PROJECT: DISCOVERY

ENHANCED SKILLS TRAINING CURRICULUM

SAMPLES

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EXCERPTS PROVIDED:

1. Competencies
2. Outline Chart - Scope and Sequence
3. Pre-Post Test
4. First Look at Carpenter's Helper
5. Instructor's Lesson Plan
6. Student Instructions
7. Student Worksheets

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CARPENTER'S HELPER
ENHANCED SKILLS TRAINING COMPETENCIES

Student applies shop and occupational safety skills:

1. Follows universal safety precautions
2. Displays a safe attitude when working
3. Performs work in a safe manner without being told.
4. Identifies potential dangers and understands their consequences in independent work situations.
5. Uses hand tools safely and accurately.
6. Uses safety equipment appropriately.
7. Identify the types of signs and markings used on the job site.

Student demonstrates basic measuring skills for carpentry:

8. Identify the parts of the English measuring system.
9. Demonstrate an understanding of the metric system.
10. Identify the metric system and convert between the English system.
11. Identify the reasons for using the English and metric systems of measurement.
12. Describe the tools used in measuring activities.
13. Accurately measure, mark and cut wood.
14. Identify measurement tools used in carpentry.
15. Use mathematic computations and measurement skills in planning and designing a workbench.
16. Identify and discuss geometric patterns that repeat or that have rotational or reflective symmetry.
17. Calculate the area or perimeter of various two-dimensional shapes.
18. Understand the application of mathematic skills to the carpentry trade.

Student describes carpentry industry opportunities:

19. Demonstrate knowledge of job opportunities in carpentry.
20. Demonstrate knowledge of skills needed in the carpentry field.

Student describes the characteristics of building materials:

21. Describe and recognize different types of lumber.
22. Describe and recognize lumber definitions.
23. Identify lumber used in carpentry.

Student demonstrates competent and safe use of basic tools used in carpentry:

24. Use hand saws safely and accurately.
25. Check for level and square using a variety of squaring, plumbing and leveling techniques and tools.
26. Identify hand tools used in carpentry.
27. Use a sander safely and accurately.

Student will be able to read basic blueprints:

28. Recognize and identify basic blueprint terms, components, and symbols.

CARPENTER'S HELPER
ENHANCED SKILLS TRAINING
90 DAY CURRICULUM OUTLINE

DAY	LESSON PLAN	MATERIALS PROVIDED	INSTRUCTOR NOTES	COMPETENCY
1-2	School is Your Job! Page 1	• "*Is School a Real Job?*" Handout • *Pre-test*" Handout	• Explain the grading system and course expectations. • Give the Pretest.	• Demonstrates work ethic/employability skills
3-5	Safety on the Job Page 7	• "*Safety on the Job*" Handout • "*Safety on the Job Test*" Handout (with answer key)	• Provide students with an overview of basic safety. Distribute the handout "*Safety on the Job*" and discuss with the class. • Administer the "*Safety on the Job Test*"	• Follows universal safety precautions. • Displays a safe attitude when working • Performs work in a safe manner without being told. • Identifies potential dangers and understands their consequences in independent work situations. • Identifies the types of signs and markings used on the job site.
6-8	Woodshop Safety Page 16	• None	• Students will view YouTube videos on Woodshop Safety. • After viewing, ask the students to write a 200 word essay on what they saw.	• Demonstrate ability to use writing skills. • Follows universal safety precautions. • Displays a safe attitude when working • Performs work in a safe manner without being told. • Identifies potential dangers and understands their consequences in independent work situations.
9-10	Math Skills in Carpentry Page 18	• Tape measure • Ruler • Yardstick • "*Math and Measuring Concepts Quiz*" Handout (with answer key)	• Review measurement lesson in Carpentry I. • Present information to students on the English metric system as outlined in the procedure.	• Identify the parts of the English measuring system. • Identify the metric system and convert between the English systems. • Identify the reasons for using the English and metric systems of measurement.

Name: _____ **Date:** _____

CARPENTER'S HELPER – ENHANCED SKILLS
PRE-TEST

Directions: Read each item and circle the letter of the choice that best completes the statement or answers the question

1. In most cases, informational signs are:
    a. red in color.
    b. blue in color.
    c. green in color.
    d. orange in color.

2. OSB stands for:
    a. Oriented Strand Board
    b. Oriented Strand Bonded
    c. Oriented Special Bond
    d. Oriented Special Board

3. Horseplay on the job…
    a. is a poor work habit.
    b. is a good work habit.
    c. is permitted on the job.
    d. is okay on a break.

4. The prefix "milli" means:
    a. one hundredth.
    b. one thousandth.
    c. one tenth.
    d. one eighth.

5. An inch is comprised of:
    a. five equal parts.
    b. ten equal parts.
    c. four equal parts.
    d. sixteen equal parts.

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"FIRST LOOK AT

CARPENTER'S HELPER"

ENHANCED SKILLS TRAINING

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Days 3-5
"Safety on the Job"

Safety signs – Safety signs are often white signs with green letters such as where to get first aid.

Exit signs are signs showing you how to leave the building and are often in red and white.

DAYS 43-45

LESSON PLAN – PLANNING AND DESIGNING A WORKBENCH

COMPETENCIES
Use mathematic computations and measurement skills in planning and designing a workbench.
Use mathematic skills to compute the cost of a project.
Understand the application of mathematic skills to the carpentry trade.

OBJECTIVE – Students will:

- Use mathematic computations to design a workbench plan.
- Use measurement skills to identify lumber needed for a workbench.

MATERIALS NEEDED FROM THE KIT:

1. "*Planning and Designing a Workbench Instruction Sheet*" Handout
2. "*Workbench Parts Diagram*" Handout
3. "*Workbench Cost Sheet*" Handout
4. Tape measure

MATERIALS YOU NEED TO GET:

1. Pencil
2. Paper

LENGTH: Three class periods

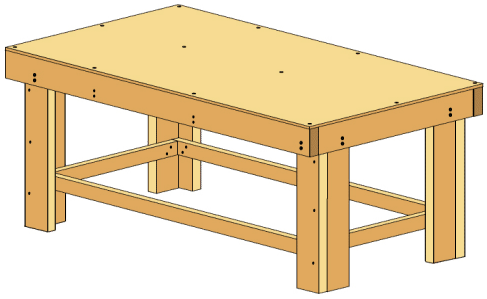
PROCEDURE:

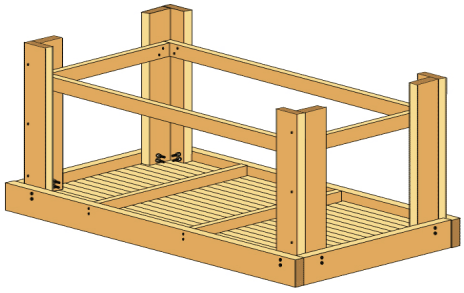
1. **NOTE**: This workbench is a different one from the workbench they will build in Days 60-71. Distribute the handouts. Students should use the "*Planning and Designing a Workbench Instruction Sheet*" Handout and the "*Workbench Parts Diagram*" Handout to complete the activity.
2. Distribute the "*Workbench Cost Sheet*" handout. Ask students to complete the activity.

EVALUATION:
Successful completion of student handouts.

PLANNING AND DESIGNING A WORKBENCH
Student Instructions

Student Name _____ **Date:** _____





1. You will begin the planning and design of a workbench. The size of your completed workbench should be **24" deep, 34" high and 60" long**.

2. Use the "*Workbench Parts Diagram"* handout to identify the specific calculations you will need to make for your bench.

3. Calculate the amount of wood you will need (by type) for your project.

4. Remember, you will need all of the wood pieces listed on the "*Workbench Parts Diagram"* handout (count the top substrate as 1 piece) to complete this project.

5. Identify the cost of all the materials needed for the workbench using the "*Workbench Cost Sheet"* handout. Add local sales tax and determine the total cost.

6. Ask your instructor to check your work.

Workbench Cost Worksheet

Complete this cost sheet by inserting the materials you will need to build your workbench. You will need to determine the number of 2 x 4's and 2 x 8's required for the project. Remember each leg will require two pieces of wood. List every type of material you will need to purchase. Extend out the total cost for each type of material by multiplying the total pieces of wood by the prices given below. Add your state sales tax in the space provided and determine the final total cost for the project. The cost of screws has been inserted for you.

Price List:

3/4" Plywood Sheet:	$ 25.00
2 x 4's:	$ 6.00
2 x 8's:	$ 12.00
3" Wood Screws:	$ 20.00
16 3/8" x 4" carriage bolts with washers and nuts:	$ 8.00
Wood glue:	$ 4.00

Quantity	***Description***	***Price***	***Total***
1	Box of 3" Wood Screws	20.00	20.00
		Subtotal	
		Sales Tax	
		Total	