

Unit Topic: Technical or General Resources**Title or Subject Area: Lesson Plan # 1, Welding Project****Activity Name:** Plasma Welding Table Project**Grade Level:** 11-12**Objective/Rationale/Goals:**

1. Students will understand how to use BOBCAD by utilizing the computer program. Students will have many short lessons guided by the instructor to understand each component of the “name Project.”
2. Students will know how to setup CAD, input name, and QUICKTRIM it together. The students will observe the instructor demonstrate QUICKTRIM and will then practice the procedure with a partner.
3. Students will understand SHEETCAM and save the file as a DXF after the instructor demonstrates the procedure.
4. Students will input drawing of their name to plasma table, cut out name, and observe other students demonstrate the process.

Time Frame: 1-day Lesson (Day 1 of the 12 days for students to complete entire project)**Materials:**

- Computer with CAD Program
- Plasma Table
- Project Checklist, page 3

Directions/Procedure:

1. Have students observe a demonstration of a name getting cut-out on a plasma table. The teacher will have a program setup for them and they will watch the first time.
2. Inform students their classroom assignment will be to cut their own name out on the plasma table.
3. Demonstrate to students the difference in a hand-held plasma torch and a plasma table. Introduce the software that will be used to cut out their name.
4. Have students open the CAD program and chose a text they like, as well as a QUICK TRIM, that ties all the letters together.
5. Have students work in pairs, to support and check on each other.
6. Each pair of students must explain the process of saving the file to you while they are actively doing it. (It must be saved as DXF and then pulled into Sheetcam.) The students need to explain the steps to the teacher as they go through it.

7. Students are evaluated on if they could complete the steps from the beginning to the end:
 - Explain and demonstrate to the instructor--the key steps on how to operate CAD, including how to turn the plasma table on.
 - Explain the process to their partner.

Resources & References:

- This lesson plan and evaluation was created by Rollie Lais, Browerville HS Agriculture Teacher.

Assessment/Evaluation:

1. Students will need to understand each step of this process to get to the final project. If students miss a step, the project will not turn out. Students will go over each step with the teacher. Students will be evaluated the final outcome of their name by the instructor completing the project checklist.

Suggested Homework/Extended Assignments:

Some of the students may want to go into more depth with their sign. The students are more interested in the sign when it is their own and they get to keep it.

Examples of this:

- make outlines for their sign;
- make signs with two or three words tied all together;
- sand and use a grinder to shine the signs;
- painted sign in an art room to make sure they were getting the right colors.

Student Name _____

Date _____

Type of Weld _____

Plasma Table / Name Project
Evaluation Checklist

**Note: Any criteria evaluated at less than 4 by the instructor, requires student to redo it.*

Criteria	5	4	3	2	1	0	Instructor's Comments:
Overall Appearance							
Understanding							
Cleanliness							
Amps and Speed							
Durability							
Safety and Work Habits							
Freedom from Distortion							

Total Score + _____/35