

Unit: Book 1 Projects

Title: Tote Box

Skill(s) and Knowledge: Students will be able to: identify the tools and materials and processes needed to complete the tote box project, while maintaining a safe working environment.

Tasks: Fabricate the parts and assemble a tote box.

Performance objective: Create a cut list, identify materials and fasteners, follow directions, read working drawings, use and maintain the following tools: tape measure, pencil, combination square, circular saw, hand saw, drill, hammer, sandpaper, clamps.

Tools, supplies and reference materials:

- (1) $\frac{3}{4}$ " x 16" dowel, (1) 1 x 6 x 8' pine or similar (26) 6d finish nails, wood glue, Combination square, tape measure, pencil, circular saw, hand saw, $\frac{3}{8}$ " drill, $\frac{3}{4}$ " spade bit, pilot bit for 6d nails, claw hammer, nail set, straight edge, sandpaper, clamps, bucket of water and rags, Career Connection Book 1 Chapter 7 pages: 163-173.

Methods of instruction: Provide each student with the materials to and tools to complete the project and allow students to work at their own pace referencing the Career Connections Book 1 Chapter 7 and following the instructions.

Estimated time: 8-10hrs. **Number of students:** 10-15

Task analysis or activities: Students will work in small groups at shop tables, with all the previously mentioned power tools, working together to complete all activities and helping each other as they progress at their own pace.

Evaluation: Students will be graded on their use of time, safety methods, quality of work, cleaning and organization of their work area, interaction with other students, and vocational employability skills grading rubric. Tote box project evaluation on page 191.

Performance Notes:

Vocational Frameworks References

- 2.E.01.01 Demonstrate use and maintenance of layout, marking and measuring tools
- 2.E.01.02 Demonstrate use and maintenance of fastening, clamping and dismantling tools.
- 2.F.01.01 Demonstrate use and maintenance of portable circular saw.
- 2.F.02.01 Demonstrate use and maintenance of portable drills.

English/Strand 3 Frameworks References:

RST Grades 9-10 #4 Determine the meaning of symbols, key terms, and other domain-specific words and phrases in a technical context.

Frameworks References: Math

N-Q3 Identify significant figures in recorded measures and computed values based on the context given and the precision of the tools used.

Common Core References:

- Read and listen critically for information understanding and enjoyment
- Set goals and achieve them by organizing time, workspace, and resources effectively
- Work both independently and in groups

SCANS references:**Foundation Skills:**

1. Basic skills— reading, writing, mathematics, speaking, and listening.
2. Thinking Skills-- thinking creatively, making decisions, solving problems, visualizing, knowing how to learn, and reasoning
3. Personal qualities--individual responsibility, self-esteem, sociability, self management, and integrity

Work Place Competencies

1. Resources--allocating time, money, material, space, and staff.
2. Interpersonal skills--working in teams, teaching others, serving customers, leading negotiating, and working well with culturally diverse populations.
3. Information--acquiring and evaluating data, organizing and maintaining files, interpreting & communicating, and using computer to process information
4. Systems--understanding social, organizational, and technological systems, monitoring and correcting performance, and designing or improving systems.
5. Technology--selecting equipment and tools, applying technology to specific tasks, and maintaining and troubleshooting technologies

CAREER CONNECTIONS: PROJECT BOOK 1**Lesson Plan:** Chapter 7, Tote Box

Time Required: Eight 50-minute class periods (to construct the tote box; instructions to construct a paper towel holder and foot stool are provided as alternative or additional projects, as needed).

- Allow time to check out students on safety and operation of tools to be used in the project if they have not already demonstrated safety and operation competency.
- Allow time, depending on the complexity of the project, for students to make up the cut list (1-2 hours).
- Allow time before the shop period ends for cleaning up the shop.

Goal:

Construct a tote box using fundamental carpentry concepts, skills, materials, and tools

Objectives:

At the end of this chapter, students should be able to:

- Construct a project by following all safety practices and procedures
- Gather information from drawings
- Determine the dimensions of components
- Use a measuring tape accurately and correctly
- Operate a hand saw safely and correctly
- Gain literacy in basic angles, including measuring, marking, and cutting them

Cooperative Learning:

For more complex projects, students can work in pairs or in teams. In this case, both students in the pair or all members of the team will receive the same grade in evaluations. Working in pairs or in teams will shorten the time required to complete the projects if time in the shop is an issue. This method of building projects will also cut down on the amount of material used.

Procedures:

The following provides a summary of instructional and assessment procedures.

Teach

Minutes	Activity
Class Period 1	
10	<i>Chapter 7 Introduction</i> Review the lesson goal and objectives with students. Discuss expectations and how the project will be evaluated.
40	<i>Section 1</i> Review with students the illustrations shown of the tote box. Direct students in the development of a cut list for this project.
Class Period 2	
20	Review project illustrations with students. Allow time for students to finalize the cut list.
30	Have students begin construction of the tote box by cutting the end pieces.

Class Period 3	
50	Guide students through completion of cutting the end pieces.
Class Period 4	
50	Lead students through the steps for cutting the side pieces.
Class Period 5	
50	Have students complete the side pieces, bottom, and handle.
Class Period 6	
50	Have students begin assembling the tote box.
Class Period 7	
50	Guide students as they continue assembling the tote box.
Class Period 8	
40	Lead students through complete assembly of the tote box.
10	<i>Project Review</i> Review completed results. Assign alternative projects as needed. Ask students to review Chapter 8 for the next class.

Assess

Assessment Activity	Assessment Method and Criteria
Tote Box, Paper Towel Holder, Foot Stool	See rubrics and evaluation sheets. Additionally, a skills matrix will be provided.