

Unit 1: Shop, Tool, and Machine Safety

Content Area: **Technology**
Course(s):
Time Period: **Full Year**
Length: **Type Length of Unit**
Status: **Published**

General Overview, Course Description or Course Philosophy

This full year course offers an introductory view on the tools, materials, and processes of modern woodworking. Students will familiarize themselves with common terminology and practices to complete avocational woodworking projects. This hands-on course calls for the production of several ‘everyday functional’ woodworking projects. The projects are chosen so that students can increase their knowledge and experience with regard to machine use and woodworking technique. The course goal is to allow students to produce pieces from plans on their own without instructor provided step by step instructions.

OBJECTIVES, ESSENTIAL QUESTIONS, ENDURING UNDERSTANDINGS

Rules and procedures help students work safely in the shop and work area. Recognizing and describing potential risks and hazards associated with not following lab/equipment rules is essential for success in the classroom and workplace.

CONTENT AREA STANDARDS

9.3.12.AC.1	Use vocabulary, symbols and formulas common to architecture and construction.
9.3.12.AC.6	Read, interpret and use technical drawings, documents and specifications to plan a project.
9.3.12.AC-CST.5	Apply practices and procedures required to maintain jobsite safety.
12.9.3.MN-HSE.1	Demonstrate the safe use of manufacturing equipment.
12.9.3.ST-ET.1	Use STEM concepts and processes to solve problems involving design and/or production.
12.9.3.ST-ET.2	Display and communicate STEM information.
12.9.3.ST-ET.3	Apply processes and concepts for the use of technological tools in STEM.
12.9.3.ST-ET.4	Apply the elements of the design process.
12.9.3.ST-ET.5	Apply the knowledge learned in STEM to solve problems.

RELATED STANDARDS (Technology, 21st Century Life & Careers, ELA Companion Standards are Required)

LA.RST.11-12.3	Follow precisely a complex multistep procedure when carrying out experiments, taking measurements, or performing technical tasks; analyze the specific results based on explanations in the text.
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LA.RST.11-12.4	Determine the meaning of symbols, key terms, and other domain-specific words and phrases as they are used in a specific scientific or technical context relevant to grades 11-12 texts and topics.
LA.WHST.9-10.2	Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.
LA.WHST.9-10.4	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.
LA.WHST.9-10.6	Use technology, including the Internet, to produce, share, and update writing products, taking advantage of technology's capacity to link to other information and to display information flexibly and dynamically.
LA.WHST.11-12.2	Write informative/explanatory texts, including the narration of historical events, scientific procedures/experiments, or technical processes.
LA.WHST.11-12.4	Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

STUDENT LEARNING TARGETS

Students should be able to identify the proper use of each tool/machine, which tool/machine should be used for a specific task, how to safely operate and adjust each machine or tool.

Declarative Knowledge

Students will understand that:

It is necessary to be certified on all equipment in order to use it safely.

There are negative health and safety consequences to not following lab safety rules.

The health and longevity of the lab equipment is dependent on students utilizing them properly.

Procedural Knowledge

Students will be able to:

Determine the appropriate resources (lab and safety equipment) in the design, development and creation of a technological product or system.

Use the appropriate resources (lab and safety equipment) in the design, development and creation of a technological product or system.

Apply appropriate academic and technical skills.

Identify the name and location/storage location of specific tools and machines.

EVIDENCE OF LEARNING

Formative Assessments

Safety quizzes: General lab safety, Eye Safety, Machine and HAnd Tool Safety, Specific Machine Safety and any other appropriate material processing equipment quizzes.

Summative Assessments

Performance task machine setup and skills analysis.

RESOURCES (Instructional, Supplemental, Intervention Materials)

Teacher notes and quizzes available through Google Classroom/Drive.

Material processing project rubric.

INTERDISCIPLINARY CONNECTIONS

Educational Technology: Use of Google resources

ACCOMMODATIONS & MODIFICATIONS FOR SUBGROUPS

See link to Accommodations & Modifications document in course folder.

