use a thin push stick when necessary to help push your wood through.

6. Keep fingers from under the stock while feeding or retrieving. This will prevent fingers from being pinched between the machine and board.

7. Stand clear of possible kickback – stand slightly to the side.

8. You should have a partner help. One person feeds the machine, while a second unloads the wood.

9. Make successive passes removing shallow amounts. Don't try and take too much off at once **(Teacher - see your owner's manual for maximum amount that can be removed in one pass sizes and enter it here)**.

AT ALL TIMES - IF IN DOUBT, STOP! ASK YOUR INSTRUCTOR

Radial Arm Saw

1. Check the wood for loose knots and metal or any other debris.
2. Check to make sure the guard is operating correctly and that the cutting head stays at the back of the saw unless pulled forward. If the guards are not operating correctly, or the cutting head drifts forward by itself after being unlocked, relock the cutting head and notify the teacher immediately.
3. If a guard jams during a cut, turn off the saw and notify your teacher. Do not unjam the guard yourself.
4. Clamp all material firmly and properly before making a cut. This is especially important when making mitred/bevelled cuts.
5. Make sure the machine is OFF while lining up the blade for a cut or while making changes to the setup.
6. Never operate a radial arm saw with tools, debris or loose objects on the table. The radial arm table is not a workbench.
7. Be sure to cut on a pull-stroke, and pull the blade only just far enough to cut through your stock.
8. Never measure your wood with the saw turned ON.
9. Visualize the blade's travel path before making a cut. Keep hands and objects out of this path.
10. When cutting short pieces, keep your hands at least 6 in. from the blade's travel path.
11. To minimize kickback, never cut wet wood or stock that does not lay flat on the table or against the fence.
12. Secure longer pieces with supports and/or clamps where needed.
13. Keep your body to the Left of the blade assembly when making cuts.
14. This is a Right-handed machine. Do not use your Left hand to pull the blade towards you and never let your arms cross when operating this machine.
15. Never cut more than one piece of wood at a time

16. Do not “freehand” cut. Your stock should always be pushed up against the back fence before starting a cut.
17. Never use the radial arm saw for making rip cuts
18. Return the cutting head completely to the back of the saw (resting position) after each cut.
19. Do not let go of the operating handle until the cutting head is returned to the “resting” position at the back of the machine and the blade has stopped spinning.
20. Do not remove your work piece, or pieces of scrap from the table, until the blade has stopped spinning.
21. If the saw blade is smoking, burning, or wavering during a cut, turn it off and let your teacher know so the blade can be changed.
22. If the saw does anything unusual, turn the saw off right away and notify your teacher.
23. When finished, secure the motor housing so it can’t move.

AT ALL TIMES - IF IN DOUBT, STOP! ASK YOUR INSTRUCTOR

Reciprocating Saw

1. Safety glasses need to be worn when using this saw.

2. The reciprocating saw can be used to cut metal, pipe, wood, nail-embedded wood and other materials.

3. Disconnect the power supply before changing or adjusting blades.

4. Make sure guards, if present, are installed and are working properly.

5. Reciprocating saws cut on the stroke towards the handle.

6. Secure and support stock as close as possible to the cutting line to avoid vibration.
7.
8. Keep the base or shoe of the saw in firm contact with the stock being cut.

9. Select the correct blade for the material being cut and allow it to cut steadily. Do not force it. Clean and sharp blades operate best.

10. When changing blades, be sure the spindle and blade clamp areas are clean. Metal chips and sawdust may prevent the blade from being held securely.

11. Blades can break. Use the blade and accessories recommended for the job being done. Check your operator's manual carefully about this.

12. To minimize blade flexing and provide a smooth cut, use the shortest blade that will do the job but will extend beyond the workpiece throughout the stroke.

13. Do not force the saw along or around a curve. Allow the machine to turn with ease.

14. Do not insert a blade into or withdraw a blade from a cut or lead hole while the blade is moving.

15. Do not put down a saw until the motor has stopped.

16. Do not reach under or around the stock being cut.

17. Maintain control of the saw always. Avoid cutting above shoulder height.

18. Know what is behind a workpiece before you begin cutting.

19. Never attempt to cut materials larger than the rated capacity listed in the jig saw operator's manual.

20. NEVER overreach! Always maintain balance and solid footing.

21. When cutting metal, choose a blade that will allow for at least three of the blades teeth to be in the material at all times.

22. Check blades carefully before each use for proper alignment and possible defects. Never use a bent, broken or warped saw blade

23. Never hold a workpiece in your hand or across your leg when sawing.

AT ALL TIMES - IF IN DOUBT, STOP! ASK YOUR INSTRUCTOR

Router

1. Routers operate at high speeds and torque. Ensure all parts are tight and bits are sharp. Keep a solid two-handed grip at all times and make sure your stance is solid.

2. Routers turn clockwise (when seen from top). Always feed from left to right when making outside cuts. For inside cuts move from the right to the left.

The rule to remember is: Outside = Counterclockwise
Inside = Clockwise

(an easy way to remember this is to match up the two longer words – Outside and Counterclockwise, and the two shorter words – Inside and Clockwise)

3. When routing all the edges of a board (or table top), start by routing across the grain.

4. Look, listen and smell! You control the feed speed. If the motor is slowing down you are trying to cut too fast. If you smell burning, you are feeding too slowly and the router bit is burning your wood.

5. Ensure you are using proper depth of cut. Test cuts on scrap material. Make multiple passes for deep cuts. See the teacher if in doubt.

6. Never let go of the router until it has come to a complete stop.

7. When bits become worn or damaged, they should be repaired or replaced immediately. Excessive burning or tearout are signs of damaged and dull bits. Bring these to the attention of the teacher.

8. Make sure material to be routed is clamped solidly to the work bench or is on a non-slip mat/carpet.

AT ALL TIMES - IF IN DOUBT, STOP! ASK YOUR INSTRUCTOR

Router Table

1. Routers operate at high speeds and torque. Ensure all parts are tight and bits are sharp. Keep a solid two-handed grip on your work at all times, and make sure your stance is solid.

2. Ensure that the clear plastic guard is in place and covering any exposed part of the router bit. Your wood should fit under the guard with only a ¼" clearance.

3. When possible, use a push stick and/or feather boards to ensure that your fingers are not able to come in contact with the router bit.

4. When using a router table with a fence, the work always moves from right to left.

5. When routing all the edges of a board (or table top), start by routing across the grain.

6. Look, listen and smell! You control the feed speed. If the motor is slowing down you are trying to cut too fast. If you smell burning, you are feeding too slowly and the router bit is burning your wood.

7. Ensure you are using proper depth of cut. Test cuts on scrap material. Make multiple passes for deep cuts. See the teacher if in doubt.

8. Never let go of your wood during a cut.

9. When bits become worn or damaged, they should be repaired or replaced immediately. Excessive burning or tearout are signs of damaged and dull bits. Bring these to the attention of the teacher.

10. Disconnect the power supply before making any adjustments or changing bits. Inspect bits carefully before installing
11. Ensure that the bit is securely mounted in the chuck and the base is tight.

12. Before using a router, check stock thoroughly for staples, nails, screws or other foreign objects.

AT ALL TIMES - IF IN DOUBT, STOP! ASK YOUR INSTRUCTOR

Scroll Saw

1. Cut on the waste side of your pencil line! (sanding to the line is more accurate)

2. Do not set the speed too fast. When in doubt, slow the speed of the machine.

3. When using the saw do not force the piece by pushing too hard. Trying to cut too fast only results in a poor cut that is often far from your pencil line.

4. Keep fingers clear of the blade path.

5. Use both hands and keep fingers at least 10 cm. (4 in.) from the blade at all times.

6. Never pull or force a jammed piece through the equipment. Shut the power off and then carefully dislodge the piece.

7. If the blade is dull or broken, change it. Make all adjustments with the power off. Ask the teacher for help if needed.

8. Make sure the hold down is resting on the workpiece but not pushing down.

9. Plan your cuts carefully. Saw curves gradually. Sudden twists will cause the blade to bind or break. Use relief cuts if necessary.

10. Always make short cuts first.

11. Avoid backing out of cuts with the power on. Backing out of a cut may cause the blade to bind

12. If the blade breaks, turn the power off immediately and step back. Inform the teacher that a new blade needs to be put on the saw. Ask the teacher for help if necessary.

13. Remove scrap pieces from the table only after the blade has stopped.

14. Throw all scraps in the garbage and clean the machine of any sawdust before leaving.

AT ALL TIMES - IF IN DOUBT, STOP! ASK YOUR INSTRUCTOR

Shaper

1. Slip-knives should never be used.

2. Whenever possible, install the cutter so the bottom of the stock is shaped. In this way the stock will cover most of the cutter and act as a guard.

3. Make sure the cutter is locked securely to the spindle.

4. Always position the outfeed fence so that it will support the work that has passed the cutters.

5. Adjust the spindle for the correct height and then lock in position. Rotate the spindle by hand to make sure it clears all guards, fences, etc.

6. The cutter should not be exposed during a cut. Ensure the cutter is appropriately guarded.

7. Check the direction of rotation by snapping the switch on and off; watch as the cutters come to rest.

8. Ensure the correct speed (RPM) is set for the cutter is being used. The larger the cutter, the slower the RPM.

9. Check the rotation of the shaper you are using and always feed against the rotation of the cutter. **Caution** - Some shapers have a reversing switch so that the spindle can be rotated either clockwise or counter clockwise.

10. Hold the stock down and against the fence with the hands on top of the material, yet out of range of the cutters.

11. Use feather boards, fixtures, jigs, push blocks, and clamping devices whenever possible to avoid holding onto the stock directly.

12. Do not set spring hold-down clips too tightly against the work. Use just enough tension to hold the work against the fence.

13. Examine the stock carefully before cutting to make sure it is free of loose knots, metal, or other defects. Never cut through a loose knot or stock that is cracked or split.

14. Always use a depth collar when shaping irregular work. Put a guide pin in the table to start the cutting.

15. Whenever possible, cut with the grain and not against it.

16. Shape only one piece at a time.

17. Turn off the machine and lock it out whenever changing spindles.

18. Do not shape stock less than 10 inches long.

19. Support long pieces with tables or rollers.

20. Never backup a cut that didn't fully cut. Always maintain the feed against the rotation of the cutter. Make additional passes if necessary.

21. Never stand in line with the feed of the machine. Kickback may occur.

22. Do not shape chipboard, panel board or any stock containing nails, paint or varnish.

23. Avoid awkward operations and hand positions where a sudden slip could cause a hand to move into the cutter knives.

AT ALL TIMES - IF IN DOUBT, STOP! ASK YOUR INSTRUCTOR

Spindle Sander

1. This sander is for sanding inside curves. Do not use it to sand flat areas.

2. Do not operate if the sandpaper paper is loose or torn.

3. Only one person at a time should be using this machine.

4. Sand only wood or plastic. Never sand metal.

5. When working on small pieces, be careful to keep your fingers and knuckles away from the sanding drum.

6. Do not apply excessive force toward the drum. Use a light touch and let the machine do the work.

7. Always keep your wood flat on the sanding table. Do not “freehand” sand!

8. Sanding from right to left produces the smoothest curves.

9. When the drum becomes caked with sawdust, use a crape block to clean the drum. This needs to be done while the machine is running.

AT ALL TIMES - IF IN DOUBT, STOP! ASK YOUR INSTRUCTOR

Stroke Sander

1. Ensure that the dust collector is turned on before using the stroke sander.
2. Make sure there are no tools, books, or other objects on the sanding table.
3. Only sand solid wood or veneers with the stroke sander. Do not sand MDF particle board, melamine, metal or other such material.
4. Inspect the belt before using. Only use the sander if the belt is in good condition. If it has tears or is excessively worn do not use and inform the teacher.
5. Raise or lower the table so that there is a ¼ inch of space between the sanding belt and your work piece.
6. Ensure your work piece lays flat on the table and rests against the fence. Do not attempt to sand items that are warped.
7. If your workpiece does not have a flat edge to rest against the fence (i.e. a round table top), use the correct jig to ensure it does not move during sanding.
8. Before turning on the sander, ensure the table moves freely by pushing and pulling on the table. It should run smoothly on its tracks and not bump against anything.
9. Do not sand stock that is shorter than the sanding plate, or less than ½ it's width.
10. Keep your fingers away from the edges of the sanding belt.
11. Do not sand on the "top" belt (abrasive facing up). Only use the part of the belt with the abrasive facing down.
12. If the belt rubs against the housing of the sander, or if the belt wobbles, turn the sander off and notify your teacher.
13. Do not apply excessive force on the sanding plate. Apply light pressure to allow the machine to work properly.
14. Do not change work pieces while the belt is still running. Turn the sander off after sanding each piece. Ensure the next piece fits properly under the sanding belt before restarting the machine.
15. While sanding, either the table or sanding plate should always be moving. Try to move the plate over your workpiece so that it is sanded evenly
16. When finished, turn off the machine and ensure the machine has come to a full stop before stepping away.

AT ALL TIMES - IF IN DOUBT, STOP! ASK YOUR INSTRUCTOR

Table Saw

1. Never operate the table saw without the teacher's direct permission.
2. Make sure the floor is clear in the work area.
3. Make sure the splitter and anti-kickback teeth are in place.
4. Secure the fence position before beginning. Ensure the fence is locked.
5. Always keep the work firmly down on the table and push it past the blade.
6. Always "lock-out" the table saw before changing blades. Ensure to read the proper board and tool specific lock out procedure.
7. Never reach over the blade.
8. Always use a push stick when the fence is set under 6" to the blade.
9. Ask for assistance when working with large pieces.
10. Stand clear of possible kickback and keep your hands clear of the blade path.
11. Do not feed the material faster than the saw will accept. Listen to the cut.
12. Use a fence when making a rip cut, and a mitre gauge or cross-cut sled to make cross-cuts. Never us the rip fence and miter gauge at the same time. Keep the work against the fence throughout the operation.
13. Never cut a piece of material free-hand. Always use the fence or the miter gage.
14. Always check the machine guards to make sure they are in place and operating, before using the machine.

AT ALL TIMES - IF IN DOUBT, STOP! ASK YOUR INSTRUCTOR

Vertical Panel Saw

1. Wear safety glasses, tie back long hair, and tuck in loose clothing before operating the saw.
2. Prior to using the vertical panel saw, check to see that the guards are in place, secured and working correctly. If in doubt, stop and ask your instructor.
3. Keep the floor around the machine clean and free of scrap material. Ensure others are a safe distance from the work area prior to starting the saw.
4. Give your work your undivided attention. Always stand firmly on the ground and avoid awkward operations while using the vertical panel saw.
5. Feeding the material through the machine horizontally or moving the saw carriage through the material vertically must be done slowly, smoothly and without stopping. Overfeeding will result in poor quality cuts, shorten the life of the carbide saw blades and overload the saw motor.
6. Caution must be used when setting material onto the material roller carriage. Heavy material must not be dropped onto the roller carriage. Failure to follow this rule will ultimately cause the roller carriage to be knocked out of alignment.
7. For best results, place material to be cut onto the Panel Saw with the back side facing the operator. This will provide the smoothest possible cut on the face side of the panel
8. Panels being cut horizontally (ripping) must always be fed against the rotation of the saw blade. Note the feed direction decal should be labelled on the saw carriage.
9. Do not force the saw. It will perform better and can be more easily and safely controlled if allowed to work at the rate for which it was designed.
10. If the saw is stopped mid-cut, allow the blade to stop. Then back up the saw (if crosscutting) or the board (if ripping) and restart the saw to continue the cut.
11. Thin material, such as paneling, should be properly supported over its length to prevent binding on the blade.
12. Panel Saws are designed to cut large panels down to size. As the overall panel size becomes smaller and smaller, other types of sawing machines can become more convenient and safer to use.
13. Never leave the machine running unattended. Turn the power off and do not leave the machine until it comes to a complete stop.

AT ALL TIMES - IF IN DOUBT, STOP! ASK YOUR INSTRUCTOR

SDS SAFETY LABELS

GENERIC SAFETY DATA SHEETS FOR PERSONAL ENHANCEMENT PRODUCTS PROTECTED BY TRADE SECRET LAWS (SDS)

MATERIAL IDENTIFICATION

_____

TRADE NAME/MATERIAL NAME PRODUCT USE

_____

OTHER NAMES:

_____

MANUFACTURER'S/SUPPLIER'S NAME:

_____

ADDRESS:

_____

EMERGENCY TELEPHONE:

_____

FIRST AID PROCEDURE

WHMIS 2015 REGULATIONS

- The acronym WHMIS stands for *Workplace Hazardous Materials Information System*
- Canada aligned the Workplace Hazardous Materials Information System (WHMIS) from 1988 with the Globally Harmonized System of Classification and Labeling of Chemicals (GHS) in 2015.
- Suppliers and employers must use and follow the WHMIS 2015 requirements for labels and safety information sheets (SISs) for hazardous products sold, distributed, or imported into Canada.
- SDS stands for *Safety Data Sheets*
- SDS is a printout on paper that identifies how to handle, store, use, health effects if exposed, emergency procedures, and protective measures
- Employers will be required to make sure that all hazardous products (as defined by the *Hazardous Products Regulations* have an up-to-date SIS when it enters the workplace.
- The SDSs must be readily available to the workers who are exposed to the hazardous product, and to the health and safety committee or representative.

A label will be required to be updated when the supplier becomes aware of any "significant new data". According to the regulation, the definition of significant new data is:

- "New data regarding the hazard presented by a hazardous product that changes its classification in a category or subcategory of a hazard class, or result in its classification in another hazard class, or change the ways to protect against the hazard presented by the hazardous product." (Source: *Canada Gazette*, Part II, Hazardous Products Regulations, Section 5.12 (1))
- Labels will be required to be updated within 180 days of the supplier being aware of the new information. If you purchase a product within this 180-day time period, the supplier must inform you of the changes, and the date they became available, in writing.

AT ALL TIMES - IF IN DOUBT, STOP! ASK YOUR INSTRUCTOR

WHMIS LABELS

Supplier labels must be attached to the controlled product container which has detailed information about the product. Legislation states that 10 kg or more of a controlled product or hazardous material from a supplier must contain the following information:

- The hatched border that was required under WHMIS 1988 is not required under WHMIS 2015. However, it is also not forbidden to use the hatched border, so you may see it on a WHMIS 2015 label.
- Labels must be in English and French. They may be bilingual (as one label) or be presented as two labels (one each in English and French).
- The pictogram, signal word, and hazard statement are to be grouped together,
- To be clearly and prominently displayed on the container,
- To be easy to read (e.g., you can see it easily without using any item except corrective glasses), and
- To be in contrast with other information on the product or container.
- Labels will be required to be updated within 180 days of the supplier being aware of the new information. If you purchase a product within this 180-day time period, the supplier must inform you of the changes, and the date they became available, in writing.
- **Product identifier** – the brand name, chemical name, common name, generic name, or trade name of the hazardous product.
- **Initial supplier identifier** – the name, address, and telephone number of either the Canadian manufacturer or the Canadian importer*.
- **Pictogram(s)** – hazard symbol within a red "square set on one of its points".
- **Signal word** – a word used to alert the reader to a potential hazard and to indicate the severity of the hazard.
- **Hazard statement(s)** – standardized phrases which describe the nature of the hazard posed by a hazardous product.
- **Precautionary statement(s)** – standardized phrases that describe measures to be taken to minimize or prevent adverse effects resulting from exposure to a hazardous product or resulting from improper handling or storage of a hazardous product.
- **Supplemental label information** – some supplemental label information is required based on the classification of the product. For example, the label for a mixture containing ingredients with unknown toxicity in amounts higher than or

equal to 1% must include a statement indicating the percent of the ingredient or ingredients with unknown toxicity. Labels may also include supplementary information about precautionary actions, hazards not yet included in the GHS, physical state, or route of exposure. This information must not contradict or detract from the standardized information.

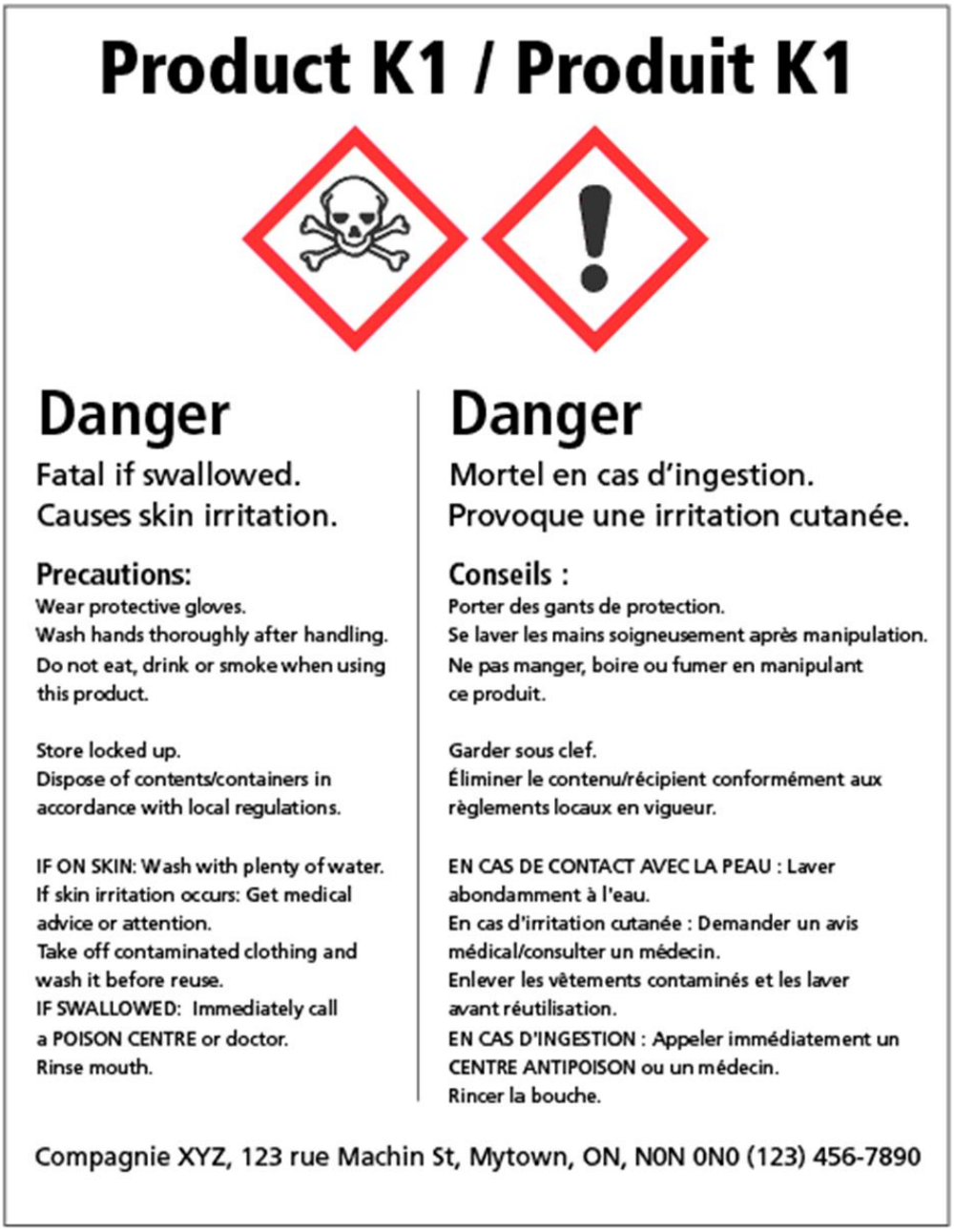
In addition to this and if the container has more than 100 milliliters the following information must be on the label:

- Risk time factors
- Precautionary measures while using or being exposed to the product/chemical
- First aid measures to address immediate injuries and not progressive illnesses

Workplace labels must be identified on a container that is not from the supplier, and must contain the following information:

- Product name (matching the SDS product name).
- Safe handling precautions may include pictograms or other supplier label information.
- A reference to the SDS (if available).
- First aid measures

AT ALL TIMES - IF IN DOUBT, STOP! ASK YOUR INSTRUCTOR



This is an example of an updated 2015 supplier label using the Globally Harmonized System.

More information can be found on the Government of Canada, [Canadian Centre for Occupational Health and Safety Website].

WHMIS 2015 Pictograms

	**Exploding bomb** (for explosion or reactivity hazards)		**Flame** (for fire hazards)		**Flame over circle** (for oxidizing hazards)
	**Gas cylinder** (for gases under pressure)		**Corrosion** (for corrosive damage to metals, as well as skin, eyes)		**Skull and Crossbones** (can cause death or toxicity with short exposure to small amounts)
	**Health hazard** (may cause or suspected of causing serious health effects)		**Exclamation mark** (may cause less serious health effects or damage the ozone layer*)		**Environment*** (may cause damage to the aquatic environment)
	**Biohazardous Infectious Materials** (for organisms or toxins that can cause diseases in people or animals)				

* The GHS system also defines an Environmental hazards group. This group (and its classes) was not adopted in WHMIS 2015. However, you may see the environmental classes listed on labels and Safety Data Sheets (SDSs). Including information about environmental hazards is allowed by WHMIS 2015.

WHMIS 2015 Pictograms

The **flame** pictogram is used for the following classes and categories:

- Flammable gases (Category 1)
- Flammable aerosols (Category 1 and 2)
- Flammable liquids (Category 1, 2 and 3)
- Flammable solids (Category 1 and 2)
- Pyrophoric liquids (Category 1)
- Pyrophoric solids (Category 1)
- Pyrophoric gases (Category 1)
- Self-heating substances and mixtures (Category 1 and 2)
- Substances and mixtures which, in contact with water, emit flammable gases (Category 1, 2 and 3)
- Self-reactive substances and mixtures (Types B*, C, D, E and F)
- Organic peroxides (Types B*, C, D, E and F)

The **flame over circle** pictogram is used for the following classes and categories:

- Oxidizing gases (Category 1)
- Oxidizing liquids (Category 1, 2 and 3)
- Oxidizing solids (Category 1, 2 and 3)

WHMIS 2015 Pictograms

The **gas cylinder** pictogram is used for the following classes and categories:

- Gases under pressure (Compressed gas, Liquefied gas, Refrigerated liquefied gas, and Dissolved gas)

The **corrosion** pictogram is used for the following classes and categories:

- Corrosive to metals (Category 1)
- Skin corrosion/irritation – Skin corrosion (Category 1, 1A, 1B and 1C)
- Serious eye damage/eye irritation – Serious eye damage (Category 1)

WHMIS 2015 Pictograms

The **exploding bomb** pictogram is used for the following classes and categories:

- Self-reactive substances and mixtures (Types A and B*)
- Organic peroxides (Types A and B*)

The **skull and crossbones** pictogram are used for the following classes and categories:

- Acute toxicity –
- Oral (Category 1, 2 and 3)
- Dermal (Category 1, 2 and 3)
- Inhalation (Category 1, 2 and 3)

WHMIS 2015 Pictograms

The **health hazard** pictogram is used for the following classes and categories:

- Respiratory or skin sensitization – Respiratory sensitizer (Category 1, 1A and 1B)
- Germ cell mutagenicity (Category 1, 1A, 1B and 2)
- Carcinogenicity (Category 1, 1A, 1B, and 2)
- Reproductive toxicity (Category 1, 1A, 1B and 2)
- Specific Target Organ Toxicity – Single exposure (Category 1 and 2)
- Specific Target Organ Toxicity – Repeated exposure (Category 1 and 2)
- Aspiration hazard (Category 1)

The **exclamation mark** pictogram is used for the following classes and categories:

- Acute toxicity – Oral, Dermal, Inhalation (Category 4)
- Skin corrosion/irritation – Skin irritation (Category 2)
- Serious eye damage/eye irritation – Eye irritation (Category 2 and 2A)
- Respiratory or skin sensitization – Skin sensitizer (Category 1, 1A and 1B)
- Specific target organ toxicity – Single exposure (Category 3)

The **biohazardous infectious** materials pictogram is used for the following classes and categories:

- Biohazardous Infectious Materials (Category 1)

Environment. May cause damage to the aquatic environment.

The Global Harmonized System has defined an environmental hazard group. This group was not adopted in WHMIS 2015; However, you may see this symbol on labels and Safety Information Sheets, and WHMIS allows this, so we are including it in this document.

Wood Jointer

1. Check the board for foreign objects – such as nails or rocks.

2. Never joint stock containing loose or unsound knots.

3. Do not joint (edge) stock of pieces less than 30 cm (12") long, 2.5 cm (1") wide and 1.25 cm (1/2") thick.

4. Do not surface stock less than 30 cm (12") long, 20 cm (3/4") wide1.5 cm (5/8") thick.

5. Do not pass hands near or over the cutters.

6. Ensure the guard is installed and working properly.

7. Do not change the depth of cut without permission from the teacher. Depth of cut should be set to 1/16th or less.

8. Always use a push stick and/or push block. Never let a finger come within 10 cm (4") of the blade when running.

9. Never make "free hand" cuts on the jointer. Always use the fence. Ask for assistance when working with large pieces.

10. Always push the work well beyond the blade when finishing a cut so the guard closes back over the blade.

11. Never let go of your wood part way through a cut.

12. If the board jams while jointing, do not ever pull back on the front of the board.

13. Before investigating any jammed pieces, shut the power off and lock it out.

14. Turn the jointer off immediately if it does not sound right or if slivers of wood catch between the blade and table.

AT ALL TIMES - IF IN DOUBT, STOP! ASK YOUR INSTRUCTOR

Wood Lathe

1. Make sure headstock, tailstock and tool rests are working properly and are tight before operating.

2. Ensure your material is securely attached before starting the machine.

3. Ensure all chisels are sharp and without nicks. Show your teacher any problems with the chisels.

4. Keep a firm but not too tight grip on the chisel. Do not strain your hand or arm, and take your time.

5. Ease tool into material, take your time and listen for motor strain, or look for burning material.

6. Stand clear of possible kickback. Be sure to have firm footing when operating the lathe.

7. Be careful not to cut too deep with the chisels. Plan your designs in advance and keep an eye on any wobble that develops with your turning.

8. Do not attempt thin and/or long materials without proper setup. If in doubt, ask your teacher.

9. Turn the lathe off immediately if it does not sound right or if there is excessive vibration.

10. Select a speed that is appropriate for the job. Operate at speeds recommended by the manufacturer. Select a low speed and use a moderate cut depth to prevent splinters from flying out during roughing operations. The actual speed of the lathe depends on type of wood, the diameter of stock, nature of work being done and type of tool used.

11. Adjust tool rests so that they are parallel and as close as possible to the stock. They should also be set high enough so that tools will cut into the wood slightly above the centre of the work being turned.

12. Remove the tool rest when sanding or polishing.

13. Use appropriate tools to hold the sandpaper or emery paper whenever possible. If you must use your hands, always hold the paper in a way that will not allow the paper to catch, pull or entangle around the stock.

AT ALL TIMES - IF IN DOUBT, STOP! ASK YOUR INSTRUCTOR

Mitre (Chop) Saw

1. Never cut pieces shorter than eight inches (8”).

2. Turn the blade on before moving it down to cut, and make sure the blade comes to a complete stop before lifting it up again. - take your time!

3. Ensure you are aware of the blade path before you make your cut.

4. Always make sure your left hand is well clear of the blade (8” or more).

5. Watch for kick back when cutting off small pieces.

6. Long boards should be supported safely.

7. Students who are left handed must use their right hand for cutting operations.

8. When making angle cuts ensure the blade has adequate clearances.

9. Your body position should always be left of the blade assembly when operating this saw.

10. When using a sliding mitre saw, ensure the blade is pulled all the way forward and is clear of the stock before turning it on.

11. Make sure all guards are in place and working well before turning on the saw.

AT ALL TIMES – IF IN DOUBT, SEE YOUR INSTRUCTOR

SECTION 3: SAFETY ASSIGNMENTS AND TESTS

SECTION OVERVIEW

This section contains sample tests and assignments related to safety. They are designed as samples that can be used as written or edited for your purposes. They can be used for evaluation of the safety expectations of the course, or as tools to assess the student's knowledge and understanding of safety. It is recommended that all teachers keep a record of all test or assignment results and/or passports (next section) as verification of each student's understanding of safe concepts and practices.

The equipment and safety practices in individual facilities will determine how a teacher can best use these resources in the teaching of safe work practices. As well, with the SafetyNET resources online at OCTElab, there are additional resources always being updated, and available for download in .zip files.

NOTE:

All materials within this document are to be considered as suggestions and recommendations only. These are not legal documents and are not to be considered as legal requirements or as official policy. OCTE or the individual contributors makes no claim to the accuracy or the completeness of the enclosed documents and accepts no responsibility for any damages pertaining to their use. Users of this document should not assume all warnings and precautionary measures are contained herein, that additional information or measures are not required, or that local by-laws, regulations or Board policies are explicitly included.

Please see specific equipment manuals for further safety information, as well as local, Board and school policies and regulations. Please review exemplar TCJ OCTElab SafetyNET resource documents for experienced teacher tips and customization options for your course projects.

GENERAL SAFETY QUIZ

The following are True or False questions. Write T for true or F for False for each question.

___ 1. If you are uncertain about something in the shop, it is okay to ask a peer.

___ 2. All injuries must be reported to the teacher immediately.

___ 3. Shop equipment needs to be cleaned only at the end of the period each day.

___ 4. It is okay to bring a drink into the shop as long as none of the equipment is running

___ 5. Carrying a tool in your pocket is okay as long as you don't remove it from the class.

___ 6. It is okay to talk to a person while they are using a piece of equipment, as long as you do not distract them.

___ 7. It is okay to use a flat screwdriver to scrape some old paint off of a piece of wood.

___ 8. The first aid kit is stored in the school main office so no one steals the contents.

___ 9. A class "D" fire extinguisher is a must in a construction shop.

___ 10. Once you've received your equipment passport you may use the equipment any time without permission

___ 11. Minor injuries need not be reported.

___ 12. If a machine does not work, report it to the instructor.

___ 13. At all times, if you are in doubt of how to use equipment, ask someone who is licensed (passport).

___ 14. All guards must be in place and properly working before using the equipment.

___ 15. As long as no one is using the equipment after you, leave it running until you need it again.

___ 16. Safety equipment is necessary only when power is on.

___ 17. A safety zone is an area where shop rules do not apply.

___ 18. Long hair must be tied back before using any power tool.

___ 19. Before working in a construction shop you should know the location of the emergency exits.

___ 20. Any adjustments to a machine must be made with the power off and/or locked out.

HAND TOOLS QUIZ

Name:_____

Date:_____

1. Hand tools in _____condition are responsible for many injuries.

2. After use, _____and return the tool to its proper place.

3. All _____should be removed before beginning work.

4. _____ _____ _____ are the cause of many accidents. Use only sharp tools that are in good condition.

5. Always push a wood chisel _____from yourself.

6. Keep _____ hands on the chisel, unless striking it with a mallet.

7. Use the _____ tool for the job.

8. Always use a file with a _____. Protect your hand from serious injury.

9. Wear _____ _____whenever you use striking tools.

10. Never _____behind a person swinging a hammer.

WORD BANK:

eye protection, both, blunt cutting tools, handle, stand, poor,

clean, away, jewelry, proper

Mitre (Chop) SAW QUIZ

Name:_____

Date:_____

1. Ensure the mitre saw is attached to the work surface with _____ or bolts.

2. Remove all _____ and tie back _____ hair.

3. Your body should be _____ of blade assembly.

4. Ensure the blade clears the _____ before cutting.

5. Always use your _____ hand to operate the trigger.

6. Ensure the _____ is functioning correctly before operating the saw.

7. When making _____ cuts ensure the blade has adequate clearances.

8. _____ pieces should be supported.

9. Watch for _____ when cutting small pieces.

10. Keep your _____ _____ clear of the blade path when cutting short pieces that cannot be clamped down.

WORD BANK:

kickbacks, long, left hand, clamps, jewelry, left, right, guard, angular, stock ,long

JOINTER QUIZ

Name:_____

Date:_____

1. Always wear _____ glasses when using this machine.

2. Never _____ part way through a cut.

3. Check the _____to make sure there are no nails, stones, or loose knots.

4. Check the _____. Make sure it returns to cover the blades.

5. Always use a _____ block or push _____.

6. Get _____ when working on large pieces.

7. Always push your wood _____ the guard so that it can return and _____ the blades.

8. Stand _____ of the path of a kickback.

9. Never joint boards shorter than _____ or thinner than _____.

WORD BANK:

safety, board, cover, ½", assistance, stop, guard, stick, push, beyond, clear, 12 inches

SURFACE PLANER QUIZ

Name:_____

Date:_____

1. Check the floor for any _____.

2. Do not plane _____ boards at the same time.

3. Do not take off too much at once, max _____ for each pass.

4. For most planning, you start the machine at the _____ _____ setting.

5. Use a _____ stick when necessary.

7. Make sure you put on your _____ _____ before starting the machine.

8. Assume a position with your body _____ of a possible kickback.

9. Remove all _____ and tie back _____ hair.

10. Before investigating any jammed pieces _____ the power off and _____ till the cutters have stopped spinning

WORD BANK:

Hazards, clear, wait, one inch, two, push

safety glasses, shut, long, jewelry

(Teacher – add the max that can be removed in one pass)

SCROLL SAW QUIZ

Name:_____

Date:_____

1. Wear _____ glasses when using this machine, and put them on _____ starting it.

2. Do not push too _____ when cutting. It will only lead to _____ cuts.

3. Ensure the correct _____ is set for the machine.

4. Try to make _____ cut first.

5. Keep your fingers out of the _____ of the blade.

6. Always cut on the _____ side of the line. This allows you to sand to the _____ which is much more accurate.

7. _____ your cuts carefully. Sudden twists can cause the blade to _____ and _____.

WORD BANK:

Safety, poor, before, break, waste, speed, bind

hard, short, path, line, plan

DRILL PRESS QUIZ

Name:_____

Date:_____

1. Always operate the drill press from the _____, never from the _____.
2. Make sure your _____ _____ are on before you start the machine.
3. Make sure all _____ clothes and long _____ are restrained.
4. Choose a drill bit that is _____ and in good condition.
5. Remove the _____ _____ from the chuck before starting the machine.
6. Check for the proper _____ for the drill size and material you are working on.
7. _____ the work securely before drilling when using a large diameter drill bit.
8. Never attempt to _____ a piece of work if it slips from the clamp.
9. Always make sure the drill press has _____ before attempting to change speeds.
10. If the drill sticks in the work piece, _____ _____ the motor and rotate the chuck by _____ to free it up.
11. Always clear away _____ and curls with a _____ not with your hands.

WORD BANK:

sharp, hair, chips, brush, stopped, turn off, hand, loose, chuck key speed, clamp, grab, front, side, safety glasses

DISK SANDER QUIZ

Name:_____

Date:_____

1. Wear _____ goggles or glasses.

2. Only sand _____ curves.

3. Check the _____ of the disk. Work on the downward side of the motion.

4. Use a crepe block on the disk to _____ and _____ the disk from rotating.

5. Only one person _____ the machine at a time.

6. Remove _____ and tie back _____ hair.

7. Let the work _____ on the table and do not force it into the disk or the belt.

8. Keep your _____ away from the edge that contacts the sandpaper.

WORD BANK:

safety, clean, jewelry, long, rest, fingers, rotation
operates, outside, stop

SPINDLE SANDER QUIZ

Name:_____

Date:_____

1. Do not use if the sandpaper is _____ or looks loose.

2. When full of sawdust, _____ with a crepe block.

3. Never sand _____, only wood or plastic.

4. Only one person _____ the machine at a time.

5. This sander sands _____ curves.

6. Let the work _____ on the table and do not force it into the spindle.

7. Keep your _____ away from the sandpaper.

8. It is best to work from _____ to _____.

WORD BANK:

Torn, inside, fingers, right, operates, clean, metal, rest, left

ROUTER TABLE QUIZ

Name:_____

Date:_____

1. When using the fence, the work piece moves from _____ to _____.

2. Never let _____ of your wood during a cut.

3. Make a _____ cut on a piece of scrap if you are not sure the router is set up appropriately.

4. If you cut too _____, you will have a rough edge. Be careful and don't push your wood too quickly. Let the machine _____ properly.

5. Ensure that the _____ _____ is set to ¼" above your work piece.

6. Let the work _____ on the table. Never freehand cut.

7. Keep your _____ away from the router bit.

8. If your work is _____ it's because you're moving your wood too slowly.

WORD BANK:

Left, go, fast, right, rest, test, cut, burning

plastic guard, fingers

ROUTER QUIZ

Name:_____

Date:_____

1. Always use _____ hands when using a router.

2. Don't let go of the router until the _____ _____ has come to a complete _____.

3. Make a _____ cut on a piece of scrap if you are not sure the router is set up appropriately.

4. If you cut too _____, you will have a rough edge. Be careful and don't push your wood too quickly. Let the machine _____ properly.

5. Whenever possible start by cutting _____ the grain.

6. Make sure your work is secure. Either on a _____ mat, or on _____.

7. Keep your _____ away from the router bit.

8. If your work is _____ it's because you are moving your wood too slowly.

WORD BANK:

Two, against, stop, fast, carpet, router bit, burning test, cut, non-slip, fingers

BAND SAW QUIZ

Name:_____

Date:_____

1. When using the band saw, _____ _____are required when cutting tight curves.
2. You should adjust the _____ _____ above the work before beginning to cut.
3. Narrow blades are best suited for cutting _____ curves, _____ ones are best for straight cuts.
4. When cutting with the band saw, the blade should cut on the _____ side of the pencil line.
5. When using the band saw, plan your cuts carefully. Saw curves gradually. Sudden twists will cause the blade to _____ or _____.
6. When using the band saw, keep your hands _____ or _____ the blade. Never in front.
7. Always support _____ pieces.
8. Use _____ sticks on small pieces.
9. Use a piece of wood to help _____ pieces of scrap from around the blade.

WORD BANK:

relief cuts, waste, behind, push, upper guide, break, sharp, wide
bind, beside, long, remove

WOOD LATHE QUIZ

Name:_____

Date:_____

1. Ensure you material is _____ before starting.
2. Hold your chisel _____ but not too tight.
3. _____ your chisel into the wood.
4. Plan your _____ in advance. And keep in mind that simple is often better.
5. If you are experiencing a lot of _____, turn off the machine and tell the teacher.
6. Check your chisels for _____ before starting your work. Your chisels should be sharp. If in doubt show the teacher.
7. Always sand from the _____ of your wood, not over the top.
8. Be careful to keep the chisels away form the _____ _____ when cutting.

WORD BANK:

Secure, nicks, ease, vibration, face plate, firmly, design, bottom

TABLE SAW QUIZ

Name:_____

Date:_____

1. Wear _____ goggles or a face shield.

2. Secure _____ position before you begin cutting.

3. Check the _____ of the blade.

4. Make sure the splitter and anti _____ teeth are in place.

5. Use a _____ stick.

6. Get _____ when working on large pieces.

8. Stand _____ of the path of a kickback.

9. Remove _____ and tie back _____ hair.

10. Never use the _____ when crosscutting with the mitre gauge or crosscut sled.

11. Use a _____ gauge or crosscut sled when crosscutting.

12. Never cut _____. Always use the fence or mitre gauge.

WORD BANK:

Fence, safety, assistance, height, fence, push, freehand
mitre, clear, jewelry, long, kickback

RADIAL ARM SAW QUIZ

Name:_____

Date:_____

1. 1. Be sure to cut on a _____, and pull the blade only just far enough to cut through your stock.
2. Check the wood for _____ _____ and metal or any other debris.
3. Do not remove your work piece, or pieces of scrap from the table, until the blade has _____ spinning.
4. If a guard _____ during a cut, turn off the saw and notify your teacher. Do not unjam the guard yourself.
5. Make sure the machine is _____ while lining up the blade for a cut or while making changes to the setup.
6. Never measure your wood with the saw turned _____.
7. _____ use the radial arm saw for making rip cuts.
8. This is a _____ machine. Do not use your Left hand to pull the blade towards you and never let your arms cross when operating this machine.
9. When cutting short pieces, keep your hands at least _____ from the blade travel path.
10. When finished, secure the motor housing so it can't _____.

Word Bank:

loose knots, ON, move, pull-stroke, jams, Right-handed,

stopped, OFF, never, 6 inches

STROKE SANDER QUIZ

Name:_____

Date:_____

1. Always wear _____ when using this machine.

2. Before turning on the sander, ensure the table moves _____ by pushing and pulling on the table. It should run smoothly on its tracks and not _____ against anything.

3. Do not apply excessive force on the sanding _____. Apply light pressure to allow the machine to work _____.

4. Do not change work pieces while the belt is still _____. Ensure each piece fits properly _____ the sanding belt.

5. Ensure that the dust collector is turned _____ before using the stroke sander.

6. If your work piece does not have a flat edge to rest against the _____ (i.e., a round table top), use the correct jig to ensure it does not move during sanding.

7. Inspect the belt before using. Only use the sander if the belt is in _____ condition. If it has tears or is excessively worn do not use and inform the teacher.

8. Only sand _____ _____ or veneers with the stroke sander. Do not sand MDF, particle board, melamine, metal or other such material.

9. Raise or lower the table so that there is a _____ of space between the sanding belt and your work piece.

WORD BANK: running, plate, on, solid wood, properly
¼ inch, under, bump, good, fence, freely, safety glasses

CNC ROUTER QUIZ

Name:_____

Date:_____

1. Wear _____ _____ whenever around a CNC machine that is in operation.
2. Stand _____ from the CNC while it is operating.
3. Never try to _____ the material while the machine is running.
4. Secure your work securely to the CNC table with _____ or _____.
5. Ensure that any clamps or jigs will not interfere with the _____ of the gantry or router.
6. Never leave the machine running _____.
7. After running your program, be sure to _____ the CNC table and _____ of all debris.
8. Whenever possible do a _____ run of your program with the router turned _____, and before putting your material on the table.
9. Be aware of _____ _____on the CNC router. Keep fingers and material clear of these points.
10. Keep the CNC table _____ of material not being machined, and that nothing has been placed near the CNC that will be hit by the gantry.

WORD BANK: trackways, back, clear, safety glasses, off, jigs, test unattended, adjust, clamps, clean, movement, pinch points

BELT DISK/SANDER QUIZ

Name:_____

Date:_____

1. Ensure that _____ are tucked in, roll up _____, remove jewellery, and tie back _____ hair.

2. Do not apply excessive _____ toward the disc or belt. Use a light touch and let the _____ do the work.

3. Do not operate this machine if the sand paper is _____ or torn in any way (belt or disk).

4. Make any _____ to the table and fences with the power off.

5. Never leave the machine while it is still _____ – make sure the belt/disc comes to a complete stop before leaving.

6. Sand only dry wood or plastic. Never sand _____.

7. Sand only on the _____ rotation of the disc, and keep your work firmly on the machine table.

8. When done sanding use a _____block to clean the sandpaper.

WORD BANK:

shirts, long, machine, adjustments, crape,

down-side sleeves, metal, force, ripped, running

SHAPER QUIZ

Name:_____

Date:_____

1. Slip-knives should _____ be used.
2. Always position the _____ fence so that it will support the work that has passed the cutters.
3. The cutter should not be _____ during a cut.
4. Ensure the correct _____ (RPM) is set for the cutter is being used. The larger the cutter, the slower the RPM.
5. Check the _____ of the shaper you are using and always feed _____ the rotation of the cutter.
6. Use feather boards, fixtures, jigs, _____ _____, and clamping devices whenever possible to avoid _____ onto the stock directly.
7. Whenever possible cut _____ the grain and not _____ it.
8. Do not shape stock less than _____ long.
9. Never _____ a cut that didn't fully cut. Always maintain the feed against the rotation of the cutter. Make _____ passes if necessary.
10. Do not shape _____, panel board or any stock containing nails, paint or varnish.

WORD BANK:

never, outfeed, speed, backup, chipboard, against, with, 10 inches, additional, push blocks, against, exposed, rotation, holding

AIR TOOLS QUIZ

Name:_____

Date:_____

1. Always wear _____ _____ when using a pressurized tool or air nozzle.

2. Never use compressed air to blow dirt and dust from a person's _____. This can be potentially fatal.

3. Never use compressed air to blow _____ from clothing.

4. Do not _____ compressed air at yourself or anyone else.

5. Check to make sure your hose is not a _____ hazard or that it is at risk of being damaged.

6. Before _____ tools, turn air supply off and bleed the remaining air from the line slowly.

7. Do not carry an air tool by the _____.

8. Do not leave an air tool connected when you are finished working. _____ the tool and return to toolbox/teacher.

9. Do not pull at the hose _____. It may be caught on a snag and pulling hard may cause _____.

10. Ensure the air _____ in the hose does not exceed the maximum for the tool you want to use.

WORD BANK: safety glasses, trip, skin, excessively, pressure, dust, damage disconnect, point, hose, disconnecting

DRUM SANDER QUIZ

Name:_____

Date:_____

1. Tuck in _____, roll up _____, remove jewellery, and tie back _____ hair before beginning work.

2. Do not operate the machine if the sanding paper is _____ or _____ in any way.

3. Turn the dust collector on _____ using this machine.

4. _____ leave the machine running unattended.

5. Remove all _____ from the sander's table and floor before working.

6. If there is burning on your wood when it comes out of the sander, inform your teacher. This is often caused by _____ worn sandpaper.

7. Know your maximum and _____ sanding thicknesses, and do not attempt to remove too much material in one pass.

8. Never push or _____ the wood into the sander, use firm but gentle pressure and allow the sander grab and feed the lumber.

9. Sand only wood or plastic, never _____.

WORD BANK:

long, torn, never, shirts, ripped, minimum, metal

sleeves, before, unevenly, sawdust, force

EDGE SANDER QUIZ

Name:_____

Date:_____

1. Remove all _____ from the sander and floor before and after sanding.
2. Sand only dry wood or plastic. Never sand _____.
3. Keep your work _____ against the table. Do not freehand sand.
4. Do not apply _____ force toward the belt. Use a light touch and let the machine do the work.
5. If the belt is _____ against the machine housing, turn the sander _____ and inform the teacher.
6. Do not adjust the tracking of the belt without the direct _____ of the teacher.
7. Never leave the machine running or _____– make sure the belt/disc comes to a complete _____ before leaving.
8. When done, use the crape block to _____ the sandpaper.

WORD BANK:

metal, sawdust, off, excessive, clean, unattended,

firmly rubbing, permission, stop

MORTISING MACHINE QUIZ

Name:_____

Date:_____

1. Always wear your _____ _____ when using this machine.
2. Never _____, modify or disable safety guards.
3. Be certain that the chisel is _____ and properly adjusted before turning on the power.
4. Use a _____ to check that the chisel is parallel with the fence before using the machine.
5. Check the_____ _____, stops, and _____ of chisel before turning on the machine.
6. Make sure _____ keys and Allan keys are removed before operating the machine.
7. If the chisel becomes stuck, turn _____ the mortiser and get assistance from the teacher.
8. Stop using the mortiser if the _____ is smoking in the cut.

WORD BANK:

remove, safety glasses, chuck, square, depth, chisel, off, sharp, hold downs

BENCH/PEDESTAL GRINDER QUIZ

Name:_____

Date:_____

1. Make sure bench grinders are _____ to the work surface before using.
2. Remove any _____ materials from the area.
3. Ensure that the work rest for the grinding wheel has a maximum clearance of _____ from the grinding wheel.
4. Be sure to use the chip/spark shield – if it is dirty, _____ it so you can see through the Plexiglas.
5. Ensure that the work rest is in a position _____ the centre line of the grinding wheel.
6. Do not use wheels designed for steel on porous materials like _____ or plastics.
7. Ensure that the wheel is not _____ in any way (e.g., chipped or cracked).
8. Do not use _____ or sudden motions when grinding - bring work slowly and _____ into contact with the disc.
9. Do not grind on the _____ side of a straight wheel.
10. Apply gradual pressure to allow the wheel to warm up _____. Use only the pressure required to complete the job.
11. Move the work back and forth across the wheel face. This helps prevent _____ from forming.

WORD BANK:

secured, 3 mm, bumpy, flat, flammable/combustible, damaged, above, clean, wood, smoothly, grooves, evenly

AIR NAILER/STAPLER QUIZ

Name:_____

Date:_____

1. Always wear safety glasses when using a _____ tool.
2. _____ point an air tool at someone.
3. Do not carry an air tool by the _____.
4. Do not pull at the hose excessively. It may be caught on a _____ and pulling hard may cause _____.
5. Do not leave an air tool _____ when you are finished working
6. Never pull the trigger unless the tool is _____ against a safe work surface. Never carry a tool with the trigger _____.
7. The fastener can change _____ after entering your wood. Grain, knots, and other irregularities redirect the fastener. Keep your _____ away from the area being nailed.
8. Ensure that the nail/staple loaded in the tool is the correct _____ for your use.
9. Whenever possible use _____ or _____ to hold the work you are nailing/stapling.
10. Each nail or staple should be fired with its own _____ _____. Do not pull the trigger then _____ the tip of the tool multiple times.

WORD BANK:

bounce, never, hose, clamps, resting, snag, length, pressurized, pulled, damage, fingers, direction, connected, jigs, trigger pull

GENERAL – PORTABLE POWER TOOLS QUIZ

Name:_____

Date:_____

1. Inspect tools for any _____ prior to each use.
2. Inspect the _____ for cracks and for missing, loose or faulty _____
3. If a tool seems defective, notify your teacher immediately. Do not use defective tools _____.
4. Switch tools _____ before connecting them to a power supply or before making adjustments.
5. _____ work securely when practical to do so.
6. Do not unplug a tool by _____ or jerking the cord from the outlet. Pull the plug, not the cord when unplugging a tool.
7. Keep _____ _____ away from heat, water, oil, sharp edges and moving parts.
8. Do not carry electrical _____ by the power cord.
9. To protect cords from being run over, they should be in conduits or protected by placing _____ on each side of them.
10. Do not surprise or touch anyone who is operating a tool. _____a tool operator could end up causing an accident or injury.

WORD BANK:

prongs, power cords, damage, clamp, plug, tools, pulling off, startling temporarily, planks

GENERAL – CORDLESS PORTABLE POWER TOOLS QUIZ

Name:_____

Date:_____

1. Use only the _____ that the tool manufacturer specifies for the tool that you are using.

2. Recharge a battery _____with a charger that is specifically intended for that battery.

3. Store a battery pack safely so that no metal parts, nails, screws, wrenches and so on can come in contact with the battery _____ (place a cap on the battery terminals).

4. If the tool has auxiliary or double_____, check to see that they installed securely.

5. If a tool is defective, notify your teacher_____. Do not use defective tools.

6. Do not walk around with a finger touching the _____switch.

7. Do not use cordless tools in _____ conditions.

8. Clamp work _____ when practical to do so.

9. Do not clean tools with _____or toxic solvents.

WORD BANK:

battery securely terminals wet immediately
flammable only power handles

RECIPROCATING SAW QUIZ

Name:_____

Date:_____

1. The reciprocating saw can be used to cut metal, pipe, wood, _____wood and other materials
2. Disconnect _____ supply before changing or adjusting blades.
3. Secure and support stock as _____as possible to the cutting line to avoid _____.
4. Keep the base or shoe of the saw in _____contact with the stock being cut.
5. To minimize blade flexing and provide a smooth cut, use the _____blade that will do the job but will extend _____the work piece throughout the stroke.
6. Do not _____the saw along or around a curve. Allow the machine to turn with ease.
7. Maintain control of the saw always. Avoid cutting _____shoulder height.
8. When cutting metal, choose a blade that will allow for at least _____blade teeth to be in the material at all times.
9. Never hold a workpiece in your _____or across your _____when sawing.

WORD BANK:

power beyond vibration three above leg shortest

nail-embedded close firm force hand

JIG SAW QUIZ

Name:_____

Date:_____

1. Disconnect power supply before _____or adjusting blades.
2. Keep in mind that the jig saws cut on the _____stroke (towards the saw)
3. Secure and support stock as _____as possible to the cutting line to avoid_____.
4. Keep the base or shoe of the saw in _____contact with the stock being cut.
5. Before turning on the saw, make sure that the blade is not in _____with the material.
6. Do not insert a blade into, or withdraw a blade from, a cut or lead hole while the blade is_____.
7. NEVER_____. Always maintain balance and solid_____.
8. Do not reach or around the stock being cut.

WORD BANK:

close firm under changing moving up footing

vibration contact overreach

CIRCULAR SAW QUIZ

Name:_____

Date:_____

1. Be aware of the _____of the blade and keep the cord away from the blade and kerf.
2. Set the depth of cut _____ ____ _____greater than the thickness of the stock. Less than a _____tooth should be visible below the workpiece.
3. Always rest the larger portion of the saw's _____on the supported portion of the workpiece and allow the unsupported portion to fall away.
4. Grip saw with _____hands, keeping hands away from the blade.
5. Support large panels so they will not _____the blade.
6. Portable circular saws are not designed for cutting _____, or trimming trees.
7. Be very cautious of stock which is pitchy, knotty or warped. These are most likely to create pinching conditions and possible_____.
8. Never hold a workpiece in your hand or _____ your leg when sawing.
9. Never remove the saw from a cut while the blade is_____.
10. Never reach _____ the saw or workpiece. The blade is exposed under the workpiece and the saw guard cannot protect your body here.

WORD BANK:

full path both logs rotating 1/8" to 1/4" kickback

baseplate pinch across under

VERTICAL PANEL SAW QUIZ

Name:_____

Date:_____

1. Wear safety glasses, tie back long hair, and tuck in loose _____ before operating the saw.
2. Prior to using the vertical panel saw, check to see that the guards are in place, secured and working correctly. If in doubt, stop and ask your _____.
3. Keep the floor around the machine clean and free of scrap_____. Ensure others are a safe distance from the work area prior to starting the saw.
4. Give your work your _____ attention. Always stand firmly on the ground and avoid awkward operations while using the vertical panel saw.
5. Feeding the material through the machine horizontally or moving the saw carriage through the material vertically must be done slowly, smoothly and without_____. Overfeeding will result in poor quality cuts, shorten the life of the carbide saw blades and overload the saw motor.
6. Caution must be used when setting material onto the material roller carriage. Heavy material must not be _____ onto the roller carriage. Failure to follow this rule will ultimately cause the roller carriage to be knocked out of alignment.
7. Panels being cut horizontally (ripping) must always be fed _____ the rotation of the saw blade. Note that the feed direction decal should be labeled on the saw carriage.
8. Do not _____ the saw. It will perform better and can be more easily and safely controlled if allowed to work at the rate for which it was designed.
9. If the saw is stopped mid-cut, allow the blade to _____. Then back up the saw (if crosscutting) or the board (if ripping) and restart the saw to continue the cut.
10. Thin material, such as paneling, should be properly supported over its length to prevent _____ on the blade.
11. Panel Saws are designed to cut large panels down to size. As the overall panel size becomes smaller and smaller, other types of sawing machines can become more convenient and _____to use.
12. Never leave the machine running _____. Turn the power off and do not leave the machine until it comes to a complete stop.

WORD BANK:

stopping instructor clothing undivided force dropped against material unattended binding safer stop

HAND TOOLS QUIZ

Name:_____

Date:_____

1. While using hand tools wear _____ _____and PPE when appropriate.
2. Select the right _____for the job. _____increase the chance of having an accident.
3. Use good quality tools and keep tools in _____condition at all times.
4. Do not use cracked, splintered, or _____handles on files, hammers, screwdrivers, or sledges.
5. Pull on a wrench or pliers. Never _____unless you hold the tool with your palm open.
6. Do not apply _____force or pressure on tools.
7. Do not cut _____ yourself when using cutting tools.
8. Do not carry a _____ tool in your pocket.
9. Do not wear _____ _____ to operate hand tools.

WORD BANK:

substitutes sharp bulky gloves broken excessive towards

safety glasses tool good push

HAND POWER PLANER QUIZ

Name:_____

Date:_____

1. Wear safety glasses and use the appropriate _____ protection.
2. Disconnect the planer from the _____ _____before making any adjustments to the cutter head or blades.
3. Do not _____. Keep proper footing and balance.
4. Do not set a planer down until the blades have _____ turning.
5. Ensure that the blade-locking _____are tight.
6. Start a cut with the _____ table (front shoe) resting firmly on the stock and with the cutter head slightly _____the edge of the stock.
7. Support the material (stock) in a comfortable position that will allow the job to be done _____and_____.
8. Use blades of the same weight and set at the same _____.
9. Use _____hands to operate a planer - one hand on the trigger switch and the other on a front.

WORD BANK:

hearing screws overreach power supply stopped infeed

two handle accurately behind safely height

HAND DRILL QUIZ

Name:_____

Date:_____

1. Select the bit or attachment _____for the size of the drill and the work being done.

2. Do not reach _____or around stock being drilled.

3. When changing bits in a keyless chuck, _____ _____pull the trigger while holding the chuck. Rotate the chuck by_____.

4. Use the auxiliary (second) handle for _____work or continuous operation.

5. Always use drill bits that are _____and turn true (spin straight).

6. Secure workpiece being drilled to prevent _____.

7. Slow the rate of feed just before _____ through the surface.

8. When cutting _____pieces, clamp stock so work will not twist or spin. Do not drill with one hand while _____ the material with the other.

9. Do not attempt to free a _____bit by starting and stopping the drill. Unplug the drill and then _____the bit from the workpiece.

10. When changing bits, tighten the chuck securely and ensure you remove the _____ _____ before starting drill.

WORD BANK:

sharp suitable larger movement hand under DO NOT

jammed breaking holding remove small chuck key

Activity #1 Shop Layout

Overall Expectation:
A3 – Use correct terminology to describe woodworking materials, tools, equipment.
B1 – Apply a design process and other problem solving processes taking into account safety standards and other relevant factors.

Using a ruler, draw a neat floor plan of the construction shop on a separate piece of paper. On this plan, you must identify the following.
Check off each item as you go to ensure that you have covered everything:

Knowledge / Understanding (accuracy)	/30
Communication (labeling)	/20
Practical (drawing)	/25

(Ensure that all areas of your shop are covered here)

1. Entrance and exit doors
2. Identify safety exits
3. Fire extinguishers
4. Fire alarm pull station
5. First aid kit
6. Eyewash station
7. Power shut off or emergency stop buttons
8. Work benches
9. Hand tool storage area
10. Power tool storage area
11. Student Project storage area
12. Chemicals, paints, solvents storage cabinet
13. Sinks
14. Drill press
15. Table saw
16. Band saw
17. Mitre saw
18. Jointer
19. Surface Planer
20. Scroll saw
21. Drum sander
22. Belt sander
23. Downdraft sanding table
24. Router table
25. Dust collector power button
26. Staining table
27. Hardware storage (nails, screws, etc)

Activity #2 – Power Tool Institute (PTI)

We have found a valuable resource which has been developed by a consortium of power tool companies and they have put together some safety videos and lesson plans for teachers. You can access their website, to either order a teacher package or you can access the videos directly from their site. There is an online order form for the teacher package which you fill out and then the package is delivered free of charge.

Below is a worksheet that was developed by a teacher and is to be answered while watching the Tablesaw Safety video from the PTI website or DVD which comes with the package.

Power Tool Institute "Table Saw Safety" Video

NAME: _____

1. When and why do most table saw accidents occur?

2. Name the two types of through cuts.

3. Define both and explain how they are performed.

4. Name the three types of non through cuts.

5. Define both and explain how they are performed.

6. What is a feather board?

7. What is kick back?

8. What are the major causes of kickback?

9. Where should you be standing when working at the table saw?

10. What does a guard system include?

Power Tool Institute "Table Saw Safety" Video - ANSWERS

1. When and why do most table saw accidents occur?

Not using it properly

2. Name the two types of through cuts.

Rip, and cross

3. Define both and explain how they are performed.

Rip is you cut with the grain using the fence
Cross cut is across the grain and you use a mitre gauge

4. Name the three types of non through cuts

Dado, rabbet, groove

5. Define both and explain how they are performed.

Dado & groove are used in cabinet construction for more strength. Performed with guard off.
Rabbet – consisted of 2 cuts.

6. What is a feather board?

Is used when ripping wood. Clamped to table saw. Presses the wood firmly against fence

7. What is kick back?

Kick back is when the piece of board or wood you are cutting on the table saw and it binds or catches and shoots the wood backwards.

8. What are the major causes of kickback?

Not having the guard on.

9. Where should you be standing when working at the table saw?

In front of it so you can push the stock freely.

10. What does a guard system include?

Blade guard, kick back, and splitter

Activity #3 – Red Zone Assignment

Construction Technology

RED ZONE ASSIGNMENT

Being a Responsible Student Means….

By: _____

School Name
Construction Technology
Teacher
Phone Number

Your child received this assignment for the following reason(s);

- **For not completing his/her homework (three times).**
- **For disrupting the class.**
- **For being disrespectful to another student or teacher.**
- **For not respecting classroom/shop rules or failing to work safely.**
- **For vandalizing or causing damage to school property.**
- **Defiance**

Other:

Teacher's comments:

_____
_____
_____
_____
_____
_____
_____

THE RED ZONE ASSIGNMENT

Construction Technology

Student: _____ Date:_____

Assignment #1

Teacher: _____

Title: RED ZONE ASSIGNMENT

Format: 1) This essay will contain your own ideas on the topic given below

2) This is to be done in your own handwriting

3) Your essay must be written in ink only (blue or black)

4) This essay is to be written on one side of standard 8 1/2" x 11 sheet of lined binder paper

5) This essay is to be written on every other line

6) This essay is to be a minimum of 3 pages long (front side of three pages)

7) The essay is to be signed by one parent/guardian

8) The title page is to be completed and signed by your parent/guardian

Topic: *Being a responsible student means…*

Marking Scheme:

Introduction:	- Explain why you are writing this essay	/5
	- How you were irresponsible	/5
Body:	- Define a responsible student	/5
	- Explain why it's important to be a responsible student	/5
	- Explain how you will become a more responsible student	/5
Appearance	- Your handwriting in ink	/5
	- Double spaced, one side of paper	/5
	- Required length	/5
	- Spelling and Grammar	/5
	- Correct title page	/5

TOTAL **/50**

To be handed in to (Teacher) before or on your next Construction Technology class, otherwise you are to go to work in Student Services until this assignment is complete.

Student must hand in a Quality Assignment to be accepted back into the course.

Please note: If students continue to be safety risks or if they continue to disrespect the rules of the Your school Construction Technology program (after being given this assignment) they will be removed from the program for their safety and the safety of others.

Construction Technology

Red Zone Assignment

Being a Responsible Student Means…

By

_____

Student's Name

(Your School)

Construction Technology

(Teacher)

Home School:_____ **Date:**_____

I have reviewed my child's assignment and believe it meets the criteria given.

Parent/Guardian Signature:_____

Teacher's Signature:_____

Principal's Signature:_____

SECTION 4: SAFETY PASSPORTS

SECTION OVERVIEW

This section contains Safety Passports, which provide a means to track individual student safety knowledge and skills. These Safety Passports insure that students have passed the required safety tests and understand the safety procedures and rules specific to the tools and equipment. It is recommended that all teachers keep records of signed passports at all times.

Safety Passports may be signed by teachers, parents and students before working on any workshop machine or tool. Signing signifies completion of safety training and testing. There are three variations; teachers may select the most appropriate method to suit their needs. Ensure that the selected safety passport addresses board and school safety policies.

Safety Record Card: for individual student, records their proficiency rating for each machine on one sheet.

Safety Passport: Form 1: single sheet for individual student and machine, has signature area and note area to be used in student notebook

Safety Passport Form 2: sheets for individual students listing machines, for teacher record book

Safety Passport Form 3: individual machine for each individual student, has line for parent signature to be used as a safety reinforcement or authorization, (see principal for permissions)

NOTE:

All materials within this document are to be considered as suggestions and recommendations only. These are not legal documents and are not to be considered as legal requirements or as official policy. OCTE or the individual contributors makes no claim to the accuracy or the completeness of the enclosed documents and accepts no responsibility for any damages pertaining to their use. Users of this document should not assume all warnings and precautionary measures are contained herein, that additional information or measures are not required, or that local by-laws, regulations or Board policies are explicitly included.

Please see specific equipment manuals for further safety information, as well as local, Board and school policies and regulations.

Student Conduct Agreement

Dear Parent/Guardian:

To ensure a safe environment, Students Must:

1. Inform teachers of all injuries, damaged tools and dangerous situations no matter how small.
2. Not compromise the safety of others through horseplay or aggressive action.
3. Only use equipment when properly trained, always with any necessary personal protective equipment, and when I fully understand all related safety issues.
4. Ask for assistance from the teacher when they are unsure of the proper procedures or health and safety issues.
5. Make sure all fire exits and power shutdown switches are used during emergency situations.

Prescribed and Non-prescribed Medications

Report any use of prescription medications and inform teachers of any possible side effects [penicillin, Phenobarbital, etc.]
2. Report any use of non-prescription medication and any possible side effects of the medication [Reactine, Benadryl, any cough syrups, etc.]
3. Never enter a shop or lab carrying, or under the influence of, alcohol or drugs.

Consequences for Improper Action

I understand that failure to comply with this agreement may result in injury to myself or others, and that failing to comply with safety procedures may result in my removal from the area, the project, or the class.

I, _____ have read these guidelines. I understand and will obey these rules at all times.

Student's Signature: _____ Date: _____

Parent's Signature: _____ Date: _____

If you have any questions or concerns regarding these policies please contact (teacher) at 000-000-0000 Extension 000.

Construction Shop Safety Agreement

Dear Parent/Guardian:

The following are the basic rules which the students must be aware of in order to function safely in this technical studies program.

1. Power equipment must **never** be operated unless an approved teacher is in the shop.

2. "Horseplay" will **not** be tolerated in the shop.

3. Safety glasses must be worn at **all** times.

4. Long hair, loose clothing and jewelry **must be** restrained or removed before entering into the workshop.

5. Use care and **common sense** when using and carrying any tool around the shop.

6. Never use a machine until you have personally been given instruction by the teacher about the use of that machine. If you are absent when instruction was given about the safe operation of the machine, **you must check personally** with the teacher for this information when you return.

7. Students must obey all the **safety rules** and guidelines for the machines in the shop, as well as general classroom rules.

8. All cuts and scratches **must be** reported to the teacher, and treated.

9. Use compressed air with caution. Wear eye protection and direct air away from eyes, skin and any part of the body. **Be aware of flying particles**.

10. Only one operator per machine is permissible, **do not** crowd around machines.

IF A STUDENT IS A DANGER IN THE CLASSROOM, HE/SHE WILL BE REMOVED FROM THE WORKSHOP!

I, _____ have read these guidelines. I understand and will obey these rules at all times.

Student's Signature: _____ Date: _____

Parent's Signature: _____ Date: _____

If you have any questions or concerns regarding these policies please contact (teachers email) or (administrators email).

Student Safety Record

Student Information	**Levels Chart**
Name: Date : Course:	**Level 1:** May set-up equipment only, Instructor must do the work. **Level 2:** Use only with an instructor's assistance. **Level 3:** Full use with an instructor standing by to supervise. **Level 4:** Full use of machine with an instructor's permission. (**Note:** Lower levels can be upgraded to higher levels with further instruction, practice and proof of competence. **All students** must have Instructor's permission before using any equipment.)

Stationary Equipment				**Hand & Assembly Equipment**			
Equipment	**Level**	**Sig.**	**Date**	**Equipment**	**Level**	**Sig.**	**Date**
Band Saw	1			Biscuit Cutter	1		
Scroll Saw	1			Hand Drill	1		
Drill Press	1			Router	1		
Disk/Belt Sander	1			Circular Saw	1		
Lathe	1			Jig Saw	1		
Miter Saw	1			Hand Jointer	1		
Grinder	1			Finish Sander	1		
Thickness Planer	1			Orbital Sander	1		
Jointer	1			Belt Sander	1		
Table Saw	1			Chisels	1		

Router Table	1			Hand Saws	1		
(list all tools)				Hand Planes	1		
				Files/Rasps	1		
				Spoke Shave	1		
				(list all tools)			

It is the responsibility of the student to insure that <u>prior</u> to using any piece of equipment they have been signed off at the appropriate level.

All students in grades 9, 10, 11 and 12 are assumed to be at a *<u>level 1</u>*, they must complete a practical test before moving levels. This document is to keep in your file at the front of the class all semester.

Technology Lab Safety Passport

The purpose of the safety passport is to ensure that students are fully aware of all safety features on each piece of equipment in the technical facility prior to using them independently.

The general process is as follows:

1. Teacher Demonstration: When the teacher introduces a new piece of equipment, the student records the date of the safety demonstration on their safety passport. This is to be initiated by the teacher (see sample below). The teacher demonstrates techniques for the safe operation and procedures, as well as use of personal protective equipment (e.g. eye protection, secure loose hair, remove jewelry, protective clothing, etc.). The teacher also carefully notes attendance.

2. Test: Each student should complete a written (or oral) test on the safe operation or procedure, outlining all safety features that must be observed. The individual tests are designed to complement any general facility safety rules. Upon successful completion of the test the student dates the “tested” column and teacher initials this as complete. **IMPORTANT NOTE: A copy of the test should be kept by the teacher.**

3. Student Demonstration: Students must demonstrate to the teacher that they have a thorough knowledge of the safety rules for the equipment and are able to demonstrate their competency on the equipment. Once the teacher has observed the required safe setup and operation of the equipment by a student, the teacher signs off that portion of their passport.

4. Once the student has completed #1, 2 and 3, the teacher signs the final column of the student's safety passport indicating they have permission to use that equipment or perform the procedures.

Note: Three forms are provided; Form 1 can be used as a student notebook form for each machine; Form 2 can be used for signing several machines per student. With the 2nd form, students keep safety notes on separate paper. The third form requires one sheet per tool per student, and may be used in the student notebook or kept on file by the teacher (or both).

Form 1- Teacher Copy

Student Name: ______________________ **Course/Class:**

Equipment/Procedure: ______________________							
Attended Teacher Safety Instruction and Demonstration (Notes recorded)		Passed Written or Oral Testing		Demonstrated Safe Set-up and Operation to Teacher		Granted Permission by Teacher	
Date of Lesson	Teacher Initial	Date Tested	Teacher Initial	Date of Demo.	Teacher Initial	Date	Teacher Initial

Equipment/Procedure: ______________________							
Attended Teacher Safety Instruction and Demonstration (Notes recorded)		Passed Written or Oral Testing		Demonstrated Safe Set-up and Operation to Teacher		Granted Permission by Teacher	
Date of Lesson	Teacher Initial	Date Tested	Teacher Initial	Date of Demo.	Teacher Initial	Date	Teacher Initial

Equipment/Procedure: ______________________							
Attended Teacher Safety Instruction and Demonstration (Notes recorded)		Passed Written or Oral Testing		Demonstrated Safe Set-up and Operation to Teacher		Granted Permission by Teacher	
Date of Lesson	Teacher Initial	Date Tested	Teacher Initial	Date of Demo.	Teacher Initial	Date	Teacher Initial

Form 2: Equipment/Procedure Passport

[EQUIPMENT/PROCEDURE]
General Conditions
Personal Protective Equipment
Possible Risk Factor
▪ The student has been trained on this equipment and procedure. ▪ The student understands the required personal protective equipment to operate this equipment and perform this procedure. ▪ The student is aware of the possible risk factors **Student signature** _____ **Teachers signature** _____ **Date of training** _____

Form 3 – Internet Use Passport

INTERNET USE PASSPORT

******TO BE USED AS AN EXAMPLE ONLY – PLEASE SEE BOARD/SCHOOL POLICY*****

General Conditions

Students must be trained on the safe and proper use of the Internet before they may begin using it. The student must demonstrate to the teacher knowledge of safe and secure procedures as outlined in the Internet Use Policy Document.

Personal Protection

- Knowledge of school and school board Internet Use Policy
- Never releasing personal information
- Avoidance of insecure and questionable sites
- Respect for self and others
- Awareness of security issues in communications technology

Possible Risk Factor

- Threats to personal safety and/or security
- Loss of privacy
- Threats to emotional security
- Spread of damaging computer viruses
- Damage to computer operating and networking systems

- The student has been trained on this equipment.
- The student understands the required personal protective equipment to operate this equipment.
- The student is aware of the possible risk factors

Student signature _____

Teachers signature _____

Date of training _____

Electrical Hazards Passport

Touching an exposed electrical wire or electrical equipment that has not been grounded properly causes shocks. Shock can vary from a slight tingle to a rocking jolt. A very severe shock can cause death. Do not touch equipment or electrical wires that have been exposed to fluids.

Protect yourself against shocks by following these rules:

1. Check the condition of electrical cords on equipment. Report all problems to your instructor immediately. Replace worn or damaged cords.

2. When disconnecting a cord, pull on the plug. Never pull on the cord. You may loosen the wires and get a shock.

3. Never handle electrical equipment with wet hands or while standing in water.

4. Wear rubber-soled shoes to prevent shocks. Rubber does not conduct electricity.

5. Be sure an appliance is turned off before plugging it into an outlet.

6. Make sure you use proper power supplies and cables designated for use with specific pieces of equipment.

7. Store all electrical equipment in areas designated by your instructor.

8. Never change or interfere with the operating environment set up by someone else without permission.

- The student has been trained on this equipment.
- The student understands the required personal protective equipment to operate this equipment.
- The student is aware of the possible risk factors

Student signature _____

Teacher's signature _____

Date of training _____

Hand Tools Passport

1. Hand tools in poor condition are responsible for a vast number of injuries
2. Wear EYE PROTECTION whenever using striking tools.
3. After use, clean and return tools to their proper place so they are always ready when you need them.
4. Never leave tools on the floor, a bench, or machine table where they could be forgotten and cause a hazard.
5. When tools become worn or damaged, they should be repaired or replaced. Do not use them and show them to your teacher.
6. Use chisels, knives, and blades that are sharp. Do not use blunt tools. Blunt cutting tools slip and can cause injuries.
7. Use tools only for their intended purpose. For example, screwdrivers should not be used as pry bars or chisels.
8. Never stand behind anyone who is swinging a hammer. Stand to the side.
9. Never crowd someone using a tool.
10. Always push cutting tools away from yourself, i.e. chisel, scraper
11. Only use tools that have proper handles attached that are in good condition.

- The student has been trained on this equipment.
- The student understands the required personal protective equipment to operate this equipment.
- The student is aware of the possible risk factors

Student signature _____

Teacher's signature _____

Date of training _____

General Machine Passport

1. Never operate a machine without the teacher's permission.
2. Wear Personal Protective Equipment (PPE) - safety glasses – whenever you use a power tool.
3. Put on your safety glasses before starting a machine.
4. No loose clothing, untied long hair or jewelry is allowed when using a machine.
5. Be aware of the position of the on/off switches and emergency STOP button before turning a machine on.
6. Make all adjustments to a machine with the power off and/or
7. locked out.
8. Make sure all guards are in place and properly adjusted.
9. Report any damage to guards immediately to the teacher.
10. Be sure to have firm footing when operating any machine.
11. Always operate machines from the front, never from the side.
12. Keep our hands beside or behind the blade; never in front
13. Do not leave a machine until the blade or bit has stopped.

- The student has been trained on this equipment.
- The student understands the required personal protective equipment to operate this equipment.
- The student is aware of the possible risk factors

Student signature _____

Teacher's signature _____

Date of training _____

Wood Jointer Passport

1. Check the board for foreign objects – such as nails or rocks.
2. Never joint stock containing loose or unsound knots.
3. Do not joint (edge) stock of pieces less than 30 cm (12") long, 2.5 cm (1") wide and 1.25 cm (1/2") thick.
4. Do not surface stock less than 30 cm (12") long, 20 cm (3/4") wide1.5 cm (5/8") thick.
5. Do not pass hands near or over the cutters.
6. Ensure the guard is installed and working properly.
7. Do not change the depth of cut without permission from the teacher. Depth of cut should be set to 1/16th or less.
8. Always use a push stick and/or push block. Never let a finger come within 10 cm (4") of the blade when running.
9. Never make "free hand" cuts on the jointer. Always use the fence. Ask for assistance when working with large pieces.
10. Always push the work well beyond the blade when finishing a cut so the guard closes back over the blade.
11. Never let go of your wood part way through a cut.
12. If the board jams while jointing, do not ever pull back on the front of the board.
13. Before investigating any jammed pieces, shut the power off and lock it out.
14. Turn the jointer off immediately if it does not sound right or if slivers of wood catch between the blade and table.

- The student has been trained on this equipment.
- The student understands the required personal protective equipment to operate this equipment.
- The student is aware of the possible risk factors

Student signature _____

Teacher's signature _____

Date of training _____

Planer (Surface Planer) Passport

1. Do not plane two boards at the same time.
2. Be sure your wood is free of foreign materials, nails, grit, dirt, loose knots or anything else that seems out of place.
3. Before investigating any jammed pieces, shut the power off and wait until the blades have come to a complete stop.
4. Never reach into the planer. Use a thin push stick when necessary to help push your wood through.
5. Keep fingers from under the stock while feeding or retrieving. This will prevent fingers from being pinched between the machine and board.
6. Stand clear of possible kickback – stand slightly to the side.
7. You should have a partner help. One person feeds the machine, while a second unloads the wood.
8. Make successive passes removing shallow amounts. Don't try and take too much off at once.

- The student has been trained on this equipment.
- The student understands the required personal protective equipment to operate this equipment.
- The student is aware of the possible risk factors

Student signature _____

Teacher's signature _____

Date of training _____

Scroll Saw Passport

1. Cut on the waste side of your pencil line! (sanding to the line is more accurate)
2. Do not set the speed too fast. When in doubt, slow the speed of the machine.
3. When using the saw do not force the piece by pushing too hard. Trying to cut too fast only results in a poor cut that is often far from your pencil line.
4. Keep fingers clear of the blade path.
5. Use both hands and keep fingers at least 10 cm. (4 in.) from the blade at all times.
6. Never pull or force a jammed piece through the equipment. Shut the power off and then carefully dislodge the piece.
7. If the blade is dull or broken, change it. Make all adjustments with the power off. Ask the teacher for help if needed.
8. Make sure the hold down is resting on the workpiece but not pushing down.
9. Plan your cuts carefully. Saw curves gradually. Sudden twists will cause the blade to bind or break. Use relief cuts if necessary.
10. Always make short cuts first.
11. Avoid backing out of cuts with the power on. Backing out of a cut may cause the blade to bind
12. If the blade breaks, turn the power off immediately and step back. Inform the teacher that a new blade needs to be put on the saw. Ask the teacher for help if necessary.
13. Remove scrap pieces from the table only after the blade has stopped.
14. Throw all scraps in the garbage and clean the machine of any sawdust before leaving.

- The student has been trained on this equipment.
- The student understands the required personal protective equipment to operate this equipment.
- The student is aware of the possible risk factors

Student signature _____

Teacher's signature _____

Date of training _____

Drill Press Passport

1. Select only drills that are sharp, in good condition and suitable for the job.

2. Remove the chuck key from the drill before starting the machine. Ensure that you are using a chuck key that has a spring safety device in the head.

3. When using large drill bits, before starting the machine, clamp work securely to the machine table. Attempting to hold the work under the drill with one hand can result in serious and painful injuries.

4. Do not force the drill bit into the wood. Pushing too hard or quickly, can cause drills to break or splinter with the chance of serious injuries.

5. If wood slips from your hand or clamp, never attempt to grab it with your hands. Turn off the drill and wait for it to stop spinning.

6. Never reach between the drill bit and the round drill press column. Your hand could get caught and your arm broken

7. When drilling round stock (dowel), use a V-block to hold the stock.

8. Always ensure that the machine has been switched off and came to a complete stop before you attempt to change drill bit or the speed belt.

9. If the drill sticks in the work, stop the motor and rotate the drill by hand to free it from the work.

10. Always clear away chips and curls with a brush, not your hands.

- The student has been trained on this equipment.
- The student understands the required personal protective equipment to operate this equipment.
- The student is aware of the possible risk factors

Student signature _____

Teacher's signature _____

Date of training _____

Disk Sander

1. This sander is for sanding outside curves. Do not use it to sand flat areas.
2. Sand only on the downward rotating part of the disk.
3. When working on small pieces, be careful to keep your fingers and knuckles away from the sanding disk.
4. Always keep your wood flat on the sanding table. Do not “freehand” sand!
5. Bed should be set no further than 1/8” from the sanding pad to reduce the risk from the pinch point.
6. Do not operate if the sandpaper is loose or torn.
7. Only sand wood and plastic. Never sand metal for any reason. If in doubt, see the teacher.
8. Do not apply excessive force toward the disc. Use a light touch and let the machine do the work.
9. Keep your work moving. If you don’t, you will get flat spots on your curves.
10. When done sanding, turn off the machine and use the crape block to clean the sandpaper.

- The student has been trained on this equipment.
- The student understands the required personal protective equipment to operate this equipment.
- The student is aware of the possible risk factors

Student signature _____

Teacher's signature _____

Date of training _____

Spindle Sander Passport

1. This sander is for sanding inside curves. Do not use it to sand flat areas.
2. Do not operate if the sandpaper paper is loose or torn.
3. Only one person at a time should be using this machine.
4. Sand only wood or plastic. Never sand metal.
5. When working on small pieces, be careful to keep your fingers and knuckles away from the sanding drum.
6. Do not apply excessive force toward the drum. Use a light touch and let the machine do the work.
7. Always keep your wood flat on the sanding table. Do not "freehand" sand!
8. Sanding from right to left produces the smoothest curves.
9. When the drum becomes caked with sawdust, use a crape block to clean the drum. This needs to be done while the machine is running.

- The student has been trained on this equipment.
- The student understands the required personal protective equipment to operate this equipment.
- The student is aware of the possible risk factors

Student signature _____

Teacher's signature _____

Date of training _____

Router Table Passport

1. Routers operate at high speeds and torque. Ensure all parts are tight and bits are sharp. Keep a solid two-handed grip on your work at all times, and make sure your stance is solid.

2. Ensure that the clear plastic guard is in place and covering any exposed part of the router bit. Your wood should fit under the guard with only a ¼" clearance.

3. When possible, use a push stick and/or feather boards to ensure that your fingers are not able to come in contact with the router bit.

4. When using a router table with a fence, the work always moves from right to left.

5. When routing all the edges of a board (or table top), start by routing across the grain.

6. Look, listen and smell! You control the feed speed. If the motor is slowing down, you are trying to cut too fast. If you smell burning, you are feeding too slowly, and the router bit is burning your wood.

7. Ensure you are using proper depth of cut. Test cuts on scrap material. Make multiple passes for deep cuts. See the teacher if in doubt.

8. Never let go of your wood during a cut.

9. When bits become worn or damaged, they should be repaired or replaced immediately. Excessive burning or tearout are signs of damaged and dull bits. Bring these to the attention of the teacher.

10. Disconnect the power supply before making any adjustments or changing bits. Inspect bits carefully before installing
11. Ensure that the bit is securely mounted in the chuck and the base is tight.
12. Before using a router, check stock thoroughly for staples, nails, screws or other foreign object.

- The student has been trained on this equipment.
- The student understands the required personal protective equipment to operate this equipment.
- The student is aware of the possible risk factors

Student signature _____

Teacher's signature _____

Date of training _____

Router Passport

1. Routers operate at high speeds and torque. Ensure all parts are tight and bits are sharp. Keep a solid two-handed grip at all times and make sure your stance is solid.

2. Routers turn clockwise (when seen from top). Always feed from left to right when making outside cuts. For inside cuts move from the right to the left.

3. When routing all the edges of a board (or table top), start by routing across the grain.

4. Look, listen and smell! You control the feed speed. If the motor is slowing down you are trying to cut too fast. If you smell burning, you are feeding too slowly and the router bit is burning your wood.

5. Ensure you are using proper depth of cut. Test cuts on scrap material. Make multiple passes for deep cuts. See the teacher if in doubt.

6. Never let go of the router until it has come to a complete stop.

7. When bits become worn or damaged, they should be repaired or replaced immediately. Excessive burning or tearout are signs of damaged and dull bits. Bring these to the attention of the teacher.

8. Make sure material to be routed is clamped solidly to the work bench or is on a non-slip mat/carpet.

- The student has been trained on this equipment.
- The student understands the required personal protective equipment to operate this equipment.
- The student is aware of the possible risk factors

Student signature _____

Teacher's signature _____

Date of training _____

Band Saw Passport

1. Use both hands and keep fingers at least 4” from the blade at all times.
2. Keep upper guides less than 1/4" from the material being cut. Adjust the guides before turning the saw on.
3. Plan your cuts carefully. Saw curves gradually. Sudden twists may cause the blade to bind or break. Use relief cuts when necessary.
4. Ensure that the blade is running at full speed before starting a cut.
5. Always operate the saw from the front, never from the side.
6. Cut on the waste side of your line. Sanding to the line is always more accurate.
7. Keep your hands beside or behind the blade. Never in line with the blade. Use a push stick on small pieces.
8. If the blade breaks, immediately turn the power off and step back. Inform the teacher right away.
9. Always make short cuts first. Avoid backing out of cuts with the power on. Backing out of a cut may cause the blade to come off of the drive wheels.
10. Do not cut cylindrical stock without the use of a V block and clamp.
11. Remove scrap pieces from the table only after the blade has stopped.
12. Do not leave the band saw until the blade has stopped.
13. Ensure the blade is tracking correctly and runs freely in the upper and lower guide rollers. Ensure the blade is under proper tension. See your teacher for guidance.
14. Use band saw blades that are sharp, properly set and otherwise suitable for the job (e.g., the right tooth pitch; tooth form; blade width).
15. Hold the stock firmly and flat on the table to prevent the stock from turning and drawing your fingers against the blade.

- The student has been trained on this equipment.
- The student understands the required personal protective equipment to operate this equipment.
- The student is aware of the possible risk factors

Student signature _____

Teacher's signature _____

Date of training _____

Wood Lathe Passport

1. Make sure headstock, tailstock and tool rests are working properly and are tight before operating.
2. Ensure your material is securely attached before starting the machine.
3. Ensure all chisels are sharp and without nicks. Show your teacher any problems with the chisels.
4. Keep a firm but not too tight grip on the chisel. Do not strain your hand or are and take your time.
5. Ease tool into material, take your time and listen for motor strain, or look for burning material.
6. Stand clear of possible kickback. Be sure to have firm footing when operating the lathe.
7. Be careful not to cut too deep with the chisels. Plan your designs in advance and keep and eye on any wobble that develops with your turning.
8. Do not attempt thin and/or long materials without proper setup. If in doubt, ask your teacher.
9. Turn the lathe off immediately if it does not sound right or if there is excessive vibration.
10. Select a speed that is appropriate for the job. Operate at speeds recommended by the manufacturer. Select a low speed and use a moderate cut depth to prevent splinters from flying out during roughing operations. The actual speed of the lathe depends on type of wood, the diameter of stock, nature of work being done and type of tool used.
11. Adjust tool rests so that they are parallel and as close as possible to the stock. They should also be set high enough so that tools will cut into the wood slightly above the centre of the work being turned.
12. Remove the tool rest when sanding or polishing.
13. Use appropriate tools to hold the sandpaper or emery paper whenever possible. If you must use your hands, always hold the paper in a way that will not allow the paper to catch, pull or entangle around the stock.

- The student has been trained on this equipment.
- The student understands the required personal protective equipment to operate this equipment.
- The student is aware of the possible risk factors

Student signature _____

Teacher's signature _____

Date of training _____

Table Saw Passport

1. Never operate the table saw without the teacher's direct permission.
2. Make sure the floor is clear in the work area.
3. Make sure the splitter and anti-kickback teeth are in place.
4. Secure the fence position before beginning. Ensure the fence is locked.
5. Always keep the work firmly down on the table and push it past the blade.
6. Always "lock-out" the table saw before changing blades. Ensure to read the proper board and tool specific lock out procedure.
7. Never reach over the blade.
8. Always use a push stick when the fence is set under 6" to the blade.
9. Ask for assistance when working with large pieces.
10. Stand clear of possible kickback and keep your hands clear of the blade path.
11. Do not feed the material faster than the saw will accept. Listen to the cut.
12. Use a fence when making a rip cut, and a mitre gauge or cross-cut sled to make cross-cuts. Never us the rip fence and miter gauge at the same time. Keep the work against the fence throughout the operation.
13. Never cut a piece of material free-hand. Always use the fence or the miter gage.
14. Always check the machine guards to make sure they are in place and operating, before using the machine.

- The student has been trained on this equipment.
- The student understands the required personal protective equipment to operate this equipment.
- The student is aware of the possible risk factors

Student signature _____

Teacher's signature _____

Date of training _____

Radial Arm Saw Passport

1. Check the wood for loose knots and metal or any other debris.
2. Check to make sure the guard is operating correctly and that the cutting head stays at the back of the saw unless pulled forward. If the guards are not operating correctly, or the cutting head drifts forward by itself after being unlocked, relock the cutting head and notify the teacher immediately.
3. If a guard jams during a cut, turn off the saw and notify your teacher. Do not unjam the guard yourself.
4. Clamp all material firmly and properly before making a cut. This is especially important when making mitred/bevelled cuts.
5. Make sure the machine is OFF while lining up the blade for a cut or while making changes to the setup.
6. Never operate a radial arm saw with tools, debris or loose objects on the table. The radial arm table is not a workbench.
7. Be sure to cut on a pull-stroke and pull the blade only just far enough to cut through your stock.
8. Never measure your wood with the saw turned ON.
9. Visualize the blade's travel path before making a cut. Keep hands and objects out of this path.
10. When cutting short pieces, keep your hands at least 6 in. from the blade's travel path.
11. To minimize kickback, never cut wet wood or stock that does not lay flat on the table or against the fence.
12. Secure longer pieces with supports and/or clamps where needed.
13. Keep your body to the Left of the blade assembly when making cuts.
14. This is a Right-handed machine. Do not use your Left hand to pull the blade towards you and never let your arms cross when operating this machine.
15. Never cut more than one piece of wood at a time
16. Do not "freehand" cut. Your stock should always be pushed up against the back fence before starting a cut.
17. Never use the radial arm saw for making rip cuts
18. Return the cutting head completely to the back of the saw (resting position) after each cut.
19. Do not let go of the operating handle until the cutting head is returned to the "resting" position at the back of the machine and the blade has stopped spinning.
20. Do not remove your work piece, or pieces of scrap from the table, until the blade has stopped spinning.
21. If the saw blade is smoking, burning, or wavering during a cut, turn it off and let your teacher know so the blade can be changed.
22. If the saw does anything unusual, turn the saw off right away and notify your teacher.

23. When finished, secure the motor housing so it can't move.

- The student has been trained on this equipment.
- The student understands the required personal protective equipment to operate this equipment.
- The student is aware of the possible risk factors

Student signature _____

Teacher's signature _____

Date of training _____

Stroke Sander

1. Ensure that the dust collector is turned on before using the stroke sander.
2. Make sure there are no tools, books, or other objects on the sanding table.
3. Only sand solid wood or veneers with the stroke sander. Do not sand MDF particle board, melamine, metal or other such material.
4. Inspect the belt before using. Only use the sander if the belt is in good condition. If it has tears or is excessively worn do not use and inform the teacher.
5. Raise or lower the table so that there is a ¼ inch of space between the sanding belt and your work piece.
6. Ensure your work piece lays flat on the table and rests against the fence. Do not attempt to sand items that are warped.
7. If your workpiece does not have a flat edge to rest against the fence (i.e. a round table top), use the correct jig to ensure it does not move during sanding.
8. Before turning on the sander, ensure the table moves freely by pushing and pulling on the table. It should run smoothly on its tracks and not bump against anything.
9. Do not sand stock that is shorter than the sanding plate, or less than ½ it's width.
10. Keep your fingers away from the edges of the sanding belt.
11. Do not sand on the "top" belt (abrasive facing up). Only use the part of the belt with the abrasive facing down.
12. If the belt rubs against the housing of the sander, or if the belt wobbles, turn the sander off and notify your teacher.
13. Do not apply excessive force on the sanding plate. Apply light pressure to allow the machine to work properly.
14. Do not change work pieces while the belt is still running. Turn the sander off after sanding each piece. Ensure the next piece fits properly under the sanding belt before restarting the machine.
15. While sanding, either the table or sanding plate should always be moving. Try to move the plate over your workpiece so that it is sanded evenly
16. When finished, turn off the machine and ensure the machine has come to a full stop before stepping away.

- The student has been trained on this equipment.
- The student understands the required personal protective equipment to operate this equipment.
- The student is aware of the possible risk factors

Student signature _____

Teacher's signature _____

Date of training _____

CNC Router Passport

1. Whenever you are operating or watching the CNC router safety glasses must be worn.
2. Whenever possible use an enclosure that restricts the access to the machine while it is turned on. The enclosure should have power interruption switches so that if the access doors are opened during operation the machine will shut down.
3. The router moves according to your program. Stand back from the router when it is operating.
4. Whenever possible do a test run of your program with the router turned off, and before putting your material on the table.
5. Never try to adjust the material while the machine is running.
6. Secure your work securely to the CNC table with clamps or jigs. Be careful that the clamps and jigs will not interfere with the movement of the gantry or router.
7. Never leave the machine running unattended.
8. If the wood on the CNC table becomes loose or if the machine begins to make unusual noises, immediately turn off the machine and notify your teacher. Do not attempt to re-clamp your wood while the machine is running or turned on.
9. Ensure that the router bit installed in the CNC is sharp, and the correct bit for your program.
10. Whenever changing router bits be sure to tighten the collet correctly.
11. Large parts of the CNC machine move. This causes pinch points around the table of the CNC. Always be aware where these points are and ensure that you stay clear of danger.
12. Ensure that nothing will interfere with the travel of the gantry. Keep the CNC table clear of material not being machined, and that nothing has been placed near the CNC that will be hit by the gantry.
13. After running your program, be sure to clean the CNC table and trackways of all debris and remove any clamps or jigs.

- The student has been trained on this equipment.
- The student understands the required personal protective equipment to operate this equipment.
- The student is aware of the possible risk factors

Student signature _____

Teacher's signature _____

Date of training _____

Belt/Disk Sander Passport

1. Before turning this machine on, ensure that shirts are tucked in, roll up sleeves, remove jewelry, and tie back long hair.
2. Remove all sawdust from the sander and floor before and after sanding.
3. Do not operate this machine if the sandpaper is ripped or torn in any way (belt or disk).
4. Replace the abrasive with the machine turned off and locked out.
5. Sand only dry wood or plastic. Never sand metal.
6. When working on small pieces, be careful to keep your fingers and knuckles away from the sanding disk.
7. Do not apply excessive force toward the disc or belt. Use a light touch and let the machine do the work.
8. Sand only on the "down-side" rotation of the disc, and keep your work firmly on the machine table. Do not freehand sand.
9. When using the belt, keep your work firmly against the table and or fence. Do not freehand sand.
10. Make any adjustments to the table and fences with the power off.
11. Ensure the gap between the table/fence and the sandpaper is 1/16.
12. When done sanding, use a crape block to clean the sandpaper.
13. Never leave the machine running or unattended – make sure the belt/disc comes to a complete stop before leaving.

- The student has been trained on this equipment.
- The student understands the required personal protective equipment to operate this equipment.
- The student is aware of the possible risk factors

Student signature _____

Teacher's signature _____

Date of training _____

Shaper Passport

1. Slip-knives should never be used.

2. Whenever possible, install the cutter so the bottom of the stock is shaped. In this way the stock will cover most of the cutter and act as a guard.

3. Make sure the cutter is locked securely to the spindle.

4. Always position the outfeed fence so that it will support the work that has passed the cutters.

5. Adjust the spindle for the correct height and then lock in position. Rotate the spindle by hand to make sure it clears all guards, fences, etc.

6. The cutter should not be exposed during a cut. Ensure the cutter is appropriately guarded.

7. Check the direction of rotation by snapping the switch on and off; watch as the cutters come to rest.

8. Ensure the correct speed (RPM) is set for the cutter is being used. The larger the cutter, the slower the RPM.

9. Check the rotation of the shaper you are using and always feed against the rotation of the cutter. **Caution** - Some shapers have a reversing switch so that the spindle can be rotated either clockwise or counter clockwise.

10. Hold the stock down and against the fence with the hands on top of the material, yet out of range of the cutters.

11. Use feather boards, fixtures, jigs, push blocks, and clamping devices whenever possible to avoid holding onto the stock directly.

12. Do not set spring hold-down clips too tightly against the work. Use just enough tension to hold the work against the fence.

13. Examine the stock carefully before cutting to make sure it is free of loose knots, metal, or other defects. Never cut through a loose knot or stock that is cracked or split.

14. Always use a depth collar when shaping irregular work. Put a guide pin in the table to start the cutting.

15. Whenever possible, cut with the grain and not against it.

16. Shape only one piece at a time.

17. Turn off the machine and lock it out whenever changing spindles.

18. Do not shape stock less than 10 inches long.

19. Support long pieces with tables or rollers.

20. Never backup a cut that didn't fully cut. Always maintain the feed against the rotation of the cutter. Make additional passes if necessary.

21. Never stand in line with the feed of the machine. Kickback may occur.

22. Do not shape chipboard, panel board or any stock containing nails, paint or varnish.

23. Avoid awkward operations and hand positions where a sudden slip could cause a hand to move into the cutter knives.

- The student has been trained on this equipment.
- The student understands the required personal protective equipment to operate this equipment.
- The student is aware of the possible risk factors

Student signature _____

Teacher's signature _____

Date of training _____

Drum Sander Passport

1.
2. Tuck in shirt, roll up sleeves, remove jewellery, and tie back long hair before beginning work.
3. Remove all sawdust from the sander's table and floor before working.
4. Turn the dust collector on before using this machine.
5. Never leave the machine running unattended.
6. Do not operate the machine if the sanding paper is ripped or torn in any way.
7. Never sand boards shorter than **(Teacher – see owner's manual for minimum sizes and enter them here)** __ inches, or thinner than __ inches
8. When replacing sandpaper, ensure the machine is locked out.
9. Sand only wood or plastic, never metal.
10. Know your maximum and minimum sanding thicknesses, and do not attempt to remove too much material in one pass.
11. Never push or force the wood into the sander, use firm but gentle pressure and allow the sander grab and feed the lumber.
12. If there is burning on your wood when it comes out of the sander, inform your teacher. This is often caused by unevenly worn sandpaper.
13. If the drum begins to make unusual sounds or becomes unbalanced let the teacher know so they can tag it out of service and have it repaired.

- The student has been trained on this equipment.
- The student understands the required personal protective equipment to operate this equipment.
- The student is aware of the possible risk factors

Student signature _____

Teacher's signature _____

Date of training _____

Edge Sander Passport

1.
2. Before turning on this machine, ensure that shirts are tucked in, roll up sleeves, remove jewelry, and tie back long hair.
3. Remove all sawdust from the sander and floor before and after sanding.
4. Do not operate this machine if the sand paper is ripped or torn in any way.
5. Only replace sandpaper with the machine turned off and locked out.
6. Sand only dry wood or plastic. Never sand metal.
7. Keep your work firmly against the table. Do not freehand sand.
8. When working on small pieces, be careful to keep your fingers and knuckles away from the belt.
9. Do not apply excessive force toward the belt. Use a light touch and let the machine do the work.
10. If the belt is rubbing against the machine housing, turn the sander off and inform the teacher.
11. Do not adjust the tracking of the belt without the direct permission of the teacher.
12. Make any adjustments to the table(s) with the power off.
13. Ensure the gap between the table/fence and the sandpaper is 1/16.
14. When done, use the crape block to clean the sandpaper.
15. Never leave the machine running or unattended – make sure the belt/disc comes to a complete stop before leaving.

- The student has been trained on this equipment.
- The student understands the required personal protective equipment to operate this equipment.
- The student is aware of the possible risk factors

Student signature _____

Teacher's signature _____

Date of training _____

Mortising Machine Passport

1. Never remove, modify or disable safety guards.
2. Be certain that the chisel is sharp and properly adjusted before turning on the power.
3. When mortising long pieces, ensure they are supported.
4. Use a square to check that the chisel is parallel with the fence before using the machine.
5. There should be a gap no greater than 1/32 of an inch between the chisel and drill bit. The chisel and drill bit should never be touching.
6. Check the hold downs, stops, and depth of chisel before turning on the machine.
7. Make sure chuck keys and Allan keys are removed before operating the machine.
8. Make sure your wood is firmly clamped to the fence before cutting a mortise.
9. When creating a slot, start by making a series of cuts that are close together. Cut a pattern that leaves material intact between the cuts. Finish by cutting the remaining wood (bridges) to complete the slot.
10. If the chisel become stuck, turn off the mortiser and get assistance from the teacher.
11. Keep your hands away from the chisel; it may become very hot.
12. Stop using the mortiser if the chisel is smoking in the cut.
13. When finished, clear away chips and curls with a brush, not your hands.

- The student has been trained on this equipment.
- The student understands the required personal protective equipment to operate this equipment.
- The student is aware of the possible risk factors

Student signature _____

Teacher's signature _____

Date of training _____

Bench/Pedestal Grinder Passport

1. Make sure bench grinders are secured to the work surface before using.
2. Remove any flammable/combustible materials from the area.
3. When turning on the machine, stand out of the path of possible ejecting debris.
4. Ensure that the work rest for the grinding wheel has a maximum clearance of 1/8" from the grinding wheel.
5. Ensure the spark guard is set to within 1/16 of the wheel.
6. Be sure to use the chip/spark shield – if it is dirty, clean it so you can see through the Plexiglas.
7. Ensure that the work rest is in a position above the centre line of the grinding wheel.
8. Do not use wheels designed for steel on porous materials like wood or plastics.
9. Ensure that the wheel is not damaged in any way (e.g. chipped or cracked). Dispose of damaged wheels immediately.
10. Ensure that the grinder does not vibrate or operate roughly, and make sure the disc is true.
11. Do not use bumpy or sudden motions when grinding - bring work slowly and smoothly into contact with the disc.
12. Do not side grind on the flat side of a straight wheel.
13. Never adjust the work rest while the wheel is moving.
14. Store grinding wheels where they cannot be damaged.
15. Do not use any liquid coolants with portable grinders.
16. Apply gradual pressure to allow the wheel to warm up evenly. Use only the pressure required to complete the job. Do not apply excessive force – a light touch is all that's needed.
17. Move the work back and forth across the wheel face. This helps prevent grooves from forming.
18. Dress wheels often. Many light dressings are better than infrequent and heavy dressings.

- The student has been trained on this equipment.
- The student understands the required personal protective equipment to operate this equipment.
- The student is aware of the possible risk factors

Student signature _____

Teacher's signature _____

Date of training _____

Air Nailer/Stapler Passport

1. Always wear safety glasses when using a pressurized tool.
2. Always handle an air tool as if it is pressurized and is loaded with nails/staples. Never point an air tool at someone.
3. Do not carry an air tool by the hose.
4. Be aware of your surroundings and where your hose is laying. Check to make sure your hose is not a trip hazard or that it is at risk of being damaged.
5. Do not pull at the hose excessively. It may be caught on a snag and pulling hard may cause damage.
6. When not in use, keep air hoses coiled and suspended to prevent tripping hazards.
7. Before disconnecting tools, turn the air supply off and bleed the remaining air from the line slowly. This practice can be bypassed if the tool has a quick disconnect valve.
8. Do not leave an air tool connected when you are finished working. Disconnect the tool and return to the toolbox/teacher. Retract or hang the air hose so it is not a trip hazard and will not get damaged.
9. Never pull the trigger unless the tool is resting against a safe work surface. Never carry a tool with the trigger pulled.
10. Each nail or staple should be fired with its own trigger pull. Do not pull the trigger then "bounce" the tip of the tool multiple times.
11. Ensure that the nail/staple loaded in the tool is the correct length for your use.
12. Whenever possible use clamps or jigs to hold the work you are nailing/stapling. Do not hold your work near where you are nailing.
13. The fastener can change direction after entering your wood. Do not assume the fastener will travel straight. Grain, knots, and other things redirect the fastener. Keep your fingers away from the area being nailed.

- The student has been trained on this equipment.
- The student understands the required personal protective equipment to operate this equipment.
- The student is aware of the possible risk factors

Student signature _____

Teacher's signature _____

Date of training _____

Portable Power Tools Passport

1.
2. Before operating any tool or machine, competency must be displayed to the teacher and be signed off by the teacher in your equipment passport.
3. Inspect tools for any damage prior to each use.
4. If the tool has auxiliary or double handles, check to see that they are installed securely.
5. Inspect cords for defects: check the power cord for cracking, fraying, and other signs of wear or faults in the cord insulation.
6. Inspect the plug for cracks and for missing, loose or faulty prongs
7. Ensure that the power tool has the correct guard or shield.
8. If a tool seems defective, notify your teacher immediately. Do not use defective tools.
9. Wear or use personal protective equipment (PPE). i.e. safety glasses, hearing protection, dust mask.
10. Switch off the tools before connecting them to a power supply or before making adjustments.
11. Remove any wrenches and adjusting tools before turning on a tool.
12. During use, keep power cords clear of tools and the path that the tool will take.
13. Clamp work securely when practical to do so.
14. Use only approved extension cords that have the proper wire size for the length of cord and power requirements of the electric tool that you are using.
15. Keep the work area free of clutter and debris that could be tripping or slipping hazards.
16. Keep power cords away from heat, water, oil, sharp edges and moving parts.
17. Do not wear gloves, loose clothing or jewelry and tie back long hair when using a power tool.
18. Do not walk around with a plugged-in tool with your finger touching the switch.
19. Do not unplug a tool by pulling or jerking the cord from the outlet. Pull the plug, not the cord when unplugging a tool.
20. Hold on to the tool until it has been turned off and has stopped running completely.
21. Do not use electric tools in wet conditions or damp locations unless tool is connected to a ground fault circuit interrupter (GFCI).
22. Do not connect or splice extension cords together to make a longer connection.
23. Do not carry electrical tools by the power cord.
24. Do not tie power cords in knots. Knots can cause short circuits and shocks. Loop the cords or use a twist lock plug.
25. Do not walk on or allow vehicles or other moving equipment to pass over unprotected power cords. Cords should be put in conduits or protected by placing planks on each side of them.
26. Do not operate tools in an area containing explosive vapors or gasses.
27. Do not clean tools with flammable or toxic solvents.
28. Do not surprise or touch anyone who is operating a tool. Startling a tool operator could end up causing an accident or injury.

- The student has been trained on this equipment.
- The student understands the required personal protective equipment to operate this equipment.
- The student is aware of the possible risk factors

Student signature _____

Teacher's signature _____

Date of training _____

Cordless Portable Power Tools

1. Use only the battery that the tool manufacturer specifies for the tool that you are using.
2. Recharge a battery-powered tool only with a charger that is specifically intended for the battery in that tool.
3. Remove the battery from the tool or ensure that the tool is switched off or locked off before changing accessories, making adjustments, or storing the tool.
4. Store a battery pack safely so that no metal parts, nails, screws, wrenches and so on can come in contact with the battery terminals (place a cap on the battery terminals).
5. Inspect tools for any damage prior to each use.
6. If the tool has auxiliary or double handles, check to see that they are installed securely.
7. Ensure that the power tool has the correct guard, shield or other attachment that the manufacturer recommends.
8. If a tool is defective, notify your teacher immediately. Do not use defective tools.
9. Wear or use personal protective equipment (PPE). i.e. safety glasses, hearing protection, dust mask.
10. Remove any wrenches and adjusting tools before turning on a tool.
11. Clamp work securely when practical to do so.
12. Keep the work area free of clutter and debris that could be tripping or slipping hazards.
13. Do not walk around with your finger touching the power switch.
14. Do not use cordless tools in wet conditions.
15. Do not operate tools in an area containing explosive vapors or gasses.
16. Do not clean tools with flammable or toxic solvents.
17. Do not surprise or touch anyone who is operating a tool. Startling a tool operator could end up causing an accident or injury.

- The student has been trained on this equipment.
- The student understands the required personal protective equipment to operate this equipment.
- The student is aware of the possible risk factors

Student signature _____

Teacher's signature _____

Date of training _____

Reciprocating Saw Passport

1. Safety glasses need to be worn when using this saw.
2. The reciprocating saw can be used to cut metal, pipe, wood, nail-embedded wood and other materials.
3. Disconnect the power supply before changing or adjusting blades.
4. Make sure guards, if present, are installed and are working properly.
5. Reciprocating saws cut on the stroke towards the handle.
6. Secure and support stock as close as possible to the cutting line to avoid vibration.
7. Keep the base or shoe of the saw in firm contact with the stock being cut.
8. Select the correct blade for the material being cut and allow it to cut steadily. Do not force it. Clean and sharp blades operate best.
9. When changing blades, be sure the spindle and blade clamp areas are clean. Metal chips and sawdust may prevent the blade from being held securely.
10. Blades can break. Use the blade and accessories recommended for the job being done. Check your operator's manual carefully about this.
11. To minimize blade flexing and provide a smooth cut, use the shortest blade that will do the job but will extend beyond the workpiece throughout the stroke.
12. Do not force the saw along or around a curve. Allow the machine to turn with ease.
13. Do not insert a blade into or withdraw a blade from a cut or lead hole while the blade is moving.
14. Do not put down a saw until the motor has stopped.
15. Do not reach under or around the stock being cut.
16. Maintain control of the saw always. Avoid cutting above shoulder height.
17. Know what is behind a workpiece before you begin cutting.
18. Never attempt to cut materials larger than the rated capacity listed in the jig saw operator's manual.
19. NEVER overreach! Always maintain balance and solid footing.
20. When cutting metal, choose a blade that will allow for at least three of the blades teeth to be in the material at all times.
21. Check blades carefully before each use for proper alignment and possible defects. Never use a bent, broken or warped saw blade
22. Never hold a workpiece in your hand or across your leg when sawing.

- The student has been trained on this equipment.
- The student understands the required personal protective equipment to operate this equipment.
- The student is aware of the possible risk factors

Student signature _____

Teacher's signature _____

Date of training _____

Jig Saw Passport

1. Wear safety glasses whenever using a Jig saw
2. Disconnect the power supply before changing or adjusting blades.
3. Keep all cords clear of the cutting area.
4. Make sure guards, if present, are installed and are working properly.
5. Keep in mind that the jig saws cut on the up stroke (towards the saw)
6. Secure and support stock as close as possible to the cutting line to avoid vibration.
7. Keep the base or shoe of the saw in firm contact with the stock being cut.
8. Select the correct blade for the material being cut and allow it to cut steadily. Do not force it. Clean and sharp blades operate best.
9. Do not start cutting until the saw reaches its full power.
10. Do not force a saw along or around a curve. Allow the machine to turn with ease.
11. Do not insert a blade into or withdraw a blade from a cut or lead hole while the blade is moving.
12. Do not put down a saw until the motor has stopped.
13. Before turning on the saw, make sure that the blade is not in contact with the material.
14. Feed the blade slowly into the stock, maintaining an even forward pressure.
15. Do not reach under or around the stock being cut.
16. Never attempt to cut materials larger than the rated capacity listed in the jig saw operator's manual, as this may result in personal injury.
17. NEVER overreach! Always maintain balance and solid footing.
18. When plunge (pocket) cutting, use a blade designed for that purpose and follow the tool manufacturer's instructions.

- The student has been trained on this equipment.
- The student understands the required personal protective equipment to operate this equipment.
- The student is aware of the possible risk factors

Student signature _____

Teacher's signature _____

Date of training _____

Circular Saw

1. Wear safety glasses, tie back long hair, and tuck in loose clothing before operating the saw.
2. Be aware of the path of the blade and keep the cord away from the blade and kerf.
3. Ensure that depth levers are securely tightened.
4. Set the depth of cut 1/8" to 1/4" greater than the thickness of the stock. Less than a full tooth should be visible below the workpiece.
5. Always rest the larger portion of the saw's baseplate on the supported portion of the workpiece and allow the unsupported portion to fall away.
6. Grip saw with both hands, keeping hands away from the blade.
7. Secure the workpiece to sturdy supports.
8. Use the correct blade for your tool. Check this carefully: Does it have the proper size and shape arbor hole? Make sure the speed marked on the blade is at least as high as the no load RPM marked on the tool.
9. Use clean saw blades. A buildup of pitch or sap on the surface increases the chance of kickback.
10. Support large panels (as illustrated) so they will not pinch the blade.
11. Use a straight edge or rip fence as a guide for ripping.
12. Avoid cutting small workpieces that can't be properly secured, and workpieces on which the base of the saw (shoe) cannot properly rest.
13. Portable circular saws are not designed for cutting logs, roots, trimming trees or shrubs.
14. Be very cautious of stock which is pitchy, knotty or warped. These are most likely to create pinching conditions and possible kickback.
15. Check for proper blade guard operation before each cut. The guards should return to their normal position quickly. Never alter or defeat the guard (e.g., tying back or removing the guard).
16. The lower guard should be pulled back manually only for special cuts such as "Pocket Cuts" and "Compound Cuts". Raise the lower guard using the lower guard lever. As soon as the blade enters the material, release the lower guard.
17. Before starting a circular saw, be sure the power cord and extension cord are out of the blade path and are long enough to freely complete the cut. A sudden jerk or pull on the cord can cause loss of control of the saw and a serious accident.
18. Never hold a workpiece in your hand or across your leg when sawing.
19. NEVER overreach! Always, hold the saw firmly with both hands after securing the workpiece.
20. Never remove the saw from a cut while the blade is rotating.
21. Be alert to the possibility of the blade binding and kickback occurring. Hold the saw with two hands and position your arms to resist kickback. If a fence or guide board is used, be certain the

blade is kept parallel with it.

22. Never reach under the saw or work piece. The blade is exposed under the workpiece and the saw guard cannot protect your body here.

- The student has been trained on this equipment.
- The student understands the required personal protective equipment to operate this equipment.
- The student is aware of the possible risk factors

Student signature _____

Teacher's signature _____

Date of training _____

Vertical Panel Saw Passport

1. Wear safety glasses, tie back long hair, and tuck in loose clothing before operating the saw.

2. Prior to using the vertical panel saw, check to see that the guards are in place, secured and working correctly. If in doubt, stop and ask your instructor.

3. Keep the floor around the machine clean and free of scrap material. Ensure others are a safe distance from the work area prior to starting the saw.

4. Give your work your undivided attention. Always stand firmly on the ground and avoid awkward operations while using the vertical panel saw.

5. Feeding the material through the machine horizontally or moving the saw carriage through the material vertically must be done slowly, smoothly and without stopping. Overfeeding will result in poor quality cuts, shorten the life of the carbide saw blades and overload the saw motor.

6. Caution must be used when setting material onto the material roller carriage. Heavy material must not be dropped onto the roller carriage. Failure to follow this rule will ultimately cause the roller carriage to be knocked out of alignment.

7. For best results, place material to be cut onto the Panel Saw with the back side facing the operator. This will provide the smoothest possible cut on the face side of the panel

8. Panels being cut horizontally (ripping) must always be fed against the rotation of the saw blade. Note the feed direction decal should be labelled on the saw carriage.

9. Do not force the saw. It will perform better and can be more easily and safely controlled if allowed to work at the rate for which it was designed.

10. If the saw is stopped mid-cut, allow the blade to stop. Then back up the saw (if crosscutting) or the board (if ripping) and restart the saw to continue the cut.

11. Thin material, such as paneling, should be properly supported over its length to prevent binding on the blade.

12. Panel Saws are designed to cut large panels down to size. As the overall panel size becomes smaller and smaller, other types of sawing machines can become more convenient and safer to use.

- The student has been trained on this equipment.
- The student understands the required personal protective equipment to operate this equipment.
- The student is aware of the possible risk factors

Student signature _____

Teacher's signature _____

Date of training _____

Hand Tools Passport

1. While using hand tools wear safety glasses and any other PPE when appropriate.
2. Select the right tool for the job. Substitutes increase the chance of having an accident.
3. Use good quality tools and keep tools in good condition at all times.
4. Inspect tools for defects before use.
5. Keep cutting tools sharp and cover sharp edges with suitable covering to protect the tool and to prevent injuries from unintended contact.
6. Do not use cracked, splintered, or broken handles on files, hammers, screwdrivers, or sledges.
7. Ensure that the handles of tools like hammers and axes fit tightly into the head of the tool.
8. Pull on a wrench or pliers. Never push unless you hold the tool with your palm open.
9. Point sharp tools (e.g., saws, chisels, knives) laying on benches away from aisles and handles should not extend over the edge of the bench top.
10. Keep the work environment clean and tidy to avoid clutter which may cause accidents.
11. Do not apply excessive force or pressure on tools.
12. Do not cut towards yourself when using cutting tools.
13. Do not hold the stock in the palm of your hand when using a cutting tool or a screwdriver.
14. Do not wear bulky gloves to operate hand tools.
15. Do not throw tools. Hand them, handle first, directly to other workers.
16. Do not carry tools in a way that interferes with using both hands on a ladder, while climbing on a structure, or when doing any hazardous work. If working on a ladder or scaffold, tools should be raised and lowered using a bucket and hand line.
17. Do not carry a sharp tool in your pocket.

- The student has been trained on this equipment.
- The student understands the required personal protective equipment to operate this equipment.
- The student is aware of the possible risk factors

Student signature _____

Teacher's signature _____

Date of training _____

Hand Power Planer Passport

1.
2. Wear safety glasses and use the appropriate hearing protection.
3. Disconnect the planer from the power supply before making any adjustments to the cutter head or blades.
4. Use blades of the same weight and set at the same height.
5. Ensure that the blade-locking screws are tight.
6. Remove adjusting keys and wrenches before turning on power.
7. Support the material (stock) in a comfortable position that will allow the job to be done safely and accurately.
8. Check stock thoroughly for staples, nails, screws, or other foreign objects before using a planer.
9. Start a cut with the infeed table (front shoe) resting firmly on the stock and with the cutter head slightly behind the edge of the stock.
10. Use two hands to operate a planer - one hand on the trigger switch and the other on a front handle.
11. Do not put your finger or any object in a deflector to clean out chips while a planer is running.
12. Disconnect the power supply when stopping to empty out chips.
13. Do not set a planer down until blades have stopped turning.
14. Keep all cords clear of the cutting area.
15. Do not overreach. Keep proper footing and balance.

- The student has been trained on this equipment.
- The student understands the required personal protective equipment to operate this equipment.
- The student is aware of the possible risk factors

Student signature _____

Teacher's signature _____

Date of training _____

Hand Drill Passport

1. Always wear safety glasses when using a hand drill.
2. Follow manufacturers' instructions when selecting and using a bit or attachment, especially with unfamiliar drills or material.
3. Select the bit or attachment suitable for the size of the drill and the work being done.
4. Ensure that the bit or attachments are properly seated and tightened in the chuck.
5. When changing bits, tighten the chuck securely and ensure you remove the chuck key before starting drill.
6. When changing bits in a keyless chuck, DO NOT pull the trigger while holding the chuck. Rotate the chuck by hand.
7. Use the auxiliary (second) handle for larger work or continuous operation.
8. Keep drill air vents clear to maintain adequate ventilation.
9. Keep all cords clear of the cutting area during use. Inspect for frays or damage before each use.
10. Disconnect power supply before changing or adjusting bit or attachments.
11. Secure workpiece being drilled to prevent movement.
12. Slow the rate of feed just before breaking through the surface.
13. Drill a small "pilot" hole before drilling large holes.
14. When cutting small pieces, clamp stock so work will not twist or spin. Do not drill with one hand while holding the material with the other.
15. Do not use a hole saw cutter without the pilot drill.
16. Do not attempt to free a jammed bit by starting and stopping the drill. Unplug the drill and then remove the bit from the workpiece.
17. Do not overreach. Always keep proper footing and balance.
18. Do not raise or lower the drill by its power cord.

- The student has been trained on this equipment.
- The student understands the required personal protective equipment to operate this equipment.
- The student is aware of the possible risk factors

Student signature _____

Teacher's signature _____

Date of training _____

Form 3 – Internet Use Passport

INTERNET USE PASSPORT

******TO BE USED AS AN EXAMPLE ONLY – PLEASE SEE BOARD/SCHOOL POLICY*****

General Conditions

Students must be trained on the safe and proper use of the Internet before they may begin using it. The student must demonstrate to the teacher knowledge of safe and secure procedures as outlined in the Internet Use Policy Document.

Personal Protection

- Knowledge of school and school board Internet Use Policy
- Never releasing personal information
- Avoidance of insecure and questionable sites
- Respect for self and others
- Awareness of security issues in communications technology

Possible Risk Factor

- Threats to personal safety and/or security
- Loss of privacy
- Threats to emotional security
- Spread of damaging computer viruses
- Damage to computer operating and networking systems

- The student has been trained on this equipment.
- The student understands the required personal protective equipment to operate this equipment.
- The student is aware of the possible risk factors

Student signature _____

Teachers signature _____

Date of training _____

APPENDIX A: HEALTH AND SAFETY RESOURCES

Workplace Safety and Insurance Board website

Legislated by the Ontario government and responsible for administering the *Workplace Safety and Insurance Act* (WSIA). Governed by a Board of Directors made up of representatives of workers, employers and others.

Under the Resources tab, this website provides information on how WSIB make decisions, by reviewing the Operational policy manual, Employer Classification Manual, and Adjudication support documents. You'll also find useful forms and fact sheets on a variety of topics, including benefit payments, and rights and responsibilities.

- Fact Sheets are also available:
- Fact Sheets for Workers
- Fact Sheets for Prevention
- WSIB Fact Sheets

Workplace Safety Resources Inc. website

This site provides a personalized approach to planning for safety. Workplace Safety Resources Inc.'s mission is to create healthy, safe, secure and environmentally responsible workplace, to work with industry to better protect all employees, to improve the quality of life in workplaces and communities and become a recognized leader in providing effective safety programs, products and services for the prevention of injury and illness.

Canadian Centre for Occupational Health and Safety website

The Free Resources section is a collection of websites, databases, and other online resources suggested and reviewed by CCOHS. Many of the websites are designed and maintained by CCOHS, while some of the resources are provided by external, third-party providers. Purpose:

- Promote the importance of workplace health and safety in Canada
- Identify current and reliable health and safety information
- Create and maintain an accessible, convenient, and easy-to-use resource to anyone who needs it
- Provide access to information from a variety of sources including federal, provincial, and territorial governments, agencies, and non-profit organizations
-

The Free Resources are useful to workers, employers, managers and supervisors, joint health and safety committees, workplace health and safety professionals, and students.

Health Canada website

Health Canada is the Federal department responsible for helping Canadians maintain and improve their health, while respecting individual choices and circumstances. Health Canada administers many pieces of legislation and develops and enforces regulations under this legislation that have a direct impact on the health and safety of Canadians. The Department consults with the Canadian public, industry, non-governmental organizations (NGOs) and other interested parties in the development of these laws. Health Canada also prepares guidelines in order to help interpret and clarify legislation and regulations.
Of particular interest would be regulations such as the Hazardous Product Act, Controlled Products Regulations, Environmental and Workplace Health.

HEALTH & SAFETY ONTARIO (HSO) website

Ontario is already a great place to do business, live and work. Making our province, and indeed our country, the healthiest and safest place to work in the world is a prize worth winning.

Ontario's Prevention System is made up of the Ministry of Labour (MOL), Workplace Safety and Insurance Board (WSIB), Workers Health & Safety Centre, Occupational Health Clinics for Ontario Workers Inc. and 12 Health and Safety Associations (HSAs).

Health & Safety Ontario (HSO) is the result of a bold move to reorganize the independent efforts of 12 health and safety associations into four streamlined organizations to better serve more than 236,000 Ontario businesses.

HSO is comprised of:

- Workplace Safety & Prevention Services
- Public Services Health & Safety Association
- Workplace Safety North
- Infrastructure Health & Safety Association.

ONTARIO BUILDING CODE website

The Ontario Building Code's website has information on qualification and registration, available training, dispute resolution, news on recent code developments and more. The Ontario Building Code is administered by the Building and Development Branch of the Ministry of Municipal Affairs and Housing.

CANADIAN STANDARDS ASSOCIATION (CSA) website

Standards contribute to safer homes, workplaces and public spaces. They address issues related to sustainability and the environment. And they encourage the adoption of new technologies and best practices that enhance trade and help make industry more competitive in the global marketplace. Standards help advance today, while anticipating tomorrow.

CANADIAN SOCIETY OF SAFETY ENGINEERING (CSSSE)

The Canadian Society of Safety Engineering (CSSE) is the leading health, safety and environmental organization for professionals in Canada. They work with industry, governmental agencies, and other safety organizations to promote a greater awareness of health, safety, and environmental issues in workplaces and communities across the nation and around the world. Our vision is "An Advocate for Safety in Every Workplace".

CSSE's mission is to be the resource for professional development, knowledge and information exchange to our members, and the Canadian public.

Other Online Resources

WSIB First Aid

Concussion

Hearing

PROFESSIONAL ASSOCIATIONS

Professional Associations can be a great health and safety resource relating to discipline-specific occupational health and safety. The following Tech Design related associations provide resources on professional practice relating to health and safety.

Professional Engineers of Ontario (PEO)
Architectural Association of Ontario (OAA)
Ontario Certified Engineering Technicians and Technologists (OACETT)
Association of Registered Interior Designers of Ontario (ARIDO)

Ministry of Labour, Immigration, Training and Skills Development Website

For news and information about Ontario's health and safety and employment legislation, the Ministry of Labour's website is an excellent place to visit. It provides current information on both employment standards and health and safety legislation, recent fines, alerts, etc. and allows you to ask a question that will be answered by Ministry staff.

Ontario School Boards Insurance Exchange website

The primary goals of the Exchange are to insure member school boards against losses, and to promote safe school practices. The Ontario school “Risk Management at a Glance” material is intended to provide guidance and direction in the major risk management areas facing school administrators, principals, vice-principals, teachers and all other school staff on a daily basis.

Although this reference material is not intended to replace school board policies and procedures, it is intended to supplement the risk management considerations, which should go into making the decisions on the most common day-to-day school activities. The design of this publication is to promote the display of this document in a calendar-like format in every classroom to facilitate ready “Risk Management at a Glance”. Every employee who may be called upon to make a decision about the permitting of or the organizing of any activity listed can use this.

For any activities not listed in this material, it is recommended that you contact your board office, or refer to the policies and procedures as stated by your school board.

Take Our Kids to Work – Teacher’s Guide; Workplace Guide
The Learning Partnership website

These resources have been custom designed to help teachers and workplaces prepare for Take Your Kid to Work day. The new booklets have an excellent section on activities to help prepare the students for a safe learning day.

APPENDIX B: OCTE SAFETYNET BLANK TEMPLATE

Overview

A sample of a blank SafetyNET template provided by the Ontario Council for Technology Education as well as their Materials and Resources sheet has been provided here as an additional resource for technology teachers.

Completing it once for a risky project can take teachers through a pre-project planning process, a review of the materials in their shops, the suppliers and processes they use, and encourage documentation of their safety training for themselves, their students, and classrooms. It collects safety information in one place for their own use, and respects their experience, pedagogy, and professionalism. It's a crucial step in standardizing safety training in your technology program at your school, and can assist in collegial communication in your department.

Please note that the online updated version is available at OCTE SafetyNET, however any teacher that considers and documents their answers to the questions will have created an important document for their personal professional practice. It's also available in fillable .pdf format, and is also available in French from OCTE

Establishing A Safety Binder

The goal is a safety binder that teachers keep in their rooms as evidence of due diligence taken towards safety in the classroom.

Assembled safety binders often include teacher/room/board specific:

- SafetyNET Template
- Project Specific Safety Resources
- SIS Sheets
- Student Safety Training Tracking Sheets
- Permission Forms Copies
- Class Lists
- Equipment Maintenance/Manuals
- Training Quiz Samples
- Teacher Training Documentation Copies
- Emergency Procedures Docs
- Board Repair Contacts
- Room Safety / PPE Location Map

Starting Your SafetyNET

TCJ Subject Area: Tech department heads can provide leadership asking teachers to consider the following questions to choose a focus for completing their own SafetyNET.

- *What are the riskiest projects I do in my classroom? (List them here.)*
- *Which of these use the riskiest materials?*
- *Which ones of these use the highest risk-associated equipment?*
- *Which ones of these include recycled, found, repurposed, or donated materials?*
- *Which one of these is the hardest to train and track the kids for safety on?*
- *Reflecting on this listing, which project do you think you may want to do a SafetyNET on?*
- *What resources of mine would make it easier - instructive for another teacher to try this project?*
- *What would be the best "safety lens" advice I could give for another teacher from my experience?*

Then try it out!

SafetyNET Lesson Plan

SafetyNET STEP 1: Tell Us About You

First Name: _____
Last Name: _____
E-mail Address: _____
Ontario School Board: _____
School: _____

Community
- ☐ Urban
- ☐ Suburban
- ☐ Rural

Number of Students:

Student Work is Completed (individually, pairs, groups, mixed methods)?

☐ I agree to the Terms and Conditions and have read the Teacher Guidelines.

SafetyNET STEP 2: Describe Your Lesson

Classroom Management Pre-Planning

1. Provide a descriptive **title** for your learning activity.

2. Choose the **length** that best describes your lesson.
- ☐ Full semester
- ☐ Multiple weeks
- ☐ One week
- ☐ One period

3. Choose the **Ontario course code (e.g.)**.

TEJ - Computer Engineering

4. Provide **learning goals** for the activity.

Names of Resource Files Included: (Please format as .pdf where possible.)

5. Generally describe your **classroom lab setup** with main equipment and areas.

6. There is a link here to your subject area's **full** Overall and Specific Required **Ministry Expectations**. Click here for **safety expectations summarized for each tech course code**. These will create a pop-up window for copying and pasting into the field below. Copy and paste some safety expectations your lesson will cover.

7. There may also be **local by-laws** or **staff guidelines** applicable to your school community in general that affect how you teach your subject area for health and safety. Being in an urban or rural environment can offer unique challenges to a technological education program. Your department or school may also have a health and safety manual you can attach as a file later. Include any details or best practices here on what you refer to.

8. Coming from industry and experience as a technological educator, there is **prior teacher knowledge** that you would recommend for your classroom, focused on health and safety. Include information on recommended certifications for your subject area.

9. Many teachers use these as a basis of training for **prior student knowledge**. Check off which ones you use currently. A pop-up window is available through these links.

- ☐ Passport to Safety
- ☐ Introduction to WHMIS

10. Prior to specific project work, describe your **general introductory unit on health and safety** in your classroom.

11. Check off what **Personal Protective Equipment** may be applicable in your classroom in general for health and safety.

- ☐ safety glasses (shatterproof - may need side guards)
- ☐ coveralls / lab coat / apron (protective clothing)
- ☐ gloves (latex and standard)
- ☐ gloves (chemical resistant)
- ☐ welding gloves and face shield
- ☐ dust mask (breathing protection)
- ☐ respirator (breathing protection)
- ☐ appropriate footwear (may imply steel-toed work boots or closed toe and heel shoes)
- ☐ hair net
- ☐ hair tied back
- ☐ hearing protection - ear plugs
- ☐ removing jewelry and fashion accessories

- ☐ hard hat
- ☐ safety harness
- ☐ reflective vest
- ☐ no electronic devices

12. Describe your student safety training assessment strategies. Click here for a pop-up to review the **Growing Success** document that defines assessment *for learning and as learning*.

13. Some technological classroom areas are more complex and need layout planning, maintenance, and special resources available, especially when sharing rooms. Detail **general housekeeping, organization standards** and student clean-up procedures from your experience.

14. Detail **safe storage facilities** in your classroom for course specific materials.

15. Explain any **special learning considerations** and best practices for your classroom focused on safety. Are there left-handed students in your class? You may naturally include accommodations and modifications. Showcase special approaches or methods you use for exceptional students, multiple-intelligences, differentiated instruction, ESL, gifted, or physically-challenged students.

16. Include information on your safety procedures for **disposal of waste materials**. This could include food scraps, hairstyling chemicals, dust collection, combustible wipes, or waste oil.

17. **Company's coming!** Educational Assistants, volunteers, student teachers, and classroom guests with administrators are in your classroom. Provide your experience on elements of safety training that need to be communicated to these participants for your subject area such as wearing safety glasses, maintaining distance from machines, or how to communicate an emergency or issue to the teacher.

18. **Emergency procedures** to pre-plan in general for your technological education classroom depends on your subject area. There may be steps for students, steps for administration, for assisting teachers, or directions for emergency assistance arriving at school. Detail how you cover these in your classroom. Include fire exits, extinguishers, first aid station, eye wash station, and electrical shut-off switches (panic buttons). Possibly detail AED location (if available) and first aid trained staff member locations for your records.

19. Does your Board have a **technological project approval process**?
- ○ Yes
- ○ No
- ○ Unknown

20. Select (all that apply) that complete **equipment inspections** in your board.
- ☐ Teacher

- ☐ Department Head
- ☐ Board Instructional / Subject Area Leader
- ☐ Board Facilities Teams
- ☐ Independent Contractors
- ☐ Ministry of Labour

21. Select **Federal and Provincial Safety Legislation and Policies, Government Departments, and Associations** which may be applicable to your subject area. Click on any of them to open up a pop-up window to reference their website. Consider adding any resources you find to your lesson.

- ☐ Health Canada
- ☐ Ministry of Labour
- ☐ Ontario Workplace Safety and Insurance Act
- ☐ Food Safety and Quality Act
- ☐ Ontario Health Protection and Promotion Act
- ☐ Ontario Highway Traffic Act
- ☐ Ontario Fire Code
- ☐ Ontario Building Code
- ☐ Workplace Hazardous Materials Information System (WHMIS)
- ☐ Workplace Safety and Insurance Board (WSIB)
- ☐ Occupational Health and Safety Act (OSHA)
- ☐ Apprenticeship and Certification Act (ACA)
- ☐ Canadian Standards Association (CSA)
- ☐ Canadian Society of Safety Engineering (CSSE)
- ☐ Ontario Service Safety Alliance (Hospitality and Tourism) (OSSA)
- ☐ Canadian Centre for Occupational Health and Safety (CCOSH)
- ☐ Construction Health and Safety Association of Ontario (CSAO)
- ☐ Ontario School Boards Insurance Exchange (OSBIE)
- ☐ Industrial Accident Prevention Association (IAPA)
- ☐ Transportation Health and Safety Association of Ontario (THSAO)
- ☐ Health Care Health & Safety Association of Ontario (HCHSA)

That's the end of general classroom management info. You can copy and paste the content from this section to any project you submit to SafetyNET.

That's So Cool! When Do We Start?

22. Check off **planning** tasks you complete for this lesson.

- ☐ examine materials list (new, used, recycled materials)

- ☐ review tool use plan (power and hand tools)
- ☐ consider special preparation of recycled materials for this project.
- ☐ review hazardous materials use - WHMIS, MSIS (attach files later)
- ☐ safety check on specific equipment
- ☐ review chemical and fire safety procedures
- ☐ prepare tools
- ☐ count or measure materials, evaluate efficiencies
- ☐ check 'past due' dates on supplies
- ☐ check student-accessible material supply areas are safe
- ☐ re-do a safety demonstration
- ☐ confirm all students completed training diagnostic assessment
- ☐ confirm web resources and handouts are current
- ☐ reconsider assessment and evaluation strategies
- ☐ plan direct supervision time for difficult or high-risk production steps
- ☐ plan direct supervision for flammable / toxic / corrosive materials handling
- ☐ plan safe storage of in-progress student projects
- ☐ plan cut off times for lab cleanup to begin
- ☐ plan waste disposal, recycling
- ☐ plan debrief on safety risk experiences with students
- ☐ detail notes for teacher sharing classroom/lab

25. Detail **instructional strategies** and **assessment strategies** for focusing on safety during this learning activity. Consider any IEP considerations applicable in your classroom.

26. Define the **materials and equipment** used for this learning activity. You can use the blank form that's provided here and save it to make it your own. The layout helps you collect details showing the materials and equipment. It also provides space for equipment maintenance schedules, disposal of waste materials, training tracking, shielding or guarding details.

27. Include any **best practices** or tips, tricks, and advice in your experience of completing this learning activity. Focus your answer on how you document safety training, and share information about your shop with other tech teachers. That's an OCTElab **SafetyNET!**

28. Provide a **short description** of your project that can go with a reference image for the database. (Max 256 characters.)

SafetyNET STEP 3: Add Files and Videos

Please attach a **project image** for us to display with your short description in the database. Please upload any **supporting documents** including safety components, lesson materials, assessment tools, digital resources, images, or videos. To bring your

lesson to life, include **online videos URL link** files on the lesson plan page. Add as many as you like.

Do you have a **safety features map** of your classroom you can share? Attach it to your lesson!
Find the **Safety Data Sheet (SDS)** for any of your materials clicking and searching here. Save it and add it to your digital resources to attach with your lesson.

SafetyNET STEP 4: Tag Your Lesson

Add your own descriptive tag(s) to help users search for content like yours. Print your lesson to document your SafetyNET for your classroom. Submit your SafetyNET lesson. Plan to update lesson content or add digital resources later with your user login. Think about adding another lesson! Remember, most of your general classroom info is already in. You can 'Save As' and 'Modify' to submit a new lesson with new resources!

SafetyNET – Materials, Physical Resources Planning Sheet

Teachers can copy and add rows to this blank form to address specific project needs and include it in their safety binder.

PROJECT / LEARNING ACTIVITY TITLE:
COURSE CODE AND TITLE:
VERSION PREPARED DATE:
SUBMITTED BY:
CONTACT:

MATERIALS LIST

MATERIAL	QUANTITY	DESCRIPTION	SOURCE	WHMIS SIS ATTACHED	SAFE STORAGE	WASTE DISPOSAL
			[ ] new, purchased [ ] new, donated from community, industry [ ] recycled from inside school [ ] recycled from outside school PREPARATION REQUIRED FOR USE: DETAILS:	[ ] Y [ ] N		

PHYSICAL RESOURCES USED

EQUIPMENT, TOOL, MACHINE	SUBJECT – SPECIFIC NEEDS	INSPECTED FOR SAFETY FEATURES	STUDENT TRAINING PLAN IDENTIFIED	MAINTENANCE SCHEDULE
NOTE: TEACHER EXPERIENCE AND SAFETY PROFICIENCY IS ASSUMED. DETAIL EQUIPMENT: MANUAL APPLICABLE / AVAILABLE (LOCATION):	MACHINE GUARDING AND SHIELDING APPLICABLE [ ] YES [ ] NO [ ] N/A EMERGENCY STOP / PANIC BUTTON APPLICABLE [ ] YES [ ] NO [ ] N/A LOCK-OUT TAG APPLICABLE [ ] YES [ ] NO [ ] N/A OTHER (SUBJECT-SPECIFIC) [ ] YES [ ] NO [ ] N/A	[ ] Teacher DATE: _____ [ ] Board DATE: _____	DETAIL STEPS: Student attended teacher safety instructions, lessons, demonstration(notes recorded) Student passed oral or written assessment (test) Student demonstrated safe setup and operation of equipment to teacher Student prepared and delivered power point presentations on all class tools and machines Student granted permission to use equipment SIGNAGE: safety sign posted RESOURCES: safety lesson tool safety video tool power point presentation manual FREQUENCY OF RETRAINING ADVISED: Students should be re-trained every semester Safety passports expire at the end of every semester	DAILY: WEEKLY: MONTHLY: ANNUALLY: CONTACT FOR REPAIR:

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References

21st Century Competencies: Foundation Document for Discussion. Phase 1: Towards Defining 21st Century Competencies for Ontario, Winter 2016 Edition, 2016
http://www.edugains.ca/resources21CL/About21stCentury/21CL_21stCenturyCompetencies.pdf

Skilled Trades Ontario https://www.skilledtradesontario.ca

Canadian Centre for Occupational Health and Safety
https://www.ccohs.ca/products/

Course Codes for Emphasis courses in the Revised Curriculum: Technological Education, Grades 11 and 12, 2009
http://www.edu.gov.on.ca/eng/curriculum/secondary/techedemphasiscourses.pdf

Growing Success: Assessment, Evaluation, and Reporting in Ontario Schools, First Edition, Covering Grades 1 to 12, 2010
www.edu.gov.on.ca/eng/policyfunding/growSuccess.pdf

Learning for All – A Guide to Effective Assessment and Instruction for All Students, Kindergarten to Grade 12, https://www.dcp.edu.gov.on.ca/en/

Ministry of Labour, Immigration, Training and Skills Development
https://www.labour.gov.on.ca/

Some web content related to employment standards and workplace health and safety may be temporarily unavailable as we move it to this website.This website is currently in the process of being updated as of July 27, 2022.

Ontario Building Code
https://www.ontario.ca/page/ontarios-building-code

Ontario School Boards Insurance Exchange
http://www.osbie.on.ca

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