

573 - ARCS AND SPARKS: Shielded Metal Arc Welding**2024****General 4-H Project****NOTE: State & County Requirement:****All welding projects must be done using Shielded Metal Arc Welding (SMAW), “stick welding”.**

- ✿ For project COMPLETION and GRADE, Member MUST participate in either:
 1. **County 4-H Project Judging Day** – Ross County Fairgrounds
Member is eligible for County Awards (Judges' Choice, Outstanding, Honorable Mention) and State Fair Selection (if applicable)
 2. **Early 4-H Project Judging** – Ross County Service Center
Members unable to attend County Project Judging Day should plan to attend Early Judging. Member is eligible for County Rosettes (Outstanding, Honorable Mention).
* *Exception for State Fair selection at Early Judging - If there is only one member judged in a project, then the judge has the option to select a state fair representative.*
- ✿ Complete “Thank You” note activity (see copy of instruction sheet included in your project book)
- ✿ To receive Fair Premiums, your project must be displayed at the Ross County Fair in a Jr. Fair Building booth.
- ✿ **For Project Judging Dates & Times & Details:**
ASK your Club Advisor
READ the *May Family HOTLINE* sent to every 4-H family
LOOK on the 4-H App or website <http://ross.osu.edu>

Skill Level: Intermediate. *Designed for members 12 years of age and older. Grades 6 – 12.**This project should take between 3 and 6 months to complete and may be repeated. Members repeating this project should read #8 under “Project Guidelines” in the front of the book (pg 3).***Completion:**

1. **All welding projects must be done using Shielded Metal Arc Welding (SMAW), “stick welding”.**
2. Complete Project Book –
 - a. Recommended number of areas, building skills, and ‘developing knowledge’ questions for your year
 - b. At least 2 Organized Project Activities
 - c. At least 2 Leadership/Citizenship activities
3. Build Welding projects – You MUST FOLLOW the size requirements listed on other side of this paper.
 - a. Build at least 2 welding projects from the ‘Arcs & Sparks Book’
 - b. Build at least one other project (of your choice)

Judging:

1. Interview on skills learned and items made.
2. Bring completed project book and **at least 2 weldment/items built** (either 2 weldments from the book OR 1 from book and 1 of your choice) to interview on Project Judging Day.
3. **Wear/bring appropriate clothing** for welding to judging including – long pants, boots, welding helmet, gloves.

County Fair Exhibit:

Display in a fair booth an educational exhibit including at least 1 weldment/item built.

State Competition: see other side for project size requirements. There are 2 classes based on size.

1. **Projects must be done using Shielded Metal Arc Welding (SMAW), “stick welding”.**
2. State Fair participants selected during county-level competition on 4-H Project Judging Day.
3. Event: Engineering – Welding Day
Bring - Completed project book, appropriate gear, other equipment and/or supplies, and welding project.



Welding Project Size Requirements

IMPORTANT: State Fair Requirements –
The following 4-H Welding Project Guidelines are used for State Fair.

1. Counties may select a **maximum of one participant in each class.**
2. All welding on projects exhibited must be completed using Shielded Metal Arc Welding (SMAW).
3. Type of Evaluation: Skill-a-thon

10% Completed Project Book	20% On-site Interview
20% Welding Project from Project Book	20% Welding Project Optional Design
20% On-Site Weldment	10% Personal Safety
4. **Participants:**
 - MUST bring Completed Project book
 - will have an interview based on knowledge and skills
 - are responsible for supplying and monitoring any equipment and/or supplies needed to aid in completion of their project
 - MUST bring and wear industrial quality eye protection, long sleeve shirts, long pants, and high-top leather foot protection (example: work boots but NO athletic foot wear).
 It is encouraged for each welding contest participant to bring and use their own welding PPE (personal protective equipment). However, industrial quality eye protection, gauntlet leather welding gloves, and auto-darkening welding helmets will be available, if needed.
 Contestants wearing shorts, short-sleeved shirts or any inappropriate clothing or footwear will NOT be permitted to weld.
5. **Classes:** There are 2 Classes for the State Fair Welding Project judging – which are based on the SIZE of the project.

CLASS J-1
For welding projects that would have to fit in an imaginary box 6 ft. x 6 ft. x 3 ft.
 Every participant shall bring and exhibit two welding projects:
 One will be from the recommended projects in the 4-H Arcs & Sparks Project Book and the other will be of an optional design which is no larger than that which can be wheeled into or around the building on a hand dolly by the welding contest participant.
 All welding contest participants will demonstrate their SMAW ability by making the following welds:

 - a 3" double square groove weld
 - a 3" double fillet weld
 - All welding will be done using a Shielded Metal Arc Welding Power Source and 1/8" diameter, AWS type E-6011 electrodes. The power sources, base metal, and electrodes will be provided.

CLASS J-2 (Bigger Weldment)
For welding projects that are bigger than 6 ft. x 6 ft. x 3 ft.
 In this class, participants will follow and meet all requirements and criteria listed for J-1, except for the size of the optional design project.

 - This class is for larger dimension projects.
 - It is preferred that the projects be no larger than 8 ft. x 8 ft. and 20 ft.
 - For a project exceeding any of these dimensions, you will need to call the Extension office (740-702-3200) at least one week before our COUNTY JUDGING – GENERAL 4-H PROJECT JUDGING DAY in JULY. This will allow us enough time to contact the state fair welding supervisor.
6. **Location:** The State Fair Welding judging is held at OSU Campus – Agricultural Engineering Building

