



The 4-H Welding Project is designed to help members become more knowledgeable about welding and other related aspects of the project.

## GUIDE FOR 4-H ARC WELDING CONTEST

These instructions are a guide for the Arc Welding contest. This contest is designed to give 4-H members an opportunity to demonstrate their knowledge and skills in arc-welding. Safety will be stressed throughout the contest.

Designated judges will preside over the event and their decisions will be final. Individuals with the lowest penalty points will be declared the winner.

### Event I – Written Examination (Time Limit 20 Minutes)

Will consist of 25-30 multiple-choice, true-false, fill in the blank questions and weld quality judgments pertaining to arc welding, including safety, equipment, methods, weld types and weld quality. The questions will be based on two reference sources: Lincoln Electric Welder's Guide (IM-237-G) from The Lincoln Electric Company, 22801 St. Clair, Cleveland, OH 44117-1199 and Arcs and Sparks, Shielded Metal Arc Welding (4-H 572) from The Ohio State University Extension.

Four penalty points will be given for each question answered incorrectly or unanswered.

Scoring: Questions missed \_\_\_\_\_ x 4 = Total Penalty Points

### 4-H Thrive

#### Positive Youth Development

##### Developing Competence

Adults create environments where youth can develop competence in their chosen project area.

##### Building Confidence

Youth build confidence as they learn to think for themselves, build mastery, and are recognized for their efforts.

##### Nurturing Caring

Adults nurture a caring environment where mutual trust between youth and adults is established. Caring relationships with adults are key to resilient youth.

##### Finding Connection

Youth build solid connections which are critical to their well-being.

##### Forming Character

Create a community where youth play an active role in developing their character.

##### Determining Contribution

Youth actively contribute to their clubs and communities.

***Mississippi State University is  
an equal opportunity  
institution.***

## Expand your experiences!



### Resources

The following resources are available on the X Drive or can be obtained by contacting the Center for 4-H Youth Development:

1. National 4-H Arc Welding Guidelines
2. Lincoln Electric Welder's Guide (IM-237-K) from The Lincoln Electric Company, 22801 St. Clair, Cleveland, OH 44117-1199
3. Arcs and Sparks, Shielded Metal Arc Welding (4-H 572) from The Ohio State University Extension.

### Event II - Visual Presentation (Time Limit 10 Minutes Maximum)

Visual Presentation Score Form 334 will be used.

Presentation will be of an arc-welding project that the participant has completed this year in a 4-H project. The presentation should explain what the project is; describe the arc welding methods used, and the final use of the project. Visual aids such as photos, slides, videos, or posters should be used for the presentation. Participants must furnish their own demonstration materials. Visuals should be readable at 40 feet.

### Event III – 4-H ARC Welding Skills (Time Limit 30 Minutes)

Each participant must bring his or her own long sleeve work-type shirt, gloves, helmet, and safety glasses to wear and pliers or tongs to handle the hot metal during the hands-on welding activity. The student should also bring a chipping hammer and wire brush.

For the arc welding skills event, each participant will be given four E-6013 and E6011 electrodes, one to practice with and one for each of the three required welding activities. Each contestant will have a total of 20 minutes; including 15 minutes for practice and completing required welds and 5 minutes for cleaning the welds. Welds will be on mild steel plates 3/16" thick by 2" wide by 4" long.