

02: Basic material processing and work flow

Content Area: **Technology**
Course(s):
Time Period: **Full Year**
Length: **10 weeks**
Status: **Published**

General Overview, Course Description or Course Philosophy

This full year course offers a 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

Students will understand that a finished product or piece is the result of a practice or sequence of procedures.

CONTENT AREA STANDARDS

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|-----------------|---|
| 9.3.12.AC.1 | Use vocabulary, symbols and formulas common to architecture and construction. |
| 9.3.12.AC-CST.5 | Apply practices and procedures required to maintain jobsite safety. |
| 12.9.3.ST.6 | Demonstrate technical skills needed in a chosen STEM field. |
| 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)

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|----------------|---|
| LA.W.11-12.2 | Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content. |
| LA.W.11-12.3.E | Provide a conclusion that follows from and reflects on what is experienced, observed, or resolved over the course of the narrative. |

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|--------------|--|
| LA.W.11-12.4 | Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience. (Grade-specific expectations for writing types are defined in standards 1–3 above.) |
| LA.W.11-12.6 | Use technology, including the Internet, to produce, share, and update individual or shared writing products in response to ongoing feedback, including new arguments or information. |
| MA.S-IC.B.6 | Evaluate reports based on data. |
| MA.S-ID.A.1 | Represent data with plots on the real number line (dot plots, histograms, and box plots). |

STUDENT LEARNING TARGETS

Students should know the steps to creating a bandsaw box

Declarative Knowledge

Students will understand that:

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- Before lumber can be worked with it must be properly milled.
- desired results require a well defined sequence

Procedural Knowledge

Students will be able to:

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- surface 4 sides of rough sawn lumber into a squared board
- explain the difference between hard and soft woods
- identify the proper steps to gluing a board
- safely identify and adjust jointer, planer, bandsaw,
- properly resaw lumber
- identify the sequence of abrasives
- apply a finish coat to wood.

EVIDENCE OF LEARNING

Observation, discussion, and hands on interaction

Formative Assessments

Written procedural and vocabulary quizzes.

Production of bandsaw box 1

Summative Assessments

Performance task machine setup and skills analysis.

Student developed Log

Production of the bandsaw box 2

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.

