

Title: Safety in the Woodshop

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Externship Business: [Menominee Tribal Enterprise \(MTE\)](#), [Neopit](#)

Overview/Description:

Woodworking can be a safe and enjoyable trade if you follow some very basic woodworking safety rules. All of the rules are common-sense ideas, but failure to follow these rules will greatly increase the chance of injury. The wood shop is not the place to be in a hurry or have an "it won't happen to me" attitude. Follow the 10 rules and your woodworking experiences will be safer and enjoyable.

Subject(s):

Technology Education

Grade Level(s):

9 – 12

Learning Objectives:

After doing this activity, students should be able to:

- Understand and apply proper safety practices as they pertain to the woodworking shop.
- Care for and safe use of non-powered woodworking tools.
- Care for and safe use of portable and stationary power tools.
- Identify appropriate clothing requirements in a wood workshop.
- List safety equipment requirements for eye, hearing, and dust protection.

Workplace Readiness Skill:

X Social Skills

X Teamwork

X Attitude and Initiative

X Professionalism

X Communication

X Critical Thinking

X Planning and Organization

X Media Etiquette

Type of Activity:

Individual

Small group

X Whole class

Teaching Strategies:

- Observation
- Discussion
- Performance Assessment

Content Standards:

Wisconsin Standards for Technology and Engineering

Content Area: AC/Architecture and Construction

- AC1.c.5.h: Demonstrate and use the common hand tools of the trade safely and properly
- AC1.d.2.m: Demonstrate the safe and proper use of power tools.
- AC1.c.5.h: Demonstrate and use the common hand tools of the trade safely and properly.
- AC1.d.5.h: Demonstrate the use of portable power tools, such as circular saws, table saws, saber saws, drills, planers and sanders, safely and properly.
- AC1.d.6.h: Demonstrate the use of portable pneumatic tools such as rough framing nail guns, interior finishing and brad nail guns, hammers, impact wrenches, drills, and compressors, safely and appropriately.
- AC1.d.7.h: Maintain and care for portable power tools and portable pneumatic tools.

Wisconsin Common Career Technical Standards

Content Area: 4C/Creativity, Critical Thinking, Communication and Collaboration

- 4C1.a: Develop original solutions, products, and services to meet a given need.

Content Area: Career Development

- CD4.a.9.h: Use positive work qualities typically desired in each of the career cluster pathways.

Time:

2 periods

Materials List:

- 10 General Safety rules
- Assorted woodshop equipment
- YouTube Drill Press Use and Safety: <https://www.youtube.com/watch?v=F70IHx78Lv0>
- General Safety Test - attached

Directions (Step-by-Step):

A. Share the 10 General Safety Rules with students, either previously or during this lesson. Safety Rules should also be posted in the woodshop:

General Safety

1. All persons must wear safety glasses upon entering the wood shop. Please note that a face shield is not a substitute for safety glasses; it is only added protection.
2. Appropriate attire must be worn to work in the wood shop. No jewelry or baggy clothes may be worn when working with power tools. Long hair must be tied back. No open toed shoes.
3. No student is allowed to work with power tools while alone in the shop.
4. No one is permitted to remove a safety guard from any tool.
5. No adjustments are to be made to any equipment except by the Shop teacher. No exceptions.
6. Never speak to anyone using a power tool. Wait until they are done.
7. If you find any tool/machine in need of repair, turn it off immediately and tell the Shop teacher. Under no circumstances make repairs to the equipment yourself.
8. Immediately report any and all accidents or incidents to the Shop teacher, no matter how small.
9. No open flame in the wood shop
10. Clean your workstation immediately after you finish your work.

B. Introduction - When students enter the class, they are given a sheet of paper and instructed to list all of the hazards they can detect in the school workshop. The instructor will inform students that they are not to talk, or share their list with other students. Students will have "x" minutes to walk around the shop and note items such as torches with valves left open, materials stacked haphazardly, machine guards too far away from the wheel, power tools with damaged cords, etc. These "flaws" will be set up by the instructor prior to class.

C. The Lecture/Discussion - After a short lecture on general industrial safety, students will pick a topic - tools, materials, worksite, individual or project. Students will then list all of the hazards, defects, safety risks or other elements that could cause an injury or accident.

D. The Drill Demo - Students get a basic introduction to the drill press, including nomenclature, types of drill bits chucks and accessories used, lubrication and cooling of work, adjustments, basic maintenance, and common hazards and clean up requirements. This is not the detailed drill press lesson, it is an overview. After an instructor demonstration, students will change a drill bit, check and adjust the DP table for square and adjust the table height.

YouTube video on Drill Press Use and Safety:

<https://www.youtube.com/watch?v=F70IHx78Lv0>

Wrap-Up:

Instructor will check with students to see if there are any remaining questions on general safety and give feedback on the drill press formative assessment.

Formative/Summative Assessment:

Formative Assessment - After an instructor demonstration, students will change a drill bit, check and adjust the Drill Press table for square and adjust the table height.

Summative Assessment - Students will complete the General Safety Test (attached).

Extension Activity for differentiation:

As this topic is related to safety which can't be compromised at any stage. Each and every student is suppose to pass 100% in safety test. Advance students can help other peers.

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Assessment

General Safety Test

Note: Circle “S” if the condition in the statement is Safe or “U” if the condition in the statement is Unsafe on the grid sheet provided.

1. To wear safety goggles from the beginning of the work time until after cleanup has been completed.
2. To report all accidents and injuries to the instructor, no matter how small.
3. To wear loose clothing in the shop and/or around the machine while working.
4. To wear jewelry while working.
5. To wear apron that are in poor condition.
6. To operate power machinery is permissible when instructor is not present.
7. To remove guards without instructor’s permission.
8. To refrain from talking to or distracting the attention of a person operating a machine.
9. To operate a machine before the instructor has demonstrated its safe operation.
10. To wipe up oil or grease on the floor.
11. To carry keen edged and sharp pointed tools with the cutting edge down.
12. To leave trimmings and scraps on or around the machine.
13. To adjust or clean a machine while in operation.
14. To remove scrapes from your bench or machine using your hands.
15. To recognize the proper operating-sound of each machine.
16. To keep both hands behind the cutting edge of keen edged tools.
17. To keep hands, tools and rags away from moving parts of operating machine.
18. To have special set-up checked by the instructor before operating the machine.
19. To get help when it is necessary to lift heavy objects.
20. To have long hair loose when operating machinery.
21. To have wet hands while working with electrical equipments.
22. To place all soiled rags in metal container.
23. To disconnect electrical tools by pulling on the cord.
24. To prevent accidents and injury avoid all forms of “Horse Play”.
25. To have instructor's approval on all work done in the shop.
26. To report breakage and damage to shop equipment.
27. To use a hammer or a mallet with a loose handle.
28. To throw tools to other students.
29. To return tools to their proper place when done with them.
30. To handle long objects by yourself.

Answer Sheet

Name: _____ Date: _____ Period: _____

Circle the correct answer

No	Safe/ unsafe	No	Safe/ unsafe
1	S U	16	S U
2	S U	17	S U
3	S U	18	S U
4	S U	19	S U
5	S U	20	S U
6	S U	21	S U
7	S U	22	S U
8	S U	23	S U
9	S U	24	S U
10	S U	25	S U
11	S U	26	S U
12	S U	27	S U
13	S U	28	S U
14	S U	29	S U
15	S U	30	S U