

Course: *Woodworking 1*
Unit #3: *Power Tool Use*

Year of Implementation: 2023-2024

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Stage One - Desired Results

Link(s) to New Jersey Student Learning Standards for this course:

<https://www.state.nj.us/education/cccs/2020/>

https://www.nj.gov/education/standards/clicks/Docs/2014_9.3_21LifeAndCareers.pdf

https://www.nj.gov/education/standards/ela/Docs/2016NJSLS-ELA_Companion9-10.pdf

https://www.nj.gov/education/standards/ela/Docs/2016NJSLS-ELA_Companion11-12.pdf

- **Unit Standards:**

- **21st Century Life & Career Standards**

- 9.3.12.AC-CST.9 Safely use and maintain appropriate tools, machinery, equipment and resources to accomplish construction project goals.
- 9.3.12.AC-DES.8 Apply standards, applications and restrictions pertaining to the selection and use of construction materials, components and assemblies in the project design.
- 9.4.12.CT.2: Explain the potential benefits of collaborating to enhance critical thinking and problem solving
- 9.4.2.CT.3: Use a variety of types of thinking to solve problems (e.g., inductive, deductive).

- **English Companion Standards**

- Grade 9-10 Companion Standards:
 - RI.9-10.7. Analyze various perspectives as presented in different mediums (e.g., a person's life story in both print and multimedia), determining which details are emphasized in each account.
 - NJSLSA.W2. Write informative/explanatory texts to examine and convey complex ideas and information clearly and accurately through the effective selection, organization, and analysis of content
- Grade 11-12 Companion Standards:

- NJSLSA.R1. Read closely to determine what the text says explicitly and to make logical inferences and relevant connections from it; cite specific textual evidence when writing or speaking to support conclusions drawn from the text.
 - NJSLSA.W4. Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience
- ***NJ Statutes:*** NJ State law mandates the inclusion of the following topics in lesson design and instruction as aligned to elementary and secondary curriculum.

Amistad Law: N.J.S.A. 18A 52:16A-88 Every board of education shall incorporate the information regarding the contributions of African-Americans to our country in an appropriate place in the curriculum of elementary and secondary school students.

Holocaust Law: N.J.S.A. 18A:35-28 Every board of education shall include instruction on the Holocaust and genocides in an appropriate place in the curriculum of all elementary and secondary school pupils. The instruction shall further emphasize the personal responsibility that each citizen bears to fight racism and hatred whenever and wherever it happens.

LGBT and Disabilities Law: N.J.S.A. 18A:35-4.35 A board of education shall include instruction on the political, economic, and social contributions of persons with disabilities and lesbian, gay, bisexual, and transgender people, in an appropriate place in the curriculum of middle school and high school students as part of the district's implementation of the New Jersey Student Learning Standards (N.J.S.A. 18A:35-4.36) A board of education shall have policies and procedures in place pertaining to the selection of instructional materials to implement the requirements of N.J.S.A. 18A:35-4.35.

Diversity and Inclusion (N.J.S.A. 18A:35-4.36a) A board of education shall incorporate instruction on diversity and inclusion in an appropriate place in the curriculum of students in grades kindergarten through 12 as part of the district's implementation of the New Jersey Student Learning Standards.

Asian American and Pacific Islanders (AAPI) P.L.2021, c.410 Ensures that the contributions, history, and heritage

of Asian Americans and Pacific Islanders (AAPI) are included in the New Jersey Student Learning Standards (NJSLS) for Social Studies in kindergarten through Grade 12 (P.L.2021, c.416)

For additional information, see

NJ Amistad Curriculum: <http://www.njamistadcurriculum.net/>

Diversity and Inclusion: <https://www.nj.gov/education/standards/dei/index.shtml>

- (Sample Activities/ Lessons): <https://www.nj.gov/education/standards/dei/samples/index.shtml>

Asian American and Pacific Islanders:

- [Asian American and Pacific Islander Heritage and History in the U.S.](#)

A Teacher's Guide from EDSITEment offering a collection of lessons and resources for K-12 social studies, literature and arts classrooms that center around the experiences, achievements and perspectives of Asian Americans and Pacific Islanders across U.S. history.

Transfer Goal: Students will be able to independently use their learning to identify, select, and use the appropriate power tool(s) to safely and accurately construct a given project.

As aligned with LRHSD Long Term Learning Goal(s):

- communicate and collaborate using appropriate technical terms to describe, analyze, interpret, and judge their work and the work of others
- acquire, integrate, and apply design processes and essential technical skills to solve problems, create products, and improve the quality of life for our local and global community

Enduring Understandings

Students will understand that . . .

EU 1

each power tool has a specific set of uses.

Essential Questions

EU 1

- When is it better to use a power tool over a hand tool?
- How do you choose which power tool to use if the same cut can be made with multiple tools?

EU 2

each power tool is operated in a specific sequence.

- What procedure will you go through if the power tool requires a special set up?

EU 2

- Why is it important to check machine settings before you turn a machine on?
- How is guard setup integral to the operation of certain power tools?
- What could go wrong if you do not operate a machine in the correct step-by-step procedure?

Knowledge

Students will know . . .

EU 1

- that certain blades are designed to cut with the grain or against the grain(9.3.12.AC-CST.9, 9.4.2.CT.3)
- that each machine makes specific cuts.(9.3.12.AC-CST.9, 9.4.2.CT.3)
- the purpose and operating procedure of each power tool in the shop(9.3.12.AC-CST.9, 9.4.2.CT.3)

EU 2

- that each machine has a unique order of operations.(9.3.12.AC-CST.9, 9.4.2.CT.3, 9.4.12.CT.2)
- that each machine has safety guards and fixtures. (9.3.12.AC-CST.9, 9.4.2.CT.3)

Skills

Students will be able to . . .

EU 1

- choose the proper tool for a given task. (9.3.12.AC-CST.9, 9.4.2.CT.3, 9.4.12.CT.2)
- use each tool safely. (9.3.12.AC-CST.9, 9.4.2.CT.3)
- demonstrate the proper use of each power tool in the shop(9.3.12.AC-CST.9, 9.4.2.CT.3)

EU 2

- setup guards properly. (9.3.12.AC-CST.9, 9.4.2.CT.3)
- identify potential dangerous situations. (9.4.2.CT.3, 9.4.12.CT.2)
- make adjustments to each machine before being used. (9.3.12.AC-CST.9)

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Stage Two - Assessment

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Stage Three - Instruction

Learning Plan: **Suggested Learning Activities to Include Differentiated Instruction and Interdisciplinary Connections:** Each learning activity listed must be accompanied by a learning goal of **A= Acquiring basic knowledge and skills, M= Making meaning and/or a T= Transfer**. *The following color codes are used to notate activities that correspond with interdisciplinary connections and 21st Century Life & Career Connections (which involves Technology Literacy):* **Red = Interdisciplinary Connection; Purple = 21st Century Life & Career Connection**

- Teacher led discussions on shop safety and power tool usage (A, EU1, EU2)
- Teacher led discussions and demonstrations on characteristics and uses of different types of blades.(A, M,EU1, EU2)
- Demonstrations on power tool usage.(A,M, EU1, EU2)
- Teacher led discussions and demonstrations on potentially dangerous operations on each machine.(A, M,EU1, EU2)
- Student note taking on power tool safety and operation (A, EU1, EU2)
- Teacher led discussions and demonstrations on how to set up safety guards for each machine.(A, M,EU1, EU2)
- Student demonstration on how to set up safety guards for each machine.(M, T, EU1, EU2)
- Teacher led discussions on procedures for special setups.(A, M,EU1, EU2)
- Practice new skill sets on power tools (M,T, EU1, EU2)
- Student demonstration of proficient use of each power tool.(M,T EU1, EU2)

- Create a safety and operations worksheet outlining the function of given tools (M, EU)
- Student identification of what cut needs to be made and selection of the appropriate tool to do it (M,T EU1, EU2)
- Student explanation of thought process behind choosing which power tool to use for a specific cut.(M,T EU1, EU2)
- Student journaling (M,T EU1, EU2)

Pacing Guide

Unit #	Title of Unit	Approximate # of teaching days
1	Safety	30
2	Hand Tool Use	50
3	Power Tool Use	70
4	Assembly and Finishing	30

Instructional Materials

Subscription

- Woodsmith Library Annual subscription <https://www.woodsmithlibrary.com/unlimited/>

Fully Equipped woodworking shop

Accommodations

Special Education: The curriculum will be modified as per the Individualized Education Plan (IEP). Students will be accommodated based on specific accommodations listed in the IEP.

Students with 504 Plans: Students will be accommodated based on specific accommodations listed in the 504 Plan.

English Language Learners: Students will be accommodated based on individual need and in consultation with the ELL teacher.

Students at Risk of School Failure: Students will be accommodated based on individual need and provided various structural supports through their school.

Gifted and Talented Students: Students will be challenged to enhance their knowledge and skills through acceleration and additional independent research on the subject matter.