



Missouri 4-H

University of Missouri
4-H Center for Youth Development

Welding Project Brief

Learning Objectives

- Identify welding equipment
- Strike various beads and make simple welds
- Learn how to adjust current, strike an arc and run a bead
- Understand how heat impacts the welding process
- Practice safety
- Choose the right welding method to match the material
- Learn the different types of power sources
- Understand the purpose of welding tools
- Examine electrodes and understand the classification system
- Identify the different parameters of a weld

Fair Projects

- Shelf
- Window flower box
- Build a go-cart
- Boot scraper from a disk
- Decorative horseshoes
- Jewelry holder
- Sheppard's hook for flowers
- Samples of weld beads
- Samples of different welded joints
- Educational display for welding safety

Demonstration Ideas

- Differences in welding - arc, mig, tig
- Consistency in a good bead
- Demonstrating arc, mig, tig, oxy-acetylene
- How to make sure welding is safe
- Demonstrate the proper procedure for setting up welding equipment

Field Trips

- Visit steel plant
- Visit a local steel business
- Visit a local welder
- Visit a local body shop

Ideas for Speech Topics

- Types and uses of different welding - arc, mig, tig
- Changing technologies
- Careers in welding
- History of welding
- Economic impact of welding industry

Critical Thinking

- How has participation in the welding project helped you learn responsibility?
- What are some careers that you are interested in exploring in welding?
- What effect does the price of iron have on our economy?
- How can you turn your project into a money maker?

Community Service

- Building shepherd hooks for community
- Build gates for the fairgrounds
- Build table racks for the local park board
- Arrange for your club to tour a welding shop
- Promote safe use of welding equipment in your community

Science & Technology

How have you used science and technology in this project area?

Examples:

- Construct a welding project
- Evaluate your welds
- Demonstrate safety techniques when welding
- Classify different electrodes

Show Me Character

Trustworthiness - includes honesty, promise keeping and loyalty.

- Be dependable when working with dangerous equipment
- Be honest with your project leader and your teammates
- Only use equipment you have been trained to use
- Show off your talents-choose to build from scratch not using kits or pre-assembled projects

Respect - includes courtesy and proper treatment of people and things.

- Don't judge people based on the quality of their projects remember that everyone has tried their best
- Show care and respect for everyone's projects
- Treat others' projects the way you want- your project treated

Responsibility - includes the pursuit of excellence, accountability and perseverance.

- Learn safety procedures for all equipment you use
- Be prepared with the materials you need to complete your projects
- Listen carefully to the instructions of your leaders
- Do your part when working in groups

Fairness - involves consistently applying rules and standards appropriately for different age groups and ability levels.

- Take turns using the equipment so everyone has equal time building and constructing
- Follow specifications and guidelines for your project
- Allow everyone access to the same materials

Caring - promoting the well being of people and things in a young person's world. It denotes action and not just feelings.

- Be willing to help friends even if you are competing against them
- Thank leaders and facilitators that help you with your project
- Share your tools and supplies if someone else runs low or is having trouble

Citizenship - includes making the home community and county a better place to live for themselves and others.

- Always clean up your workspaces and messes left behind by others
- Share your talents by building something that you can donate or give as a gift
- Don't use any supplies that are not allowed
- Create waste free environments and think of ways to better your community and environment by using your skills

Show Me Standards

Missouri 4-H members will acquire the knowledge and skills to gather, analyze and apply information and ideas, communicate effectively, recognize and solve problems, make decisions and act as responsible members of society.

4-H members will acquire a solid foundation which includes knowledge of:

- **Communication Arts** - participating in formal and informal presentation and discussions of issues and ideas
- **Mathematics** - geometric and spatial sense involving measurement, trigonometry, and similarity and transformations of shapes
- **Science** - properties and principles of matter and energy

Resources

846 Welding

Y620 4-H Project Record

Y8460 Arcs and Sparks

LG8400 Planning Arc Welding Projects

To Order

Extension Publications online at <http://extension.missouri.edu/explore/shop/> or by phone 1-800-292-0969

For additional resources check with your local University of Missouri Extension Center or the 4-H Source Book at

<http://www.4-hmall.org/educationalresources.aspx>.