



## Project Title: Welding

Project Leader: Mark Struewing, 812-212-0836

### Description:

The welding project objectives are: To learn about different methods of welding and what materials are best suited for each type of welding. To acquire a working knowledge of the machines and equipment used in the building trade. To know the safety procedures and practices involving the equipment used. To understand the proper care and maintenance of welding equipment and accessories. To obtain a working knowledge of equipment and accessories in a modern workshop. To acquire knowledge of the techniques involved in arc and gas welding and oxygen cutting. To be familiar with the terms and definitions of welding.

### State Fair Entries:

County only project.

### Exhibit Guidelines:

Terms & Conditions: Posters must be displayed horizontally, sized 22" x 28", mounted on a firm backing (foam core board or other), and covered in clear plastic or other transparent material. Refer to 4-H Poster Guidelines. Exhibit entry tags must include the name of the exhibitor, grade and level. There is no State Fair entry at this time, but each division will have a champion and reserve champion. One overall grand and reserve grand champion will be chosen.

Techniques to be taught: Safety in welding, clothing, gloves, shoes, helmet, jacket. Safe practices. Basic skills: striking an arc, running a bead, setting heat range, learning electrodes and current flow, etc. Use of measurement and cutting tools, other fabrication techniques. Joint preparation (using a grinder). Out-of-position welding. Multiple fillet welds. Flame cutting and learning the parts, safety, igniting and stopping a cutting torch.

### Exhibit Class Guidelines:

#### *Beginner (grades 3-5 suggested)*

Exhibit a poster illustrating. Welding Safety, Welding Equipment, Types of Welds, General Welding Information.

#### *Intermediate (grades 6-8 suggested)*

Exhibit a poster on Welding or exhibit one of the exhibit choices from 6th, 7th & 8th grade categories it is suggested to do a different item each year.

#### *Advanced (grades 9-12 suggested)*

Exhibit one item of your own creation. Exhibit a different item each year.

#### *Possible project ideas*

6th, 7th & 8th Grade: Chipping hammer, Boot scraper, Tool box, hinged lid, handle, Step stool, Flower pot holder, Flower trellis, Coat rack, Tool stand, Shooting target, C clamps, Horseshoe sign, Pipe whistle

9th & 10th Grade: Tool stand/rack, Tool base, Hay rack/feeder, Milking stand, Work/car ramps, Hand cart, Steel post driver, Rolling work stool, Corner welding fixture w/clamps, Coffee table, Portable welder base.

11th & 12th Grade: Adjustable jacks, Pipe saw horses, Snow blade, Portable loading chute, Trailer, Hand cart, Garden cart, Welding table/stand, Tool rack, Mechanics floor creeper, 3-point hitch tractor hoist.